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July 1997

HEALTH EFFECTS ASSESSMENT

SUMMARY TABLES

FY-1997 Update

Office of Research and Development
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, DC 20460

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HEALTH EFFECTS ASSESSMENT SUMMARY TABLES
FY-1997 UPDATE

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DISCLAIMER

This report has been prepared by the U.S. Environmental Protection Agency. The information contained herein has been taken from final documents prepared by the National Center for Environmental Assessment for the Office of Solid Waste and Emergency Response and the Office of Water, Washington, DC and the Office of Air Quality Planning and Standards, Research Triangle Park, NC. These documents were reviewed in accordance with Agency policy and approved for publication. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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INTRODUCTION

This document is an FY97 Update of the Health Effects Assessment Summary Tables (HEAST) prepared by EPA's National Center for Environmental Assessment, Cincinnati, OH (NCEA-CIN) for use at both Superfund and RCRA sites. It is intended to replace former editions and supplements of the HEAST. The HEAST will be updated annually if sufficient new data exist.

The HEAST is a comprehensive listing consisting almost entirely of PROVISIONAL RISK ASSESSMENT INFORMATION relative to oral and inhalation routes for chemicals of interest to Superfund, the Resource Conservation and Recovery Act (RCRA), and the EPA in general. Although these entries in the HEAST have undergone review and have the concurrence of individual Agency Program Offices, and each is supported by an Agency reference, they have not had enough review to be recognized as high quality, Agency-wide consensus information.

The Integrated Risk Information System (IRIS) is the Agency's official repository of Agency-wide consensus chronic human health risk information. Until recently, IRIS evaluations were conducted by the Agency's Work Group Review process. To improve IRIS and to make it more useful, EPA requested and received public comment. As a consequence the Agency has initiated an IRIS Pilot program to replace the Reference Dose/Reference Concentration (RfD/RfC) and the Carcinogen Risk Assessment Verification Endeavor (CRAVE) Work Groups.

The Pilot will produce new or updated toxicological reviews and IRIS entries containing Agency consensus scientific positions on potential adverse human health effects that may result from chronic exposure to environmental contaminants.

The Pilot process consists of (1) a call for public involvement for interested parties to have some level of input into IRIS technical information, (2) a search of the relevant literature,

(3) development of toxicological reviews and draft IRIS summaries, (4) internal peer review within EPA, (5) external peer review by experts selected for each substance outside EPA, (6) consensus review and management approval within EPA, (7) preparation of final IRIS summaries and supporting documents, and (8) entry of summaries into the IRIS database.

Currently, the Pilot process, which has been underway since early FY 1996, is being applied to a select group of chemical substances chosen on the basis of the Agency's need for new or updated hazard or dose-response information. These assessments will be included in IRIS, and do not appear in the HEAST.

There are two exceptions to the above discussion. The HEAST also contains information on chemicals included under the National Ambient Air Quality Standards (NAAQS) and the Drinking Water Criteria Document (DWCD) series. In each of these cases, the chemicals are subject to extensive scientific peer review for quality assurance.

CHEMICAL STATUS DEFINITIONS

Chemicals previously reviewed by the Agency for consensus are classified according to their status as either "verified," "not verifiable," or "under review." The toxicity values (other than NAAQS or DWCD values) listed on the HEAST are considered to be "provisional." The Agency has no official definitions for these terms, but the HEAST user may interpret them as follows:

> **Provisional:** A toxicity value or a cancer value is "provisional" if the value has had some form of Agency review, but it does not appear on the IRIS system. These values are generated in several ways. Often they are determined in the course of developing an Agency document on a chemical or on a class of chemicals. Some have been generated through the earlier Work Group process, but have not yet been input to the IRIS system. At the time each value was derived, all available information on the chemical was evaluated, the value was calculated using the most current methodology, and a consensus was reached on the value by Agency scientists.
>
> Brackets are placed around the names of toxicity and carcinogenicity values on the HEAST to distinguish these "provisional" values from information on IRIS.

The following names are affected: RfD to [RfD], RfC to [RfC], slope factor to [slope factor], EPA group to [EPA Group] and unit risk to [unit risk].

These "provisional" values are found on the HEAST. They do not appear on IRIS.

Verified: A toxicity value or a cancer value receives Agency consensus as "verified" after all available information has been reviewed and a value has been calculated using current methodology. Verified values are entered on IRIS.

Some numbers that have achieved unanimous consensus by the previous Agency Work Groups may appear on the HEAST as "provisional" values.

These "verified" numbers only appear on IRIS. They do not appear on the HEAST.

Not verifiable: A toxicity value is "not verifiable" if all available data on a chemical was determined by the Agency to be inadequate to generate a value that would be suitable for inclusion on IRIS. No toxicity value is calculated; no toxicity value is available for IRIS or the HEAST.

This "not verifiable" status is noted on IRIS, and is sometimes found on the HEAST, with a pointer to the IRIS system.

Under Review: A toxicity value is "under review" if it is undergoing the Pilot process of considering all available data. All Pilot chemicals will have this status until the toxicity value is placed on IRIS.

This "under review" status may be indicated on IRIS or on the HEAST. During this time, "provisional" toxicity values may appear on the HEAST.

Note: In all cases, the status of a chemical may change as new data become available, and the assessment is revisited, reviewed and verified through the Pilot Proces previously described.

CAUTION

It is imperative for each user of the HEAST to recognize that the values listed in the toxicity tables and the cancer table are generally considered to be PROVISIONAL RISK ASSESSMENT INFORMATION. The user is referred to IRIS for earlier "Work Group Verified" values. It is also important to remember that the numbers in these tables alone tell very little

about the adverse effects of a chemical or the quality of evidence on which risk assessment information is based. Original assessment documents must be consulted by users of the HEAST in order to fully appreciate the strengths and limitations of a specific data base. Original source documents will allow for the most complete characterization of potential toxicity associated with the range of exposure pathways generally evaluated at Superfund and RCRA sites. The Reference Tables point the user to these sources.

CONTRIBUTORS

Chemicals commonly found at RCRA sites as identified by the Office of Solid Waste's (OSW) Technical Assessment Branch are included in the HEAST. The Office of Radiation Programs has provided data on radionuclide carcinogenicity for Table 4. Finally, the Office of Air Quality Planning and Standards (OAQPS) has provided information on chemicals for which Air Quality Criteria Documents and National Ambient Air Quality Standards have been developed.

CHEMICALS LISTED

Most of the chemicals included on the toxicity tables and carcinogenicity table are those for which at least one of the following EPA documents has been written: Health Effects Assessment Document (HEA), Health and Environmental Effects Profile (HEEP), Health and Environmental Effects Document (HEED), Health Assessment Document (HAD), Air Quality Criteria Document (AQCD), Drinking Water Criteria Document (DWCD). A description of each is provided in Appendix A, Section I. In a few cases, the values are supported by other written material, such as Work Group meeting notes or Carcinogen Assessment Group (CAG) Profiles. Radionuclide slope factor values are calculated by the EPA's Office of Radiation Programs.

The names of criteria pollutants that are regulated as National Ambient Air Quality Standards (NAAQS) under the Clean Air Act are listed in the main body of the HEAST, but the actual criteria are included as Section V of Appendix A. The NAAQS were not included in the tables in order to distinguish them from the reference concentration ([RfC]) values. The NAAQS and [RfC]s represent different levels of review and different methods of calculation and thus, must be interpreted and used differently.

HIERARCHY OF SOURCES

It is recognized that at any point in time there may be multiple old and new Agency documents or data bases that present different values on a specific chemical. For chemicals other than those represented by the NAAQS or DWCDs, the following hierarchy of sources is recommended in evaluating chemical toxicity for Superfund sites:

1. The Agency's Integrated Risk Information System (IRIS) and cited references. Changes are made in this data base on a monthly basis, but there may be data gaps. Call the RISK INFORMATION HOTLINE at (513)569-7254 for further information.

2. The Health Effects Assessment Summary Tables (HEAST) and cited references.

3. Consultation with the Superfund Health Risk Technical Support Center (TSC) at (513)569-7300.

4. Do not consult either the toxicity tables (Appendix A) in the Superfund Public Health Evaluation Manual (SPHEM, U.S. EPA, 1986) or the September 1988 Public Health Risk Evaluation Data Base (PHRED) as these sources are likely to contain numerous values that have since become out-of-date.

QUESTIONS

Chemical Toxicity and Carcinogenicity

Questions regarding the contents of the chemical toxicity and carcinogenicity tables on the HEAST (e.g., chemicals not covered, chemicals with pending [RfD]s) may be directed to

EPA's Superfund Health Risk Technical Support Center (TSC) in Cincinnati, OH at (513)569-7300 [FAX#: (513)569-7159]. Requests should include the following information:

- Superfund site name, site location and twelve-digit site number;
- Name and phone number of the site Remedial Project Manager (RPM) or Regional Risk Assessor/Toxicologist;
- Detailed description of the risk assessment related question.

Written requests should be mailed to:

Superfund Health Risk Technical Support Center
US EPA
26 W. Martin Luther King Dr.
National Center for Environmental Assessment
MS - G44
Cincinnati, OH 45268

Radionuclide Carcinogenicity

Questions concerning radionuclide carcinogenicity should first be addressed by contacting the appropriate Regional Radiation Program Manager. A revised listing of these managers and several contacts in the Office of Radiation Programs can be found in Exhibit 2 of the User's Guide - Radionuclide Carcinogenicity.

REFERENCES

Most cited Agency references (e.g., HEAs, HEEPs, HEEDs), are available through the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161 [(703)487-4650]. Carcinogen Assessment Group (CAG) Profiles cited in Table 3 are available through the RCRA docket (703)603-9230.

Drinking water documents are available by calling the Water Resource Center at (202)260-7786.

ORDERING INFORMATION

Limited copies of the HEAST are available for EPA Superfund staff, State Superfund programs and other Federal agencies working on Superfund sites, and EPA contractors working for the EPA Superfund program. Users in these groups can call International Consultants, Inc. (513)569-7300 to be put on the mailing list. Regional OSW staff are reminded that copies are sent to all EPA Regional libraries.

Users of the HEAST in EPA's Office of Air and Radiation and State air programs should call Roy Smith of EPA's Office of Air Quality Planning and Standards at (919)541-5632.

All other users must purchase the document from:

National Technical Information Service (NTIS)

5285 Port Royal Road

Springfield, VA 22161

(703)487-4650

For ordering information, call the NTIS Subscriptions Department at (703)487-4630. NTIS normally ships 4th class United States mail. When ordering the 1997 Health Effects Assessment Summary Table annual update from NTIS refer to the following order number:

PB97-921199: FY97 Annual HEAST update

STRUCTURE OF THE HEAST

The HEAST Introduction contains explanatory material relative to the quality of information on the HEAST, its sources, and its availability. This is followed by a listing of changes since the last HEAST was published and then by User's Guides for both Chemical Toxicity and Carcinogenicity, and Radionuclide Carcinogenicity. The values on the HEAST are

presented in a series of five tables that contain toxicity information and three tables of references. The information contained in each table and their designations are as follows:

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
Table 1 lists subchronic and chronic non-cancer toxicity values that were calculated using the methodology practiced by the RfD/RfC Work Group.

HEAST TABLE 1 REFERENCES: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
The references for Table 1 are numerically coded to associate each toxicity value clearly with its corresponding reference.

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
Table 2 lists subchronic and chronic non-cancer toxicity values that are found in Agency documents, but were calculated by alternative methods that were not practiced by the RfD/RfC Work Group. These values are considered to be adequate provisional values for risk assessment purposes at Superfund and RCRA sites, but are to be reviewed and revised when necessary to reflect current information.

HEAST TABLE 2 REFERENCES: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
The references for Table 2 are numerically coded to associate each toxicity value clearly with its corresponding reference.

HEAST TABLE 3: CARCINOGENICITY
Table 3 lists carcinogenicity values that were calculated by the CRAVE Work Group using Agency methodology.

HEAST TABLE 3 REFERENCES: CARCINOGENICITY
The references for Table 3 are numerically coded to associate each toxicity value clearly with its corresponding reference.

HEAST TABLE 4: RADIONUCLIDE CARCINOGENICITY - SLOPE FACTORS (In Units of Picocuries)
Table 4 lists ingestion, inhalation and external exposure carcinogenicity slope factors for radionuclides in units of picocuries and a factor to convert into the International System (SI) activity units of becquerels (Bq).

Following the tables, a Technical Appendix (Appendix A) is available, containing the following sections:

I. Data Sources and Selection Criteria Used in HEAST

II. Dose Conversions on HEAST

III. Chemical Name and Chemical Abstracts Service Registry Number Cross Reference

IV. Effect Level Definitions

V. National Ambient Air Quality Standards (NAAQS)

WHAT'S NEW IN THE FY97 ANNUAL HEAST

GENERAL CHANGES -- CHEMICAL TOXICITY AND CARCINOGENICITY

The changes in this version of the HEAST reflect changes in IRIS through July 1, 1997.

CHEMICAL-SPECIFIC CHANGES -- CHEMICAL TOXICITY AND CARCINOGENICITY

A. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Benzo[b]fluoranthene 000205-99-2
Removed from Table 1 due to incomplete subchronic [RfC] assessment.

Bis(2-chloroisopropyl)ether 039638-32-9
Removed general comment from Table 1.

Chlorobenzene 000108-92-7
Removed from Table 1 the subchronic [RfD] comment due to incomplete assessment.

Dichloroethane, 1,2- 000107-06-2
Removed from Table 1 due to incomplete subchronic [RfC] and [RfD] assessments.

Manganese 007439-96-5
Removed the subchronic oral water [RfD] from Table 1 and citation 010850 from References to Table 1.

Trichloroethane, 1,1,1- 000071-55-6
Removed subchronic [RfC] comment from Table 1 due to incomplete assessment.

Uranium, Soluble Salts No CAS #
Removed from Table 1 due to incomplete assessment.

B. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Dicyclopentadiene 000077-73-6
Changed target organ from liver to kidney.

C. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 3: CARCINOGENICITY

Allyl chloride 000107-05-1
The general comment, "contact the Health Assessment Section" is removed from Table 3.

Arsenic, inorganic 007440-38-2
Removed inhalation [slope] factor value and comment from Table 3.

Benzo(b)fluoranthene 000205-99-2
Removed general comment.

Benzo(k)fluoranthene 000207-08-9
Removed the general comment, "contact the Health Assessment Section".

Chloromethyl methyl ether 000107-30-2
The general comment, "contact the Health Assessment Section" is removed.

Chrysene 000218-01-9
The general comment, "contact the Health Assessment Section" is removed.

Dibenzo[a,h]anthracene 000053-70-3
The general comment, "contact the Health Assessment Section" is removed.

Dichloroethane, 1,2- 000107-06-2
The inhalation [slope] factor and comment are removed from Table 3.

Dimethylbenz[a]anthracene, 7,12- 000057-97-6
Removed from Table 3. The general comment, "contact the Health Assessment Section" is removed from Table 3 References.

Methylcolanthracene, 3- 000056-49-5
Removed from Table 3 and from Table 3 References.

Nitroso-n-ethylurea, N- 000759-73-9
Removed the general comment, "contact the Health Assessment Section".

Polychlorinated biphenyls 001336-36-3
Added general comment: Carcinogenicity information was changed on IRIS.

D. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 4: RADIONUCLIDE CARCINOGENICITY -- SLOPE FACTORS

No changes made to Table 4.

CHEMICAL SPECIFIC CHANGES MADE IN THE NOVEMBER 1995 SUPPLEMENT TO THE MAY 1995 HEAST ANNUAL UPDATE

The following changes were made in the November 1995 supplemental edition of the May 1995 HEAST Annual Update. Because some users may have been unaware of the publication of the November 1995 supplement, the following information should be noted.

A. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Antimony trioxide 001309-64-4
An indicator was added to show that an inhalation RfC has been added to IRIS. The chronic inhalation RfC was adopted as the subchronic inhalation [RfC].

Boron, elemental 007440-42-8
The subchronic oral [RfD] was removed because the chronic oral RfD on which it was based is under review by the RfD/RfC Work Group.

Carbon disulfide 000075-15-0
An indicator was added to show that an inhalation RfC has been added to IRIS. The chronic inhalation RfC was adopted as the subchronic inhalation [RfC].

Hydrogen sulfide 007783-06-4
After a reevaluation of uncertainty factors by the RfD/RfC Work Group, the chronic inhalation RfC was modified to estimate the subchronic inhalation [RfC].

Mercuric chloride 007487-94-7
After a reevaluation of uncertainty factors by the RfD/RfC Work Group, The chronic oral RfD was modified to estimate the subchronic oral [RfD].

Phosphine 007803-51-2
An indicator was added to show that an inhalation RfC has been added to IRIS. The chronic inhalation RfC was modified to estimate the subchronic inhalation [RfC].

B. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

There were no changes to Table 2.

C. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 3: CARCINOGENICITY

Arsenic, inorganic 007440-38-2
Indicators were added to show that an oral slope factor and an oral unit risk have been added to IRIS.

Bis(2-chloro-1-methylethyl) ether 000108-60-1
A typographical error in the CAS Registry Number has been corrected. There were no other changes to the record.

D. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 4: RADIONUCLIDE CARCINOGENICITY - SLOPE FACTORS

For the November 1995 Supplement of the HEAST for radionuclides, EPA's Office of Radiation and Indoor Air (ORIA) has:

✓ corrected the factor in Table 4 for converting radionuclide slope factors from the customary units of picocuries (Ci) to the International System (SI) units of becquerels (Bq). (To convert radionuclides slope factors into the SI units of Bq, users should multiply each value in Table 4 by 27.03, not by 3.70E-02, the conversion factor provided in the May 1995 update.)

✓ added ingestion, inhalation, and external exposure slope factors for californium (Cf-252), iridium (Ir-192), thallium (Tl-207), and silver (Ag-110m+D).

✓ removed the ingestion, inhalation, and external slope factors for Cm-243+D and Pu-241+D. (EPA/ORIA re-evaluated the derivation and use of "+D" slope factors for decay chains that include a parent radionuclide (e.g., Cm-243 or Pu-241) with a radioactive half-life much shorter than the half-life of its immediate decay product (e.g., Pu-239 in the case of Cm-243 and Am-241 in the case of Pu-241). ORIA concluded that using "+D" slope factors for these types of radionuclides and decay chains may significantly underestimate radiation exposure and risk at certain sites, because such factors cannot be derived to cover all possible equilibrium conditions in the environment. At sites contaminated with these types of radionuclides, ORIA recommends that users (1) determine the radioactivity concentrations of the parent and each decay product radionuclides separately, (2) apply the appropriate slope factors in Table 4 for each radionuclide individually, and (3) add the individual risks from each radionuclide to calculate the collective risk posed by the site.)

✓ corrected the external slope factor values for Ac-227+D, Ce-144+D, Pu-244+D, Th-228+D, Th-229+D, and U-238+D in Table 4.

✓ corrected the branching factor for Ce-144 to Pr-144 from 9% to 98%, and corrected the half-life for Ra-228 from 8 years to 6 years in Exhibit 1.

USER'S GUIDE: CHEMICAL TOXICITY

The HEAST summarizes provisional toxicity and cancer values as well as values developed for the NAAQS and DWCD chemicals. The provisional status of the toxicity and cancer values is indicated by placing brackets around the title of the value. These include provisional reference concentrations ([RfC]) and provisional reference doses ([RfD]) for toxicity from subchronic and chronic inhalation and oral exposure (Tables 1 and 2) and provisional slope factors ([slope factor]), provisional cancer classifications ([EPA Group]) and provisional unit risk values ([unit risk]) for carcinogenicity, based on lifetime inhalation and oral exposure (Table 3). Brackets should be included with the acronym whenever a user quotes the value in an assessment document, and the provisional nature of the value should be noted. A more complete discussion of how Superfund develops and considers the toxicity assessment in hazardous waste sites is presented in Chapter 7 of Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual, Part A, EPA/540/1-89/002.

The references listed for each chemical in the Reference Tables for Tables 1, 2 and 3 represent the study or studies that are the basis for the [RfC], [RfD], [slope factor], [EPA Group], or [unit risk], as well as the EPA reference that is the source of the Agency analysis or risk assessment information. In some cases, additional EPA documents are also listed as a source of information on the chemical. Verified values found on IRIS are not found on the HEAST, but are indicated in the tables by the word "IRIS" in place of the number.

TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

The [RfC] or [RfD] is a provisional estimate (with uncertainty spanning perhaps an order of magnitude) of the daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a portion of the lifetime, in the case of a subchronic [RfC] or [RfD], or during a lifetime, in the case of a chronic [RfC] or [RfD]. The [RfC] and [RfD] values are listed in Tables 1 and 2 in columns with the headings "Subchronic" and "Chronic". The critical dose or concentration level is usually a No-Observed-Adverse-Effect Level (NOAEL) or a Lowest-Observed-Adverse-Effect Level (LOAEL) (See Appendix A, Section IV: Effect Level Definitions, for more information). The [RfC] or [RfD] is derived by dividing the NOAEL or LOAEL by an uncertainty factor (UF) times a modifying factor (MF):

$$[RfC] \text{ or } [RfD] = \frac{NOAEL \text{ or } LOAEL}{UF \times MF}$$

In Tables 1 and 2, the information listed is the following:

Chemical	=	Chemical Name/CASRN
Level	=	Effect Level
Dose	=	Administered Dose or Concentration
Route	=	Route of Administration
Species	=	Tested Species
Experiment Length	=	Length of Exposure
Target	=	Target Organ(s) Affected at Critical Level
Critical Effect	=	Effect(s) Observed at Critical Level
Subchronic [RfC]	=	Subchronic Inhalation [Reference Concentration]
UF	=	Uncertainty Factor for the Subchronic Inhalation [Reference Concentration]
Subchronic [RfD]	=	Subchronic Oral [Reference Dose]
UF	=	Uncertainty Factor for the Subchronic Oral [Reference Dose]
Chronic [RfC]	=	Chronic Inhalation [Reference Concentration]

UF	=	Uncertainty Factor for the Chronic Inhalation [Reference Concentration]
Chronic [RfD]	=	Chronic Oral [Reference Dose]
UF	=	Uncertainty Factor for the Chronic Oral [Reference Dose]
Reference	=	Reference Identification Number for All Toxicity Values on the Same Line.

An example of this information is shown in Figure 1, HEAST Table 1:

Chemical	=	GLYCIDALDEHYDE/000765-34-4
Level	=	NOAEL
Dose	=	10 PPM
Route	=	INHALATION: INTERMITTENT
Species	=	RAT
Experiment Length	=	12 WEEKS
Target	=	WHOLE BODY, BLOOD, KIDNEY
Critical Effect	=	DECREASED WEIGHT GAIN, HEMATOPOIETIC EFFECTS
Subchronic [RfC]	=	1E-2 mg/cu.m
UF	=	300
Subchronic [RfD]	=	4E-3 mg/kg/day
UF	=	300
Chronic [RfC]	=	1E-3 mg/cu.m
UF	=	3000
Chronic [RfD]	=	IRIS
UF	=	IRIS
Reference	=	005968

Notice that a Chronic RfD for Glycidaldehyde is available on IRIS, so it is not listed here. Also notice that there are footnotes for this chemical that indicate a route-to-route extrapolation was performed and that there is information available on Table 3: Carcinogenicity.

Also given in Figure 1 is an example of the References for Table 1 for the same chemical. The reference is identified by the chemical name (Glycidaldehyde), the CASRN (00765-34-4), and the reference number that links it with the toxicity values (005968).

FIGURE 1

Example Data and References for Chemical Toxicity

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

January 1992

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m)	UF	Subchronic [RfD] (mg/kg/day)	UF	Chronic [RfC] (mg/cu m)	UF	Chronic [RfD] (mg/kg/day)	REFERENCE
GLYCIDALDEHYDE		000765-34-4											
NOAEL	10 PPM	RAT				1E-2		4E-3		1E-3			IRIS
	INHALATION:	12 WEEKS		WHOLE BODY	DECREASED WEIGHT GAIN		300		300		3000		005968
	INTERMITTENT			BLOOD	HEMATOPOIETIC EFFECTS								
				KIDNEY	EFFECTS								

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: ALSO SEE TABLE 3: CARCINOGENICITY.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

January 1992

GLYCIDALDEHYDE 000765-34-4

005968 HINE CH, RJ GUZMAN, MK DUNLAP, R LIMA AND GS LOQUVAM. 1961. STUDIES ON THE TOXICITY OF GLYCIDALDEHYDE. ARCH ENVIRON HEALTH. 2: 23-30.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENTFOR GLYCIDALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, National Center for Environmental Assessment, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

The uncertainty factor used in calculating the [RfC] or [RfD] reflects scientific judgment regarding the various types of data used to estimate [RfC] or [RfD] values. An uncertainty factor of 10 is usually used to account for variation in human sensitivity among populations. An additional 10-fold factor is usually used to account for each of the uncertainties assumed when extrapolating from animal data to humans, when extrapolating from a LOAEL to a NOAEL, and when extrapolating from subchronic to chronic exposure. In order to reflect professional assessment of the uncertainties of the study and the data base not explicitly addressed by the above uncertainty factors (e.g., completeness of the overall data base), an additional uncertainty factor or modifying factor ranging from greater than 0 to less than or equal to 10 is applied. The default value for this modifying factor is 1.

For chemicals for which a chronic [RfC] or [RfD] is presented in Tables 1 and 2, a subchronic [RfC] or [RfD] is usually derived, if not previously derived in the Agency documents that originally addressed the chemical. Subchronic toxicity values are not evaluated by the RfD/RfC Work Group. The subchronic [RfC] or [RfD] is derived in either of two ways: 1) If an uncertainty factor was used to account for extrapolation from subchronic to chronic exposure in the derivation of the chronic [RfC] or [RfD], then, the subchronic [RfC] or [RfD] is derived from the same benchmark concentration or dose without applying the uncertainty factor for subchronic to chronic exposure extrapolation. 2) If the chronic [RfC] or [RfD] was derived without use of an uncertainty factor for extrapolating from subchronic to chronic exposure (e.g., if chronic data were available), then, the chronic [RfC] or [RfD] is adopted as the subchronic [RfC] or [RfD].

Tables 1 and 2 list the uncertainty factor and modifying factor, multiplied together, to form a single factor under the heading "Uncertainty Factor." For example, the uncertainty factor of 3000 listed for the chronic inhalation [RfC] for Glycidaldehyde reflects an uncertainty factor of 1000 (10 for human sensitivity, 10 for extrapolation from animal to human, and 10 for extrapolation from subchronic to chronic) and a modifying factor of 3 (for an inadequate data base); the uncertainty factor of 500 listed for the subchronic oral [RfD] for cyanide reflects an uncertainty factor of 100 (10 for human sensitivity, and 10 for extrapolation from animal to human) and a modifying factor of 5 (to account for tolerance to cyanide when ingested by food rather than administration by gavage or by drinking water).

[RfC] and [RfD] values are specific for the route of exposure for which they are listed on Tables 1 and 2. In the few instances where an [RfD] or [RfC] has been determined from another exposure route, route-to-route extrapolation is indicated by a footnote.

The current methodology for the derivation of inhalation RfCs is detailed in the document, "Interim Methods for Development of Inhalation Reference Doses" (U.S. EPA, 1990, EPA/600/8-88/066F, NTIS PB90-145723). These methods are different from those used for oral RfDs because of (1) the dynamics of the respiratory system and its diversity across species, and (2) differences in the physicochemical properties of contaminants (such as the size and shape of a particle or whether the contaminant is an aerosol or a gas). Parameters such as deposition, clearance mechanisms and the physicochemical properties of the inhaled agent are considered in the determination of the effective dose delivered to the target organ.

An RfC value calculated using this interim methodology is generally reported as a concentration in air (mg/m^3), although it may be converted to a corresponding inhaled dose (mg/kg/day) by dividing by 70 kg (an assumed human body weight), multiplying by 20 m^3/day (an assumed human inhalation rate), and adjusting by an appropriate absorption factor. This conversion, however, may often be technically incorrect, and the appropriateness of doing this must be evaluated on a case-by-case basis. It is recommended that HEAST users that plan to use this technique read a further discussion of the difficulties inherent in this dose conversion that can be found in Appendix A, Section II: Dose Conversions On HEAST.

Inhalation [RfC] values reported in HEAs and early HEEDs that were finalized prior to the implementation of the interim methods were calculated using methods similar in concept to those used for oral [RfD]s. These values are reported both as a concentration in air (in mg/m^3 for continuous, 24 hours/day exposure) under the column [RfC], and as a corresponding inhaled dose (in mg/kg/day) in the footnotes called, Chronic (Subchronic) [RfC] Comment. These chemicals are listed in Table 2: Alternate Methods - Subchronic and Chronic Toxicity (Other Than Carcinogenicity).

[RfD] values for oral exposure are reported as mg/kg/day. An oral [RfD] value can be converted to a corresponding concentration in drinking water, assuming human body weight of 70 kg and water consumption of 2 L/day, as follows:

$$mg/L \text{ in water} = \frac{\text{oral [RfD] (in mg/kg/day)} \times 70 \text{ kg}}{2 \text{ L/day}}$$

The [RfC] or [RfD] is used as a reference point for gauging the potential effects of other exposures. Usually, exposures that are less than the [RfC] or [RfD] are not

likely to be associated with health risks. As the frequency of exposures exceeding the [RfC] or [RfD] increases and as the size of the excess increases, the probability increases that adverse health effects may be observed in a human population. Nonetheless, a clear distinction that would categorize all exposures below the [RfC] or [RfD] as "acceptable" (risk-free) and all exposures in excess of the [RfC] or [RfD] as "unacceptable" (causing adverse effects) cannot be made. In addition, [RfC] and [RfD] values, and particularly those with limitations in the quality or quantity of supporting data, are subject to change as additional information becomes available.

When [RfC] or [RfD] values are listed in Tables 1 or 2 for chemicals that are carcinogens, a footnote will refer to Table 3 if additional information concerning carcinogenicity is available in that table. [RfC] and [RfD] values that have been derived for carcinogens are based on noncancer endpoints only and should not be assumed to be protective against carcinogenicity.

TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Chemicals are listed in Table 2 when the [RfD] or [RfC] was derived from alternative methods that were not practiced by the RfD/RfC Work Group. The table consists primarily of inhalation [RfC] values determined from methodology that does not follow the interim inhalation methods adopted by the Agency, and [RfC] or [RfD] values based on route-to-route extrapolation with inadequate pharmacokinetic and toxicity data. A footnote is added to each chemical to provide a short explanation of the specific methodology used in calculating these provisional toxicity values. Most of

these toxicity values were formerly listed in Table 1. In some instances, the chemical may be listed in both Tables 1 and 2 if the chemical has more than one toxicity value. Table 2 follows the same format as Table 1 (refer to Figure 1).

TABLE 3: CARCINOGENICITY

In assessing the carcinogenic potential of a chemical, the Human Health Assessment Group (HHAG) of EPA classifies the chemical into one of the following groups, according to the weight of evidence from epidemiologic and animal studies:

Group A -	Human Carcinogen (sufficient evidence of carcinogenicity in humans)
Group B -	Probable Human Carcinogen (B1 - limited evidence of carcinogenicity in humans; B2 - sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans)
Group C -	Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data)
Group D -	Not Classifiable as to Human Carcinogenicity (inadequate or no evidence)
Group E -	Evidence of Noncarcinogenicity for Humans (no evidence of carcinogenicity in adequate studies).

These classifications are shown under [EPA Group] on Table 3.

Quantitative carcinogenic risk assessments are performed for chemicals in Groups A and B, and on a case-by-case basis for chemicals in Group C. Cancer [slope factors] (formerly called cancer potency factors in the Superfund Public Health Evaluation Manual) are estimated through the use of mathematical extrapolation models, most

commonly the linearized multistage model, for estimating the largest possible linear slope (within the 95% confidence limit) at low extrapolated doses that is consistent with the data. The [slope factor] or risk is characterized as an upper-bound estimate, i.e., the true risk to humans, while not identifiable, is not likely to exceed the upper-bound estimate and in fact may be lower.

Quantitative carcinogenic estimates listed in Table 3 include the following:

[slope factor] = risk per unit dose = risk per mg/kg/day

[unit risk] for inhalation exposure = risk per concentration unit in air = risk per $\mu g/m^3$

[unit risk] for oral exposure = risk per concentration unit in water = risk per $\mu g/L$

[Unit risk] estimates for inhalation and oral exposure can be calculated by dividing the appropriate [slope factor] by 70 kg and multiplying by the inhalation rate (20 m^3/day) or the water consumption rate (2 L/day), respectively, for risk associated with unit concentration in air or water. Hence,

$$\text{risk per } \mu g/m^3 \text{ (air)} = (\text{risk per mg/kg/day}) \times \frac{1}{70\text{ kg}} \times 20\ m^3/\text{day} \times 10^{-3}\ (\text{mg}/\mu g)$$

$$\text{risk per } \mu g/L \text{ (water)} = (\text{risk per mg/kg/day}) \times \frac{1}{70\text{ kg}} \times 2\ L/\text{day} \times 10^{-3}\ (\text{mg}/\mu g)$$

Quantitative estimates of carcinogenic risk are listed under [Unit Risk] or [Slope Factor] in Table 3. Information on the study and data set used for estimation of the [slope factor] is given in the other columns of Table 3.

In Table 3, the information listed is the following:

Chemical	=	Chemical Name/CASRN
Route	=	Route of Administration
Species	=	Tested Species
Experiment Length	=	Length of Exposure
Target	=	Target Organ(s) Affected at Critical Level
Cancer	=	Tumors Observed at Critical Level (Not Specified if More Than One Type of Tumor)
[EPA Group]	=	EPA Classification by Weight of Evidence
Oral [Slope Factor]	=	Risk Per Unit Dose
Inhalation [Slope Factor]	=	Risk Per Unit Dose
Oral [Unit Risk]	=	Risk Per Concentration Unit in Water
Inhalation [Unit Risk]	=	Risk Per Concentration Unit in Air
Reference	=	Reference Identification Number for All Toxicity Values on the Same Line.

An example of this information is shown in Figure 2, HEAST Table 3:

Chemical	=	DIMETHYLHYDRAZINE, 1,2-/000077-78-1
Route	=	ORAL: DRINKING WATER
Species	=	MOUSE
Experiment Length	=	LIFETIME
Target	=	CARDIOVASCULAR SYSTEM
Cancer	=	TUMORS
[EPA Group]	=	B2
Oral [Slope Factor]	=	3.7E+1 (MG/KG/DAY)-1
Inhalation [Slope Factor]	=	3.7E+1 (MG/KG/DAY)-1
Oral [Unit Risk]	=	1.1E-3 (UG/L)-1
Inhalation [Unit Risk]	=	1.1E-2 (UG/CU M)-1
Reference	=	009993

Notice that the inhalation values for 1,2-Dimethylhydrazine was extrapolated from the oral data.

Also given in Figure 2 is an example of the References for Table 3 for the same chemical. The reference is identified by the chemical name (Dimethylhydrazine, 1,2-), the CASRN (000077-78-1), and the reference number that links it with the toxicity values (009993).

FIGURE 2
Example Data and References for Carcinogenicity

HEAST TABLE 3: CARCINOGENICITY

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CHEMICAL ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
DIMETHYLHYDRAZINE,1,2- 000077-78-1									
ORAL: DRINKING WATER	LIFETIME			B2	3.7E+1	3.7E+1	1.1E-3	1.1E-2	009993
	MOUSE	CARDIOVASCULAR SYSTEM	TUMORS						
Inhalation [Slope] Comment:		BASED ON ROUTE TO ROUTE EXTRAPOLATION.							

REFERENCES FOR HEAST TABLE 3: CARCINOGENICITY

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DIMETHYLHYDRAZINE, 1,2- 000077-78-1

009993 TOTH B AND K PATEL. 1982. CARCINOGENICITY DOSE-RESPONSE STUDY BY CONTINUOUS ADMINISTRATION OF 1,2-DIMETHYLHYDRAZINE DI-HYDROCHLORIDE IN MICE. I. LIGHT AND TRANSMISSION ELECTRON MICROSCOPIC STUDY OF COLONOIC NEOPLASMS. AM. J. OF PATH. 84:69-86.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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Quantitative carcinogenic estimates are specific for the route of exposure for which they are listed on Table 3. Footnotes are used to indicate those instances in which the values for inhalation or oral exposure are based on extrapolation from another route of exposure. The route-to-route conversion required to present inhalation [slope factors] in the units of mg/kg/day is considered by the CRAVE Work Group to be technically incorrect. It is recommended that HEAST users who plan to use this information read a further discussion of the difficulties inherent in this dose conversion which can be found in Appendix A, Section II: Dose Conversions On HEAST.

To estimate risk-specific concentrations in air from the [unit risk] in air as presented in Table 3, the specified level of risk is divided by the [unit risk] for air. Hence, the air concentration (in $\mu g/m^3$) corresponding to an upper-bound increased lifetime cancer risk of 1×10^{-5} is calculated as follows:

$$\mu g/m^3 \text{ in air} = \frac{1 \times 10^{-5}}{[\text{unit risk}] \text{ in } (\mu g/m^3)^{-1}}$$

To estimate risk-specific concentrations in drinking water from the oral [slope factor] values presented in Table 3, the specified level of risk is multiplied by 70 kg and divided by the [slope factor] times 2 L/day. Hence, the water concentration corresponding to an upper-bound increased lifetime cancer risk of 1×10^{-5} is calculated as follows:

$$mg/L \text{ in water} = \frac{1 \times 10^{-5} \times 70 \text{ kg}}{[\text{slope factor}] \text{ in } (mg/kg/day)^{-1} \times 2 \text{ L/day}}$$

USER'S GUIDE: RADIONUCLIDE CARCINOGENICITY

Introduction

EPA classifies all radionuclides as Group A carcinogens. HEAST Table 4 lists ingestion, inhalation and external exposure cancer slope factors for radionuclides in units of picocuries (pCi).[1] Ingestion and inhalation slope factors are central estimates in a linear model of the age-averaged, lifetime attributable radiation cancer incidence (fatal and nonfatal cancer) risk per unit of activity inhaled or ingested, expressed as risk/pCi. External exposure slope factors are central estimates of lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil, and are expressed as risk/yr per pCi/gram soil. When combined with site-specific media concentration data and appropriate exposure assumptions[2], slope factors can be used to estimate lifetime cancer risks to members of the general population due to radionuclide exposures.

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[1]Slope factors are reported in Table 4 in the customary units of picocuries (1 pCi = 10^{-12} curies (Ci) = 3.7×10^{-2} nuclear transformations per second) for consistency with the system used for radionuclides in the IRIS database. If required, slope factors in Table 4 can be converted into the International System (SI) units of becquerels (1 Bq = 1 nuclear transformation per second) by multiplying each inhalation, ingestion, or external exposure value by 27.03. Users can calculate cancer risks using slope factors expressed in either customary units or SI units with equivalent results, provided that they also use air, water and soil concentration values in the same system of units.

[2]Agency standardized default exposure scenarios and assumptions for use in baseline risk assessment are provided in EPA (1991), *Risk Assessment Guidance for Superfund, Vol. I, Human Health Evaluation Manual, Supplemental Guidance:* "Standard Default Exposure Factors" (Interim Final), Office of Emergency and Remedial Response, OSWER Directive 9285.6-03. [NTIS order number: PB 91-921314.]

Intended Users and Applications

HEAST users include individuals from the EPA, other Federal agencies, States and contractors who are responsible for the identification, characterization and remediation of sites contaminated with radioactive materials. Radionuclide slope factors are calculated by EPA's Office of Radiation and Indoor Air (ORIA) to assist HEAST users with risk-related evaluations and decision-making at various stages of the remediation process. During site assessment, for example, slope factors are used in EPA's Hazard Ranking System (HRS) to assign toxicity factor values to radionuclides to calculate site scores. During the remedial investigation and feasibility study (RI/FS), slope factors are used to determine baseline site risk, to develop preliminary remediation goals, and to evaluate cleanup alternatives. For further examples on the application of radionuclide slope factors in risk evaluations, users are referred to the following EPA documents:

- Hazard Ranking System (HRS), Federal Register (55 FR 515320), December 1990.
- *Risk Assessment Guidance for Superfund; Volume I - Human Health Evaluation Manual* (RAGS/HHEM), Part A, Baseline Risk Assessment (EPA/540/1-89/002).
- RAGS/HHEM Part B, Development of Risk-Based Preliminary Remediation Goals (OSWER Directive 9285.7-01B). [NTIS order number: PB 92-963333.]
- RAGS/HHEM Part C, Risk Evaluation of Remedial Alternatives (OSWER Directive 9285.7-01C). [NTIS order number: PB 92-963334.]

Copies of RAGS/HHEM Parts A, B and C are available to the public from the National Technical Information Service (NTIS) at (703) 487-4650. Copies are available to EPA staff by calling the Superfund Documents Center at (703) 603-8917.

Radiation Effects

Ionizing radiation has been shown to be a carcinogen, a mutagen, and a teratogen. Radiation can induce cancers in nearly any tissue or organ in both humans and animals, and the probability of cancer induction increases with increasing radiation dose. Cancer induction is a delayed response that has been documented extensively in epidemiological studies of Japanese atomic bomb survivors, underground uranium miners, radium dial painters, and patients subject to a variety of radiation treatments. Laboratory animal research and mammalian tissue culture studies have provided additional, collaborative data.

Mutagenic effects of radiation have been demonstrated primarily in animal and tissue culture studies; limited data from studies of A-bomb survivors indicate that humans may be as sensitive or less sensitive than animals to radiogenic mutagenicity. Data are also available from both human and animal studies on the teratogenic effects of radiation. These data show that the fetus is most sensitive to radiation injury during the early stages of organ development (between 8 and 15 weeks for the human fetus). Resultant radiation-induced malformations depend on which cells are most actively differentiating at the time of exposure.

EPA classifies all radionuclides as Group A carcinogens, based on their property of emitting ionizing radiation and on the extensive weight of evidence provided by epidemiological studies of radiogenic cancers in humans. At Superfund radiation sites, EPA generally evaluates potential human health risks based on the radiotoxicity, i.e., adverse health effects caused by ionizing radiation, rather than on the chemical toxicity, of each radionuclide present. These evaluations consider the carcinogenic effects of

radionuclides only. In most cases, cancer risks are limiting, exceeding both mutagenic and teratogenic risks.

Derivation of Radionuclide Slope Factors

EPA's Office of Radiation and Indoor Air (ORIA) calculates radionuclide slope factor values using health effects data and dose and risk models from a number of national and international scientific advisory commissions and organizations, including the National Academy of Sciences (NAS), the National Council on Radiation Protection and Measurements (NCRP), the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), and the International Commission on Radiological Protection (ICRP). A detailed discussion of ORIA's approach and assumptions is provided in *Estimating Radiogenic Cancer Risks* (EPA 402-R-93-076).

Radionuclide slope factors are calculated for each radionuclide individually, based on its unique chemical, metabolic and radioactive properties. The calculation uses dose estimates from EPA's computer code RADRISK[3], vital statistics from the *U.S. Decennial Life Tables for 1979-1981* (described in EPA 402-R-93-076), and cancer risk estimates based largely on the results of the NAS BEIR V report[4], ICRP Publication 60[5],

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[3]Dunning, D.E. Jr., Leggett, R.W., and Yalcinatas, M.G. (1980). "A Combined Methodology for Estimating Dose Rates and Health Effects from Exposure to Radioactive Pollutants," ORNL/TM-7105.

[4]National Academy of Sciences (1990). Health Effects of Exposure to Low Levels of Ionizing Radiation, BEIR V, Committee on the Biological Effects of Ionizing Radiations, National Research Council, Washington, D.C.

[5]International Commission on Radiological Protection (1991), 1990 Recommendations of the International Commission on Radiological Protection, ICRP Publication 60, Pergamon Press, New York, NY.

and U.S. Nuclear Regulatory Commission (NRC) analyses[6]. Ingestion and inhalation slope factors for radionuclides account for:

- the amount of radionuclide transported into the bloodstream from either the gastrointestinal (GI) tract following ingestion, or from the lungs following inhalation;
- the ingrowth and decay of radioactive progeny produced within the body subsequent to intake;
- the distribution and retention of each radionuclide (and its associated progeny, if appropriate) in body tissues and organs;
- the radiation dose delivered to body tissues and organs from the radionuclide (and its associated progeny, if appropriate); and
- the sex, age, and organ-specific risk factors over the lifetime of exposure.

The slope factors are the average risk per unit intake or exposure for an individual in a stationary population with vital statistics (mortality rates) of the United States in 1980. (The expected lifetime for an individual in this population is about 74 years.) Consequently, radionuclide ingestion and inhalation slope factors are not expressed as a function of body weight and time, and do not require corrections for GI absorption or lung transfer efficiencies.

NOTE: ***The GI absorption values (f_1), ICRP lung classifications (D, W, Y) and radioactive half-lives are provided in HEAST Table 4 for reference only and should not be used to correct, modify, or in any way adjust radionuclide slope factors or intake assumptions in risk calculations.***

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[6]U.S. Nuclear Regulatory Commission (1991, 1993), Health Effects Models for Nuclear Power Plant Accident Consequence Analysis, NUREG/CR-4214. Addenda documenting the scientific basis for radiogenic risk models published in 1991 (for low-LET radiation) and 1993 (for alpha radiation). See EPA 402-R-93-076 for discussion of these models.

External slope factors provide cancer risk estimates per unit exposure to a uniform radionuclide concentration in soil. These factors, which account for photon energy flux attenuation and buildup in soil, are calculated for each radionuclide using volume and surface dose factors derived using the computer code DFSOIL.[7]

Because of the radiation risk models employed for both internal and external exposures, slope factors for radionuclides are characterized as central estimates in a linear model of the age-averaged lifetime total radiation cancer incidence risk per unit intake or exposure.

About the Information Provided in Table 4

Table 4 lists ingestion, inhalation and external exposure slope factors for principal radionuclides, and provides key parameter values used in the derivation of slope factor values. Radionuclides are presented alphabetically by element and atomic weight.

Selected radionuclides and radioactive decay chain products are designated in HEAST Table 4 with the suffix "+D" (e.g., U-238+D, Ra-226+D, Cs-137+D) to indicate that cancer risk estimates for these radionuclides include the contributions from their short-lived decay products, assuming equal activity concentrations (i.e., secular equilibrium) with the principal or parent nuclide in the environment.[8] Decay chains are identified in Exhibit 1.

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[7]Sjoreen, A.L., Kocher, D.C., Killough, G.G. and Miller C.W. (1984). "MLSOIL and DFSOIL - Computer Codes to Estimate Effective Ground Surface Concentrations for Dose Computations," ORNL-5974, Oak Ridge National Laboratory, Oak Ridge, TN.

[8]There is one exception to the assumption of secular equilibrium. For the inhalation slope factor for Rn-222+D reported in HEAST Table 4, ORIA assumes a 50% equilibrium value for radon decay products (Po-218, Pb-214, Bi-214 and Po-214) in air.

In most cases, site-specific analytical data should be used to establish the actual degree of equilibrium between each parent radionuclide and its decay products in each media sampled. However, in the absence of empirical data, the "+D" values for radionuclides should be used unless there are compelling reasons not to. For example, the external slope factors for Cs-137 and Cs-137+D are 0.0 and $2x10^{-6}$ (risk per year per pCi/gram), respectively. The value for Cs-137+D is higher because it includes the risk contribution from cesium's short-lived gamma-emitting decay product Ba-137m (half-life, 25.5 minutes) which, under most environmental conditions, will be in secular equilibrium with Cs-137.

Note that there may be circumstances, such as long disposal times or technologically enhanced concentrations of naturally occurring radionuclides, that may necessitate the combination of the risks of a parent radionuclide and its decay products over several contiguous subchains. For example, Ra-226 soil analyses at a site might show that all radium decay products are present in secular equilibrium down to stable Pb-206 (See Exhibit 1). In this case, Ra-226 risk calculations should be based on the ingestion, inhalation and external exposure slope factors for the Ra-226+D subchain, plus the ingestion, inhalation and external exposure factors for the Pb-210+D subchain. For actual sites, users should consult with a health physicist or radiochemist (1) to evaluate the site-specific analytical data to determine the degree of equilibrium between parent radionuclides and decay members of contiguous decay chains and (2) to assist in the combination of appropriate slope factor values. For health physics and radioanalytical support, HEAST users may contact EPA's Regional Radiation Program Managers, ORIA's National Air and Radiation Environmental Laboratory (NAREL) in

Montgomery, Alabama, ORIA's Las Vegas Laboratory (ORIA-LV) in Las Vegas, Nevada, or the ORIA contact at EPA headquarters in Washington, D.C., listed in Exhibit 2.

A Chemical Abstract System Reference Number (CASRN) is assigned to each radionuclide for identification and reporting accuracy during risk assessments, and radioactive half-lives are provided for reference.

The designations "D", "W", and "Y" presented in Table 4 under the heading "ICRP Lung Class" in the tables refer to the lung clearance times for inhaled particulate radionuclides, expressed as days (D), weeks (W), or years (Y), as recommended by the International Commission on Radiological Protection (ICRP). Gaseous radionuclides, e.g., Rn-222, are designated with an asterisk ("*"). "GI Absorption Factors, f_1" are the fractional amounts of each radionuclide that may be absorbed from the gastrointestinal (GI) tract into blood following an oral intake. The ICRP lung clearance classifications and GI absorption factors provided in Table 4 are the default values that EPA used to calculate radionuclide slope factors for inhalation and ingestion exposures, respectively. These factors are provided *for reference only* (see the Note Box).

Where to Address Questions About Radionuclide Slope Factors:

EPA continuously reviews the scientific literature on radiation effects to ensure that the Agency's risk assessment methodologies are consistent with current models and assumptions. As risk methodologies are refined, EPA will revise and update the slope factors in Table 4.

HEAST users with questions about radionuclide slope factor values and their use in radiation risk assessments should contact Michael Boyd of the Remedial Guidance Section of the Radiation Assessment Branch of ORIA at (202) 233-9395. Written requests for assistance can be sent by fax to (202) 233-9650.

Exhibit 1. Radionuclide Decay Chains Considered Explicitly in HEAST Table 4[9]

Principal Radionuclide [a]			Terminal Nuclide or Radionuclide [c]	
Nuclide	Half-life (yr)	Associated Decay Chain [b]	Nuclide	Half-life (yr)
Ac-227+D	22	[Th-227 (98.62%, 19 d)] Fr-223 (1.38%, 22 min) Ra-223 (11 d) Rn-219 (4 s) Po-215 (2 ms) Pb-211 (36 min) Bi-211 (2 min) [Tl-207 (99.72%, 5 min) Po-211 (0.28%, 0.5 s)]	Pb-207	*
Ag-108m+D	127	-[d] Ag-108 (8.90%, 2 min)	Pd-108 (91.1%) [Cd-108 (97.65%) Pd-108 (2.35%)]	* * *
Ag-110m+D	0.7	- Ag-110 (1.33%, 25 s)	Cd-110 (98.67%) [Cd-110 (99.7%) Pd-110 (0.3%)]	* * *
Am-243+D	7.4×10^3	Np-239 (2 d)	Pu-239	2.4×10^4
Ce-144+D	0.8	[Pr-144 (98.22%, 17 min) Pr-144m (1.78%, 7 min)]	Nd-144	*
Cs-137+D	30	Ba-137m (94.6%, 3 min)	Ba-137	*
Np-237+D	2.1×10^6	Pa-233 (27 d)	U-233	1.6×10^5
Pb-210+D	22	Bi-210 (5 d) Po-210 (138 d)	Pb-206	*
Pu-244+D	8.3×10^7	U-240 (14 h) Np-240m (7.4 min)	Pu-240	6.5×10^3
Ra-226+D	1.6×10^3	Rn-222 (4 d) Po-218 (3 min) [Pb-214 (99.98%, 27 min) At-218 (0.02%, 2 s)] Bi-214 (99.99%, 20 min) [Po-214 (99.98%, 1.64×10^{-4} s) Tl-210 (0.02%, 1 min)]	Pb-210	22
Ra-228+D	6	Ac-228 (6 h)	Th-228	2
Ru-106+D	1	Rh-106 (30 s)	Pd-106	*

[9]Source: International Commission on Radiological Protection (1983). Radionuclide Transformations: Energy and Intensity of Emission, ICRP Publication 38, Annals of the ICRP, Vols. 11-13, Pergamon Press, New York, NY.

Exhibit 1. Radionuclide Decay Chains Considered Explicitly in HEAST Table (Continued)

Principal Radionuclide [a]			Terminal Nuclide or Radionuclide [c]	
Nuclide	Half-life (yr)	Associated Decay Chain [b]	Nuclide	Half-life (yr)
Sb-125+D	3	Te-125m (22.8%, 58 d)	Te-125	*
Sr-90+D	29	Y-90 (64 h)	Zr-90	*
Th-228+D	2	Ra-224 (4 d) Rn-220 (56 s) Po-216 (0.2 s) Pb-212 (11 h) Bi-212 (61 min) [Po-212 (64.07%, 0.3 μs) Tl-208 (35.93%, 3 min)]	Pb-208	*
Th-229+D	7.3×10^3	Ra-225 (15 d) Ac-225 (10 d) Fr-221 (5 min) At-217 (32 ms) Bi-213 (46 min) [Po-213 (97.8%, 4 μs) Tl-209 (2.2%, 2 min)] Pd-209 (3 h)	Bi-209	*
U-235+D	7.0×10^8	Th-231 (26 h)	Pa-231	3.3×10^4
U-238+D	4.5×10^9	Th-234 (24 d) [Pa-234m (99.80%, 1 min) Pa-234 (0.33%, 7 h)]	U-234	2.4×10^5

(a) Radionuclides with half-lives greater than six months. "+D" designates principal radionuclides with associated decay chains.

(b) The chain of decay products of a principal radionuclide extending to (but not including) the next principal radionuclide or a stable radionuclide. Half-lives are given in parentheses. Branches are indicated by square brackets with branching percentages in parentheses.

(c) The principal radionuclide or stable nuclide that terminates an associated decay chain. Stable nuclides are indicated by an asterisk (*) in place of a half-life.

(d) A hyphen indicates that there are no associated decay products.

Exhibit 2. EPA Radition Program Managers

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Jim Cherniack U.S. EPA/Region 1 (CPT) JF Kennedy Federal Bldg. Boston, MA 02203	(617) 565-3234	(617) 565-4940
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Jerry Leitch U.S. EPA/Region 10 (OAQ-107) 1200 Sixth Avenue 10th Floor Seattle, WA 98101	(206) 553-7660	(206) 553-0404

NAME/ADDRESS	PHONE #	FAX #
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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACENAPHTHENE			**000083-32-9**							
NOAEL 175 MG/KG/DAY		MOUSE								
	ORAL: GAVAGE		90 DAYS	LIVER	HEPATOTOXICITY		6E-1 300		IRIS	010165
ACENAPTHYLENE			**000208-96-8**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005202
ACEPHATE			**030560-19-1**							
LOAEL 2 PPM		RAT								
	ORAL: DIET		13 WEEKS	BRAIN	DECREASED CHOLINESTERASE ACTIVITY		4E-3 30		IRIS	005833
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
ACETONE			**000067-64-1**							
NOEL 100 MG/KG/DAY		RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	INCREASED WEIGHT		1E+0		IRIS	005204
				KIDNEY	INCREASED WEIGHT		100			
				KIDNEY	NEPHROTOXICITY					
ACETONE CYANOHYDRIN / (2-METHYLLACTONITRILE)			**000075-86-5**							
NOAEL 8.75 MG/(KG-DAY)		RAT								
	DRAL: GAVAGE		90 DAYS	LIVER	INCREASED RELATIVE WEIGHT		8E-3 300		8E-4 3000	005776

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACETONITRILE		**000075-05-8**							
NOAEL 100 PPM		MOUSE							
	INHALATION: INTERMITTENT	92 DAYS	ERYTHROCYTES	DECREASED CELL COUNT		6E-2		IRIS	005210
			BLOOD	DECREASED HEMATOCRIT		300			
			LIVER	HEPATIC LESIONS					

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.

ACETOPHENONE		**000098-86-2**							
NOAEL 10,000 PPM		RAT							
	ORAL: DIET	17 WEEKS		NONE OBSERVED		1E+0		IRIS	005212
						300			
									010874

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (06/25/92) BY THE RfD/RfC WORK GROUP.

ACROLEIN		**000107-02-8**							
NOAEL 15.6 MG/KG/DAY		RAT							
	ORAL: WATER	90 DAYS						2E-2	010390
								1000	
							IRIS		010856

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACRYLAMIDE		**000079-06-1**								
NOEL 0.2 MG/KG/DAY	ORAL: DRINKING WATER	RAT	90 DAYS	NERVE	DAMAGE		2E-3 100		IRIS	005835
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (09/20/90) BY THE RfD/RfC WORK GROUP.								IRIS		010876
ACRYLIC ACID		**000079-10-7**								
NOAEL 53 MG/KG/DAY	ORAL: DRINKING WATER	RAT	2 GENERATION	WHOLE BODY	DECREASED PUP WEIGHT		5E-1 100		IRIS	005836
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD ON IRIS WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
LOAEL 5 PPM	INHALATION: INTERMITTENT	MOUSE	13 WEEKS	NASAL MUCOSA	LESIONS	3E-3 100		IRIS		010346
ACRYLONITRILE		**000107-13-1**								
NOAEL 1 MG/(KG-DAY)	ORAL: GAVAGE	MOUSE	60 DAYS	TESTES	DECREASED SPERM COUNTS		1E-2 100		1E-3 1000	010939
				TESTES	SEMINIFEROUS TUBULE DEGENERATION					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] UNDER REVIEW BY THE RfD/RfC WORK GROUP WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY										
ADIPONITRILE		**000111-69-3**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005157

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ALACHLOR		**015972-60-8**								
NOEL	1 MG/KG/DAY	DOG								
	ORAL: CAPSULE		1 YEAR	BLDDD- SITES, MULTIPLE	ANEMIA HEMOSIDEROSIS		1E-2 100		IRIS	005837
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
ALDICARB		**000116-06-3**								
NOAEL	0.01 MG/KG-DAY	HUMAN								
	ORAL		ACUTE	CENTRAL NERVOUS SYSTEM	SWEATING		1E-3 10		IRIS	010960
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: CLINICAL SIGNS OF ACETYL CHOLINESTERASE INHIBITION INCLUDING SWEATING, PINPOINT PUPILS, LEG WEAKNESS, NAUSEA, DIARRHEA AND OTHER EFFECTS WERE OBSERVED IN THE PRINCIPAL AND SUPPORTING STUDIES.										
ALDRIN		**000309-00-2**								
LOAEL	0.025 MG/KG/DAY	RAT								
	ORAL: DIET		2 YEARS	LIVER	LESIONS		3E-5 1000		IRIS	005159
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
ALLIDOCHLOR		**000093-71-0**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005838

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ALLYL ALCOHOL		**000107-18-6**								
NOEL 50 PPM		RAT								
	ORAL: DRINKING WATER		15 WEEKS	LIVER	EFFECTS		5E-2		IRIS	005839
				KIDNEY	EFFECTS		100			
ALLYL CHLORIDE		**000107-05-1**								
NOAEL 17 MG/CU M		RABBIT								
	INHALATION: INTERMITTENT		5 MONTHS	NERVOUS SYSTEM	NEUROTOXICITY	1E-2 300		IRIS		010369
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
ALUMINUM		**007429-90-5**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005162
ALUMINUM PHOSPHIDE		**020859-73-8**								
NOAEL 0.43 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	ALTERED WEIGHT		4E-4		IRIS	010255
				UNSPECIFIED	ALTERED CLINICAL PARAMETERS		100			
AMETRYN		**000834-12-8**								
NOEL 10 MG/KG/DAY		RAT								
	ORAL: GAVAGE		13 WEEKS	LIVER	EFFECTS		9E-2 100		IRIS	005841
AMINO-2-NAPHTHOL, 1-		**002834-92-6**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005842
AMINO-2-NAPHTOL HYDROCHLORIDE, 1-		**001198-27-2**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005843

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
AMINOPHENOL, M-		**000591-27-5**							
NOAEL 1300 PPM		RAT							
	ORAL: DIET	13 WEEKS	WHOLE BODY	ALTERED WEIGHT		7E-1		7E-2	005844
			THYROID	ALTERED WEIGHT		100		1000	
AMINOPHENOL, O-		**000095-55-6**							
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.							005845
AMINOPHENOL, P-		**000123-30-8**							
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.							005846
AMINOPYRIDINE, 4-		**000504-24-5**							
NOAEL 3 PPM		RAT							
	ORAL: DIET	90 DAYS	LIVER	INCREASED WEIGHT		2E-4		2E-5	005847
			BRAIN	INCREASED WEIGHT		1000		10000	
AMMONIA		**007664-41-7**							
NOAEL 34 MG/L		HUMAN							
	ORAL: DRINKING WATER		SENSORY	TASTE THRESHOLD		34 MG/L 1		34 MG/L 1	005166
	SUBCHRONIC [RfD] COMMENT:	GIVEN AS CONCENTRATION IN DRINKING WATER. SPECIFICALLY RELATED TO ORGANOLEPTIC THRESHOLD. SAFE CONCENTRATION MAY BE HIGHER, BUT DATA ARE INADEQUATE TO ASSESS.							
	CHRONIC [RfD] COMMENT:	GIVEN AS CONCENTRATION IN DRINKING WATER. SPECIFICALLY RELATED TO ORGANOLEPTIC THRESHOLD. SAFE CONCENTRATION MAY BE HIGHER, BUT DATA ARE INADEQUATE TO ASSESS.							
NOAEL 6.4 MG/CU M		HUMAN							
	INHALATION: INTERMITTENT		NASAL CAVITY	RHINITIS	1E-1		IRIS		010392
			LUNGS	PNEUMONIA	30				
			LUNGS	LESIONS					

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ANILINE		**000062-53-3**							
NOAEL 19 MG/CU M		MOUSE							
	INHALATION: INTERMITTENT	20-26 WEEKS	SPLEEN	PATHOLOGY	1E-2 300		IRIS		010370
		RAT 20-26 WEEKS	SPLEEN	PATHOLOGY					
		GUINEA PIG 20-26 WEEKS	SPLEEN	PATHOLOGY					
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
ANTHRACENE		**000120-12-7**							
NOEL 1000 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	90 DAYS		NONE OBSERVED		3E+0 300		IRIS	010166
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									010964
ANTIMONY PENTOXIDE		**001314-60-9**							
LOAEL 0.46 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	LIFETIME	WHOLE BODY	INCREASED MORTALITY		5E-4		5E-4	005174
			BLOOD	ALTERED CHEMISTRIES		1000		1000	

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ANTIMONY POTASSIUM TARTRATE 000304-61-0										
LOAEL 0.91 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		9E-4		9E-4	005234
				BLOOD	ALTERED CHEMISTRIES		1000		1000	

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

ANTIMONY TETROXIDE 001332-81-6										
LOAEL 0.44 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		4E-4		4E-4	005238
				BLOOD	ALTERED CHEMISTRIES		1000		1000	

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

ANTIMONY TRIOXIDE 001309-64-4										
LOAEL 0.42 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		4E-4		4E-4	005242
				BLOOD	ALTERED CHEMISTRIES		1000		1000	

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

BMC 0.87 MG/CU M		RAT								
	INHALATION, INTERMITTENT		1 YEAR	LUNG	PULMONARY TOXICITY	2E-4		IRIS		0I0974
				LUNG	INTERSTITIAL INFLAMMATION, CHRONIC	30				

CHRONIC RfC COMMENT: A BENCHMARK DOSE APPROACH WAS USED RATHER THAN A NOAEL/LOAEL TO DERIVE THE RfC.
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC IS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ANTIMONY, METALLIC		**007440-36-0**								
LOAEL 0.35 MG SB/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		4E-4		IRIS	005170
				BLOOD	ALTERED CHEMISTRIES		1000			
ARAMITE		**000140-57-8**								
NOAEL 100 PPM		RAT								
	ORAL: DIET		104 WEEKS	LIVER	INCREASED WEIGHT				5E-2 100	005850
NOAEL 500 PPM		DOG								
	ORAL: DIET		52 WEEKS	LIVER	DEGENERATION		1E-1 100			005849

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

AROCLOR 1248 **012672-29-6**

IRIS

CHRONIC RfD COMMENT: THE CHRONIC ORAL RfD IS CONSIDERED NOT VERIFIABLE (07/20/93) BY THE RfD/RfC WORK GROUP. 010940

AROCLOR 1254		**011097-69-1**								
LOAEL 0.005 MG/KG/DAY										
	ORAL: CAPSULE	MONKEY	>5 YEARS	IMMUNE SYSTEM	TOXICITY		5E-5 100		IRIS	010963

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ARSENIC, INORGANIC		**007440-38-2**							
NOAEL 0.009 MG/L		HUMAN							
	DRAL		SKIN	KERATOSIS		3E-4		IRIS	010434
			SKIN	HYPERPIGMENTATION		3			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC DRAL RfD WAS ADDPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSD SEE HEAST TABLE 3: CARCINOGENICITY.									
ATRAZINE		**001912-24-9**							
NOEL 3.5 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHDLE BDDY	DECREASED WEIGHT GAIN		3.5E-2		IRIS	010855
						100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BARIUM		**007440-39-3**							
NOAEL 0.21 MG/KG/DAY		HUMAN							
	ORAL: WATER	10 WEEKS	CARDIDVASCULAR SYSTEM	INCREASED BLOOD PRESSURE		7E-2		IRIS	010348
						3			
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHDDS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
SUBCHRDNIC [RfD] COMMENT: THE CHRONIC DRAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRDNIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHDDS -- SUBCHRONIC AND CHRDNIC TOXICITY (DTHER THAN CARCINOGENICITY)									
BARIUM CYANIDE		**000542-62-1**							
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/20/93) BY THE RfD/RfC WORK GROUP.									010941

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BENEFIN		**001861-40-1**								
NOAEL 25 MG/KG/DAY		DOG								
	ORAL: DIET		1 YEAR	ERYTHROCYTE	DECREASED COUNT		3E-1 100		IRIS	005852
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
BENZAL CHLORIDE		**000098-87-3**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005853
BENZALDEHYDE		**000100-52-7**								
NOEL 200 MG/KG/DAY		RAT								
	ORAL: GAVAGE		13 WEEKS	KIDNEY FORESTOMACH	EFFECTS LESIONS		1E+0 100		IRIS	005854
SUBCHRONIC [RfD] CPMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].										
BENZALDEHYDE CYANOHYDRIN		**000532-28-5**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005781
BENZENE		**000071-43-2**								
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300. GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
BENZENETHIOL / (THIOPHENOL)		**000108-98-5**								
LOAEL 0.1 MG/(KG-DAY)		RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	CENTRILOBULAR EOSINOPHILIC CHANGES		1E-4 1000		1E-5 10,000	010942
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] UNDER REVIEW BY THE RfD/RfC WORKGROUP WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BENZIDINE		**000092-87-5**							
LOAEL 2.7 MG/KG/DAY		MOUSE							
	ORAL: DRINKING WATER	33 MONTHS	BRAIN	CELLULAR CHANGES		3E-3		IRIS	005830
			LIVER	CELLULAR CHANGES		1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010877
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (03/28/91) BY THE RfD/RfC WORK GROUP.									
BENZO[A]ANTHRACENE		**000056-55-3**							
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									010965
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BENZOIC ACID		**000065-85-0**							
NOAEL 312 MG/DAY		HUMAN							
	ORAL: DIET			NONE OBSERVED		4E+0		IRIS	005260
						1			
SUBCHRONIC [RfD] COMMENT: THE HUMAN DAILY PER CAPITA INTAKE WAS USED AS THE CRITICAL DOSE LEVEL. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: THE HUMAN DAILY PER CAPITA INTAKE WAS USED AS THE CRITICAL DOSE LEVEL.									
BENZYL ALCOHOL		**000100-51-6**							
LOAEL 286 MG/KG/DAY		RAT							
	ORAL: GAVAGE	103 WEEKS	FORESTOMACH	EPITHELIAL HYPERPLASIA				3E-1	005855
								1000	
NOAEL 143 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	WHOLE BODY	DECREASED WEIGHT		1E+0			005856
						100			

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BERYLLIUM		**007440-41-7**								
NOAEL 0.54 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME		NONE OBSERVED		5E-3 100		IRIS	005262
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
BIPHENYL, 1,1'		**000092-52-4**								
NOAEL 50 MG/KG/DAY		RAT								
	ORAL: DIET		700 DAYS	KIDNEY	DAMAGE		5E-2 1000		IRIS	005857
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
								IRIS		010878
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (09/20/90) BY THE RfD/RfC WORK GROUP.										
BIS(2-CHLOROISOPROPYL) ETHER		**039638-32-9**								
NOAEL 35.8 MG/KG/DAY		MOUSE								
	ORAL: DIET		2 YEARS	ERYTHROCYTES	DECREASED HEMOGLOBIN		4E-2 1000		IRIS	010257
BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP)		**000117-81-7**								
									IRIS	010859
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BISPHENOL A		**000080-05-7**							
								IRIS	005268
NOAEL 750 PPM		RAT							
	ORAL	13 WEEKS	WHOLE BODY	DECREASED WEIGHT		6E-1 100			005266
BORON TRIFLUORIDE		**007637-07-2**							
NDAEL 6 MG/CU M		RAT							
	INHALATION: INTERMITTENT	13 WEEKS	KIDNEY	NECROSIS	7E-3 300		7E-4 3000		010395
BORON, ELEMENTAL		**007440-42-8**							
NOAEL 8.8 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	TESTIS	LESIONS				IRIS	005272

SUBCHRONIC [RfD] COMMENT: THE SUBCHRONIC ORAL [RfD] WAS REMOVED BECAUSE THE CHRONIC ORAL RfD UPON WHICH IT WAS BASED IS UNDER REVIEW BY THE RfD/RfC WORK GROUP.
CHRONIC RfD COMMENT: THE CHRONIC ORAL RfD, WHILE STILL ON IRIS, IS BEING RECONSIDERED BY THE RfD/RfC WORK GROUP.

LOAEL 4.5 MG/CU M		HUMAN							
	INHALATION: INTERMITTENT		RESPIRATORY TRACT BRONCHUS	IRRITATION BRONCHITIS	2E-2 100		2E-2 100		005269

SUBCHRONIC [RfC] COMMENT: THE SUBCHRONIC INHALATION [RfC] IS SPECIFICALLY FOR ANHYDROUS BORAX.
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS SPECIFICALLY FOR ANHYDROUS BORAX.

BROMINATED DIBENZO-P-DIOXINS
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. 005858

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BROMINATED DIBENZOFURANS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005859
BROMOACETONE		**000598-31-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005860
BROMOCHLOROETHANES									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									00586I
BROMODICHLOROMETHANE		**000075-27-4**							
LOAEL 17.9 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	102 WEEKS	KIDNEY	CYTOMEGALY		2E-2 1000		IRIS	005715
SUBCHRONIC [RfD] COMMENT: THE CHRONIC DRAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
BROMOETHENE / (VINYL BROMIDE)		**000593-60-2**							
LOAEL 9.7 PPM		RAT							
	INHALATION:	24 MONTHS	LIVER	HYPERTROPHY	3E-3		IRIS		010929
	INTERMITTENT		LIVER	BASOPHILIC FOCI	3000				
			LIVER	EOSINOPHILIC FOCI					
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET.	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BROMOFORM		**000075-25-2**								
NOEL 17.9 MG/KG/DAY		RAT								
	ORAL: GAVAGE		13 WEEKS	LIVER	EFFECTS		2E-1 100		IRIS	005722
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
								IRIS		010961
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (02/11/93) BY THE RfD/RfC WORK GROUP.										
BROMOMETHANE		**000074-83-9**								
									IRIS	010861
								IRIS		010860
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
SUBCHRONIC [RfO] COMMENT: CDNTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
BROMOPHENYL PHENYL ETHER, 4-		**000101-55-3**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005864.
BROMOPHOS		**002104-96-3**								
NOAEL 5 MG/KG/DAY		RAT								
	ORAL: DIET		3 GENERATIONS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		5E-2 100		5E-3 1000	005865
				LIVER	DECREASED CHOLINESTERASE ACTIVITY					
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY.										
CHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BROMOXYNIL		**001689-84-5**							
NOEL	5 MG/KG/DAY	RAT							
	ORAL: DIET	2 YEARS		NONE OBSERVED		2E-2 300		IRIS	005866
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
BROMOXYNIL OCTANOATE		**001689-99-2**							
NOEL	7.3 MG/KG/DAY	RAT							
	ORAL: DIET	2 YEARS		NONE OBSERVED		2E-2 300		IRIS	005867
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
BUSAN 77		**031512-74-0**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005868
BUSAN 90		**002491-38-5**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005869
BUTANOL, 1-		**000071-36-3**							
NOAEL	125 MG/KG/DAY	RAT							
	ORAL: GAVAGE	13 WEEKS	CENTRAL NERVOUS SYSTEM	HYPOACTIVITY		1E+0 100		IRIS	005870
			CENTRAL NERVOUS SYSTEM	ATAXIA					

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BUTYL BENZYL PHTHALATE, N-		**000085-68-7**							
NOAEL 159 MG/KG/DAY		RAT							
	ORAL: DIET	26 WEEKS	LIVER	ALTERED WEIGHT		2E+0 100		IRIS	005616
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BUTYLATE		**002008-41-5**							
NOEL 5 MG/KG/DAY		DOG							
	ORAL: CAPSULE	12 MONTHS	LIVER	INCREASED RELATIVE WEIGHT		5E-2 100		IRIS	005B71
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
BUTYLCHLORIDE, T-		**000507-20-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005810
BUTYROLACTONE, GAMMA-		**000096-48-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005872
CACODYLIC ACID		**000075-60-5**							
NOEL 9.2 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS		NONE OBSERVED		3E-2 300		3E-3 3000	005873
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ARSENIC BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ARSENIC BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CADMIUM		**007440-43-9**							
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.							IRIS	005280	

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IRIS. EPA'S INTEGRATED RISK INFORMATION SYSTEM. IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CALCIUM CYANIDE		**000592-01-8**							
NOAEL 19.1 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		4E-2		IRIS	010258
			THYRDID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					

SUBCHRDNIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

CAPROLACTAM		**000105-60-2**							
								IRIS	005284
NOAEL 50 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	KIDNEY	EFFECTS		5E-1			005282
						100			
							IRIS		010966

CAPTAFOL		**002425-06-1**							
LOAEL 2 MG/KG/DAY		DOG							
	DRAL: CAPSULE	12 MONTHS	KIDNEY	EFFECTS		2E-3		IRIS	005874
			BLADDER	EFFECTS		1000			

SUBCHRONIC [RfD] CDMMENT: THE CHRDNIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CAPTAN		**000133-06-2**							
NOEL	12.5 MG/KG/DAY	RAT							
	ORAL: DIET		WHOLE BODY	DECREASED WEIGHT		1.3E-1		IRIS	005875
						100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (05/27/92) BY THE RfD/RfC WORK GROUP.
CHRONIC [RfD] COMMENT: BASED ON A MULTI-GENERATION REPRODUCTION STUDY.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CARBARYL		**000063-25-2**							
NOAEL	9.6 MG/KG/DAY	RAT							
	ORAL: DIET	2 YEARS	KIDNEY	TOXICITY		1E-1		IRIS	005876
			LIVER	TOXICITY		100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

IRIS 010882

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (08/15/91) BY THE RfD/RfC WORK GROUP.

CARBOFURAN		**001563-66-2**							
NOEL	0.5 MG/KG/DAY	DOG							
	ORAL: DIET	1 YEAR	BLOOD	CHOLINESTERASE INHIBITION		5E-3		IRIS	005877
			TESTIS	EFFECTS		100			
			UTERUS	EFFECTS					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CARBON DISULFIDE		**000075-15-0**							
NOEL	11 MG/KG/DAY	RABBIT							
	INHALATION: INTERMITTENT		FETUS	TOXICITY		1E-1 100		IRIS	010259
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
	CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS DETERMINED FROM A TERATOLOGY STUDY WITH EXPOSURES BEFORE AND DURING THE ENTIRE GESTATION PERIOD.								
BMC	19.7 MG/CU M	HUMAN OCCUPATIONAL							
	INHALATION: INTERMITTENT	12.1 +/- 6.9 YEARS	PERIPHERAL NERVOUS SYSTEM	DYSFUNCTION	7E-1 30		IRIS		010975
	CHRONIC RfC COMMENT: A BENCHMARK DOSE APPROACH WAS USED RATHER THAN A NOAEL/LOAEL TO DERIVE THE RfC.								
	SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].								
CARBON MONOXIDE		**000630-05-0**							
	CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.								010493
CARBON TETRACHLORIDE		**000056-23-5**						IRIS	010862
	SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.								
	SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.								
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								
CHLORAL		**000075-87-6**							
	LOAEL	15.7 MG/KG/DAY	MOUSE						
	ORAL: DRINKING WATER	90 DAYS	LIVER	EFFECTS		2E-2 1000		IRIS	005290
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLORDANE		**000057-74-9**							
NOEL 0.055 MG/KG/DAY		RAT							
	ORAL: DIET	130 WEEKS	LIVER	HYPERTROPHY		6E-5 1000		IRIS	005296
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHLORINE CYANIDE		**000506-77-4**							
NOAEL 25.3 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY THYROID NERVE	DECREASED WEIGHT EFFECTS MYELIN DEGENERATION		5E-2 500		IRIS	010261
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHLORO-1,3-BUTADIENE, 2- / (CHLOROPRENE)		**000126-99-8**							
NOAEL 32 PPM		RAT							
	INHALATION	90 DAYS	OLFACTORY EPITHELIUM	DEGENERATION	7E-2 30		7E-3 300		010515
SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfO] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHLORO-M-CRESOL, P-		**000059-50-7**							
NOAEL 200 MG/KG/DAY		RAT							
	ORAL: GAVAGE	28 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		2E+0 100			005366
CHLOROACETALDEHYDE		**000107-20-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005342

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROACETIC ACID		**000079-11-8**								
LOAEL 30 MG/KG		RAT								
	DRAL: GAVAGE		13 WEEKS	HEART	MYOCARDITIS		2E-2 1000		2E-3 10000	005346
CHLOROANILINE, 2-		**000095-51-2**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005347
CHLOROANILINE, 3-		**000108-42-9**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005348
CHLOROANILINE, 4-		**000106-47-8**								
LOAEL 12.5 MG/KG/DAY		RAT								
	ORAL: DIET		78 WEEKS	SPLEEN	PROLIFERATIVE LESIONS		4E-3 3000		IRIS	005349
	SUBCHRONIC [RfD] COMMENT:	THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRDNIC ORAL [RfD].								
CHLOROBENZENE		**000108-90-7**								
									IRIS	010863
	SUBCHRONIC [RfC] COMMENT:	CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.								
	CHRDNIC [RfC] COMMENT:	ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).								

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROBENZILATE		**000510-15-6**							
NOEL 5 MG/KG/DAY		RABBIT							
	ORAL: GAVAGE	13 DAYS	GASTRO-INTESTINAL SYSTEM	DECREASED STOOL QUANTITY		2E-2 300		IRIS	010260
			WHOLE BODY	DECREASED FOOD CONSUMPTION					
			WHOLE BODY	DECREASED WEIGHT GAIN					
			NERVOUS SYSTEM	HYPERIRRITABILITY					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. BASED ON A TERATOLOGY STUDY WITH EXPOSURES DURING DAYS 7-19 OF GESTATION.

CHRONIC [RfD] COMMENT: BASED ON A TERATOLOGY STUDY WITH EXPOSURES DURING DAYS 7-19 OF GESTATION. 010931

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (02/11/93) BY THE RfD/RfC WORK GROUP.

CHLOROBENZOIC ACID, P-		**000074-11-3**							
NOAEL 26 MG/DAY		RAT							
	ORAL: DIET	5 MONTHS		NONE OBSERVED		2E+0 100		2E-1 1000	005360

CHLOROBENZOTRIFLUORIDE, 4-		**000098-56-6**							
NOAEL 15 MG/KG/DAY		RAT							
	ORAL: GAVAGE		KIDNEY	TUBULAR DEGENERATION		2E-1 100		2E-2 1000	005364

SUBCHRONIC [RfD] COMMENT: BASED ON A 2-GENERATION REPRODUCTION STUDY WITH EXPOSURES 4 WEEKS PRIOR TO MATING, DURING GESTATION, AND FOR 90 DAYS POST-WEANING.

CHRONIC [RfD] COMMENT: BASED ON A 2-GENERATION REPRODUCTION STUDY WITH EXPOSURES 4 WEEKS PRIOR TO MATING, DURING GESTATION, AND FOR 90 DAYS POST-WEANING.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROBUTANE, 1-		**000109-69-3**								
NOAEL 43 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 WEEKS	WHOLE BODY	INCREASED MORTALITY				4E-1	005808
				CENTRAL NERVOUS SYSTEM	EFFECTS				100	
				BLOOD	HEMATOLOGIC EFFECTS					
NOAEL 86 MG/KG/DAY		RAT								
	ORAL: GAVAGE		13 WEEKS	WHOLE BODY	DECREASED WEIGHT GAIN		9E-1			005806
				CENTRAL NERVOUS SYSTEM	EFFECTS		100			
				SPLEEN	HEMATOPOIESIS					
CHLOROBUTANE, 2-		**000078-86-4**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005809
CHLOROCYCLOPENTADIENE		**041851-50-7**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005297
CHLOROFORM		**000067-66-3**								
LOAEL 12.9 MG/KG/DAY		DOG								
	DRAL: CAPSULE		7.5 YEARS	LIVER	LESIONS		1E-2		IRIS	005372
							1000			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROMETHANE / (METHYL CHLORIDE) 000074-87-3									
									0I0005
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHLORONITROBENZENE, M- 000121-73-3									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005879
CHLOROPHENOL, 2- 000095-57-8									
NOAEL 50 PPM		RAT							
	ORAL: DRINKING WATER		REPRODUCTION	REPRODUCTIVE EFFECTS		5E-2 100		IRIS	0I0436
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTIVE STUDY WITH EXPOSURE 10 WEEKS PRIOR TO AND OURING MATING, GESTATION AND WEANING.									
CHRONIC [RfD] COMMENT: BASED ON A REPRODUCTIVE STUDY WITH EXPOSURE 10 WEEKS PRIDR TO AND DURING MATING, GESTATION AND WEANING.									
CHLOROPHENOL, 3- 000108-43-0									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005309
CHLOROPHENOL, 4- 000106-48-9									
GENERAL CDMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005310
CHLOROPROPANE, 2- 000075-29-6									
NOAEL 91.4 MG/KG/DAY		RAT							
	INHALATION: INTERMITTENT	4 WEEKS	LIVER	EFFECTS	1E+0 100		1E-1 1000		0I0444
CHLOROTOLUENE, M- 000108-41-8									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005880

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROTOLUENE, O-		**000095-49-8**								
NOAEL 20 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		2E-1 100		IRIS	010167
CHLOROTOLUENE, P-		**000106-43-4**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010200
CHLORPYRIFOS		**002921-88-2**								
NOEL 0.03 MG/KG/DAY		HUMAN								
	ORAL: CAPSULE		20 DAYS OR 9 DAYS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		3E-3 10		IRIS	005881
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHLORPYRIFOS METHYL		**005598-13-0**								
NOAEL 1 MG/KG/DAY		RAT								
	ORAL: DIET		3 GENERATIONS	REPRODUCTION	DECREASED FERTILITY		1E-2 100		1E-2 100	005882
		RAT	2 YEARS	LIVER	EFFECTS					
CHLOROTHALONIL		**001897-45-6**								
NOEL 1.5 MG/KG/DAY		DOG								
	ORAL: DIET		2 YEARS	KIDNEY	EFFECTS		1.5E-2 100		IRIS	005883
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLORTHIOPHOS		**060238-56-4**							
NOAEL 0.08 MG/KG/DAY	ORAL: DIET	RAT 2 YEARS		NONE OBSERVED		8E-4 100		8E-4 100	005884
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHROMIUM(III)		**016065-83-1**							
NOEL 5 % (CR2O3)	ORAL: DIET	RAT 840 DAYS		NONE OBSERVED		1E+0 1000		IRIS	005731
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfC] COMMENT: INHALATION ISSUES ARE UNDER REVIEW BY THE RFD/RFC WORK GROUP. SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
CHROMIUM(VI)		**018540-29-9**							
NOAEL 2.4 MG/KG/DAY	ORAL: DRINKING WATER	RAT 1 YEAR		NONE OBSERVED		2E-2 100		IRIS	005522
CHRONIC [RfC] COMMENT: INHALATION ISSUES ARE UNDER REVIEW BY THE RFD/RFC WORK GROUP. SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
CHRYSENE		**000218-01-9**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									005885

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
COPPER		**007440-50-8**							
LOAEL 5.3 MG	ORAL	HUMAN SINGLE DOSE	GASTRO-INTESTINAL SYSTEM	IRRITATION		1.3 MG/L		1.3 MG/L	005374

SUBCHRONIC [RfD] COMMENT: CURRENT DRINKING WATER STANDARD OF 1.3 MG/L. DWCD (1987) CONCLUDED TOXICITY DATA WERE INADEQUATE FOR CALCULATION OF AN RfD FOR COPPER.

CHRONIC [RfD] COMMENT: CURRENT DRINKING WATER STANDARD OF 1.3 MG/L. DWCD (1987) CONCLUDED TOXICITY DATA WERE INADEQUATE FOR CALCULATION OF AN RfD FOR COPPER.

COPPER CYANIDE		**000544-92-3**							
NOAEL 5 MG/KG/DAY	ORAL: GAVAGE	RAT 90 DAYS	LIVER	HISTOPATHOLOGY		5E-2		IRIS	010262
			KIDNEY	HISTOPATHDLOGY		100			
			WHOLE BODY	DECREASED WEIGHT					
			ORGANS	DECREASED WEIGHT					
CRESOL, M- / (3-METHYLPHENOL)		**000108-39-4**							
NOAEL 50 MG/KG/DAY	DRAL: GAVAGE	RAT 90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		5E-1		IRIS	005380
			NERVOUS SYSTEM	NEUROTOXICITY		100			

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP. IRIS 010888

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CRESOL, O- / (2-METHYLPHENOL) 000095-48-7									
NOAEL 50 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		5E-1		IRIS	005384
			NERVOUS SYSTEM	NEUROTOXICITY		100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010889
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									
CRESOL, P- / (4-METHYLPHENOL) 000106-44-5									
NOAEL 5 MG/(KG-DAY)		RABBIT							
	ORAL: GAVAGE	GESTATION DAYS 6-18	CENTRAL NERVOUS SYSTEM	HYPOACTIVITY		5E-3 1000		5E-3 1000	010516
			RESPIRATORY SYSTEM	DISTRESS					
			WHOLE BODY	MATERNAL DEATH					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfO].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010890
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									
CUMENE 000098-82-8									
NOAEL 154 MG/KG/DAY		RAT							
	ORAL: GAVAGE	194 DAYS	KIDNEY	INCREASED WEIGHT		4E-1 300		IRIS	005392
NOAEL 105.1 PPM		RAT							
	INHALATION: INTERMITTENT	4 WEEKS	CENTRAL NERVOUS SYSTEM	INVOLVEMENT	9E-2 1000		9E-3 10000		005908
			NOSE	IRRITATION					

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CYANAZINE			**021725-46-2**							
NOEL 0.625 MG/KG/DAY		DOG								
	ORAL: DIET		1 YEAR	WHOLE BODY	DECREASED WEIGHT		2E-3		2E-3	010411
				BLOOD	INCREASED PLATELET COUNT		300		300	
				BLOOD	ALTERED CLINICAL CHEMISTRY PARAMETERS					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS WITHDRAWN FROM IRIS (07/01/92). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CYANIDE			**000057-12-5**							
NOAEL 10.8 MG/KG/DAY		RAT								
	ORAL: DIET		104 WEEKS	WHOLE BODY	DECREASED WEIGHT		2E-2		IRIS	005396
				THYROID	EFFECTS		500			
				NERVE	MYELIN DEGENERATION					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: THE CASRN FOR CN- IS 000057-12-5; THE CASRN FOR HCN IS 000074-90-8.

CYANOGEN			**000460-19-5**							
NOAEL 21.6 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT		4E-2		IRIS	010263
				THYROID	EFFECTS		500			
				NERVE	MYELIN DEGENERATION					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CYANOGEN BROMIDE		**000506-68-3**							
NOAEL 44 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		9E-2		IRIS	010264
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CYCLOATE		**001134-23-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005886
CYCLOHEXANOL		**000108-93-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005887
CYCLOHEXYLAMINE		**000108-91-8**							
								IRIS	005400
NOAEL 30 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		3E-1			005398
			TESTIS	DECREASED WEIGHT		100			
CYCLOPENTADIENE		**000542-92-7**							
									010494
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DACTHAL			**001861-32-1**							
NOAEL 1	MG/KG/DAY	RAT								
	ORAL: DIET		2 YEARS	LUNG	EFFECTS		1E-2		IRIS	005888
				LIVER	EFFECTS		100			
				KIDNEY	EFFECTS					
				THYROID	EFFECTS					
				THYROID HORMONES	EFFECTS					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

DALAPON			**000075-99-0**							
NOEL	8.45 MG/KG/DAY	RAT								
	ORAL: DIET		2 YEARS	KIDNEY	INCREASED RELATIVE WEIGHT		3E-2		IRIS	005889
							300			

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO DALAPON SODIUM BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

DDT			**000050-29-3**							
NOEL	0.05 MG/KG/DAY	RAT								
	ORAL: DIET		27 WEEKS	LIVER	LESIONS		5E-4		IRIS	005408
							100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DECABROMODIPHENYL ETHER		**001163-19-5**							
NOEL 1 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	INCREASED WEIGHT		1E-2 100		IRIS	005891
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
DI-N-OCTYL PHTHALATE		**000117-84-0**							
LOAEL 175 MG/KG/DAY		RAT							
	ORAL: DIET	7-12 MONTHS	KIDNEY	INCREASED WEIGHT		2E-2		2E-2	010275
			LIVER	INCREASED WEIGHT		1000		1000	
			LIVER	INCREASED SGOT ACTIVITY					
			LIVER	INCREASED SGPT ACTIVITY					
DIAZINON		**000333-41-5**							
NOAEL 0.09 MG/KG/DAY		RAT							
	ORAL: DIET	35-42 DAYS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		9E-4 100		9E-4 100	005892
DIBENZOFURAN		**000132-64-9**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005409
DIBROMOBENZENE, 1,4-		**000106-37-6**							
NOAEL 10 MG/KG/DAY		RAT							
	ORAL: GAVAGE	45 OR 90 DAYS	LIVER	INCREASED RELATIVE WEIGHT		1E-1		IRIS	005893
			LIVER	ALTERED ENZYME ACTIVITIES		100			

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIBROMOCHLOROMETHANE		**000124-48-1**							
NOEL 21.4 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	LIVER	LESIONS		2E-1 100		IRIS	005894

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

DIBROMOETHANE, 1,2-		**000106-93-4**							
LOAEL 88 PPB		HUMAN							
	INHALATION: INTERMITTENT		SPERM	EFFECTS	2E-3 100		2E-4 1000		010854

SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] WAS MODIFIED TO ESTIMATE THE SUBCHRONIC INHALATION [RfC].
CHRONIC [RfC] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

DIBUTYL PHTHALATE		**000084-74-2**							
NOAEL 125 MG/KG/DAY		RAT							
	ORAL: DIET	52 WEEKS	WHOLE BODY	INCREASED MORTALITY		1E+0 100		IRIS	005622
							IRIS		010892

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (07/26/90) BY THE RfD/RfC WORK GROUP.

DICAMBA		**001918-00-9**							
NOAEL 3 MG/KG/DAY		RABBIT							
	ORAL: GAVAGE	GESTATION DAYS 6-18	FETUS	DECREASED WEIGHT		3E-2 100		IRIS	010945
			FETUS	INCREASED POST-IMPLANTATION LOSSES					
			FETUS	INCREASED MORTALITY					
			DAM	DECREASED WEIGHT GAIN					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROBENZENE, 1,2-		**000095-50-1**							
								IRIS	010864
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
DICHLOROBENZENE, 1,3-		**000541-73-1**							
									005414
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (06/23/92) BY THE RfD/RfC WORK GROUP.									
DICHLOROBENZENE, 1,4-		**000106-46-7**							
NOAEL 75 MG/CU M		RAT							
	INHALATION: INTERMITTENT	MULTI-GENERATION	LIVER	INCREASED WEIGHT IN MALE PARENTS	2.5E+0 30		IRIS		010840
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS MODIFIED TO ESTIMATE THE SUBCHRONIC INHALATION [RfC].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
DICHLOROBUTENES									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005415
DICHLORODIFLUOROMETHANE		**000075-71-8**							
								IRIS	005498
NOAEL 90 MG/KG/DAY		DOG							
	ORAL: DIET	90 DAYS		NONE OBSERVED		9E-1 100			005496
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET.	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROETHANE, 1,1- 000075-34-3										
NOEL 115 MG/KG/DAY	INHALATION: INTERMITTENT	RAT	13 WEEKS		NONE OBSERVED		1E+0 100		1E-1 1000	005790
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.										
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
DICHLOROETHYLENE, 1,1- 000075-35-4										
LOAEL 9 MG/KG/DAY	ORAL: DRINKING WATER	RAT	2 YEARS	LIVER	LESIONS		9E-3 1000		IRIS	005419
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfD] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
DICHLOROETHYLENE, 1,2- (MIXED ISOMERS) 000540-59-0										
LOAEL 50 PPM	ORAL: DRINKING WATER	RAT	2 YEARS	LIVER	LESIONS		9E-3 1000		9E-3 1000	010509
SUBCHRONIC [RfD] COMMENT: VALUES DERIVED FOR 1,1-DICHLOROETHYLENE WERE ADOPTED FOR 1,2- DICHLOROETHYLENE MIXED ISOMERS BASED ON ANALOGY.										
CHRONIC [RfD] COMMENT: VALUES DERIVED FOR 1,1-DICHLOROETHYLENE (000075-35-4) WERE ADOPTED FOR 1,2-DICHLOROETHYLENE MIXED ISOMERS BASED ON ANALOGY.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROETHYLENE, 1,2-C- 000156-59-2									
NOAEL 32 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	BLOOD	DECREASED HEMATOCRIT		1E-1		1E-2	005420
			BLOOD	DECREASED HEMOGLOBIN		300		3000	
CHRONIC [RfD] COMMENT: UNDER REVIEW, CURRENT NUMBER SUBJECT TO CHANGE.									
DICHLOROETHYLENE, 1,2-T- 000156-60-5									
NOAEL 17 MG/KG/DAY		MOUSE							
	ORAL: DRINKING WATER	90 DAYS	BLOOD	INCREASED ALKALINE PHOSPHATASE		2E-1 100		IRIS	005B95
DICHLOROPHENOL, 2,3- 000576-24-9									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005315
DICHLOROPHENOL, 2,4- 000120-83-2									
NOEL 3 PPM		RAT							
	ORAL: DRINKING WATER	2 GENERATIONS	IMMUNE SYSTEM	ALTERED IMMUNE FUNCTION		3E-3 100		IRIS	005314
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: BASED ON A 2-GENERATION REPRODUCTION STUDY WITH EXPOSURES BEFORE AND DURING GESTATION, PARTURITION, AND WEANING OF PUPS.									
DICHLOROPHENOL, 2,5- 000583-78-8									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005316
DICHLOROPHENOL, 2,6- 000087-65-0									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005317

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROPHENOL, 3,4- 000095-77-2									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005318
DICHLOROPHENOL, 3,5- 000591-35-5									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005319
DICHLOROPHENOXY ACETIC ACID, 2,4- 000094-75-7									
NOAEL 1 MG/KG/DAY		RAT							
	ORAL: DIET	91 DAYS	BLOOD	TOXICITY		1E-2		IRIS	010265
			LIVER	TOXICITY		100			
			KIDNEY	TOXICITY					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4- / (2,4-DB) 000094-82-6									
NOAEL 8 MG/KG/DAY		DOG							
	ORAL: DIET	90 DAYS	CARDIOVASCULAR SYSTEM	HEMORRHAGE		8E-2 100		IRIS	005890
			WHOLE BODY	INCREASED MORTALITY					
DICHLOROPROPANE, 1,1- 000078-99-9									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005897
DICHLOROPROPANE, 1,2- 000078-87-5									
NOAEL 69.3 MG/CU		RAT							
	INHALATION: INTERMITTENT	13 WEEKS	NASAL MUCOSA	HYPERPLASIA	1.3E-2 100		IRIS		005898
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROPROPANE, 1,3-		**000142-28-9**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005899
DICHLOROPROPANE, 2,2-		**000594-20-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005900
DICHLOROPROPENE, 1,3- / (TELONE II)		**000542-75-6**							
NOEL	3 MG/KG/DAY	RAT							
	ORAL: DIET	90 DAYS	ORGANS	INCREASED WEIGHT		3E-3 1000		IRIS	005901
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
NOAEL	5 PPM	MOUSE							
	INHALATION:	2 YEARS	NASAL MUCOSA	HYPERTROPHY	2E-2		IRIS		010351
	INTERMITTENT		NASAL MUCOSA	HYPERPLASIA	30				
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
DICHLORPROP		**000120-36-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005896
DICYCLOPENTADIENE		**000077-73-6**							
NOEL	32 MG/KG/DAY	RAT							
	ORAL: DIET	3 GENERATIONS		NONE OBSERVED		3E-1 100		3E-2 1000	005425

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
SUBCHRONIC [RfD] COMMENT: BASED ON A 3-GENERATION REPRODUCTION STUDY.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: BASED ON A 3-GENERATION REPRODUCTION STUDY.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIELDRIN		**000060-57-1**							
NOAEL 0.005 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	LESIONS		5E-5 100		IRIS	005429
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
DIETHYL PHTHALATE		**000084-66-2**							
NOAEL 750 MG/KG/DAY		RAT							
	ORAL: DIET	16 WEEKS	WHOLE BODY	DECREASED GROWTH		8E+0		IRIS	005620
			ORGANS	DECREASED WEIGHT		100			
DIETHYL-P-NITROPHENYL PHOSPHATE		**000311-45-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005922
DIETHYLANILINE, N,N-		**000091-66-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005903
DIETHYLENE GLYCOL MONOBUTYL ETHER		**000112-34-5**							
NOAEL 18 PPM		RAT							
				NONE OBSERVED	2E-1 100		2E-2 1000		005482
CHRONIC [RfC] COMMENT: UNDER REVIEW.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIETHYLENE GLYCOL MONOETHYL ETHER 000111-90-0									
NOEL	200 MG/KG/DAY	RAT							
	ORAL: DRINKING WATER		KIDNEY	HISTOPATHOLOGY				2E+0 100	005478
	CHRONIC [RfD] COMMENT: BASED ON A 3-GENERATION REPRODUCTION STUDY.								
NOEL	500 MG/KG/DAY	RAT							
	ORAL: DIET	90 DAYS	KIDNEY TESTIS	IMPAIRED FUNCTION INCREASED WEIGHT		5E+0 100			005476
DIETHYLFORMAMIDE 000617-84-5									
NOEL	0.546 MG/DAY, 5 DAYS/WEEK		RAT						
	ORAL: GAVAGE	73 WEEKS		NONE OBSERVED		1.1E-2 100		1.1E-2 100	010437
DIETHYLHYDRAZINE, 1,2- 001615-80-1									
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								005921
DIMETHOATE 000060-51-5									
NOEL	0.05 MG/KG/DAY	RAT							
	ORAL: DIET	2 YEARS	BRAIN	DECREASED CHOLINESTERASE ACTIVITY		2E-4 300		IRIS	005923
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
DIMETHYLANILINE, N,N- 000121-69-7									
LOAEL	22.32 MG/KG/DAY	MOUSE							
	ORAL: GAVAGE	13 WEEKS	SPLEEN	EFFECTS		2E-2 1000		IRIS	005924

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIMETHYLFORMAMIDE, N,N- 000068-12-2									
NOAEL 96 MG/KG/DAY		RAT							
	ORAL: DIET	119 DAYS	LIVER	EFFECTS		1E+0 100		1E-1 1000	005925
LOAEL 22 MG/CU M		HUMAN							
	INHALATION: INTERMITTENT		LIVER GASTRO INTESTINAL SYSTEM	EFFECTS EFFECTS	3E-2 300		IRIS.		010352
	SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RFC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RFC].								
DIMETHYLPHENOL, 2,3- 000526-75-0									
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005926
DIMETHYLPHENOL, 2,4- 000105-67-9									
NOAEL 50 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	90 DAYS	NERVOUS SYSTEM BLOOD	EFFECTS ALTERATIONS		2E-1 300		IRIS	010266
DIMETHYLPHENOL, 2,5- 000095-87-4									
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005928
DIMETHYLPHENOL, 2,6- 000576-26-1									
NOEL 0.6 MG/KG/DAY		RAT							
	ORAL	8 MONTHS	WHOLE BODY ORGANS, MAJOR	INCREASED WEIGHT LESIONS		6E-3 100		IRIS	005431

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIMETHYLPHENOL, 3,4-		**000095-65-8**							
NOEL 1.4 MG/KG/DAY		RAT							
	ORAL	8 MONTHS	WHOLE BODY	DECREASED WEIGHT		1E-2		IRIS	005437
			ORGANS, MAJOR	LESIONS		100			
			CARDIOVASCULAR SYSTEM	ALTERED BLOOD PRESSURE					
DIMETHYLPHTHALATE		**000131-11-3**							
CHRONIC RfD COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (02/16/94) BY THE RfD/RfC WORK GROUP.									010267
							IRIS		010894
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (07/26/90) BY THE RfD/RfC WORK GROUP.									
DIMETHYLTEREPHTHALATE		**000120-61-6**							
LOAEL 125 MG/KG/DAY		RAT							
	ORAL: DIET	103 WEEKS	KIDNEY	INFLAMMATION		1E-1		IRIS	005930
						1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
DIMETHYLUREA, N,N-		**000598-94-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005931
DINITRO-O-CRESOL, 4,6-		**000534-52-1**							
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (02/11/93) BY THE RfD/RfC WORK GROUP.									010470
DINITRO-P-CRESOL, 2,6-		**000609-93-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005934

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DINITROBENZENE, 1,2- 000528-29-0									
NOAEL 0.4 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	16 WEEKS	SPLEEN	INCREASED WEIGHT		4E-3 100		4E-4 1000	010201
SUBCHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.									
CHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.									
DINITROBENZENE, 1,3- 000099-65-0									
NOAEL 0.4 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER		SPLEEN	INCREASED WEIGHT		1E-3 100		IRIS	010471
DINITROBENZENE, 1,4- 000100-25-4									
NOAEL 0.4 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	16 WEEKS	SPLEEN	INCREASED WEIGHT		4E-3 100		4E-4 1000	010202
SUBCHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.									
CHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.									
DINITROPHENOL, 2,3- 000066-56-8									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005936
DINITROPHENOL, 2,4- 000051-28-5									
LOAEL 2 MG/KG/DAY		HUMAN							
	ORAL		EYE	CATARACT		2E-3 1000		IRIS	010438
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (06/13/91) BY THE RfD/RfC WORK GROUP.							IRIS		010895

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE RDUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DINITROPHENOL, 2,5-		**000329-71-5**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005937
DINITROPHENOL, 2,6-		**000573-56-8**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										00593B
DINITROPHENOL, 3,5-		**000586-11-8**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005939
DINITROTOLUENE, 2,3-		**000602-01-7**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005940
DINITROTOLUENE, 2,4-		**000121-14-2**								
NOAEL 0.2 MG/KG/DAY		DOG								
	ORAL: GELATIN CAPSULE		UP TO 2 YEARS	CENTRAL NERVOUS SYSTEM	NEUROTOXICITY		2E-3 100		IRIS	005941
				ERYTHROCYTES	HEINZ BODIES					
				BILIARY TRACT	HYPERPLASIA					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD IS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
								IRIS		010B96
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/20/90) BY THE RfD/RfC WORK GROUP.										
DINITROTOLUENE, 2,5-		**000619-15-8**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005942

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DINITROTOLUENE, 2,6-		**000606-20-2**								
NOAEL 4 MG/KG/DAY		DOG								
	ORAL: DIET		13 WEEKS	WHOLE BODY	MORTALITY		1E-2		1E-3	005943
				CENTRAL NERVOUS SYSTEM	NEUROTOXICITY		300		3000	
				BLOOD	HEINZ BODIES					
				BLOOD	METHEMOGLOBINEMIA					
				BILE DUCT	HYPERPLASIA					
				KIDNEY	HISTOPATHOLOGY					

CHRONIC [RfD] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

DINITROTOLUENE, 3,4- **000610-39-9**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005944

DINOSEB		**000088-85-7**								
LOAEL 1 MG/KG/DAY		RAT								
	ORAL: DIET		29 WEEKS	FETUS	DECREASED WEIGHT		IE-3		IRIS	005945
							1000			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RFD WAS ADOPTED AS THE SUBCHRONIC ORAL [RFD].
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RFD WAS DETERMINED FROM A 3-GENERATION REPRODUCTION STUDY.

DIPHENYLAMINE, N,N-		**000122-39-4**								
NOEL 2.5 MG/KG/DAY		DOG								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		2.5E-2		IRIS	005946
				LIVER	INCREASED WEIGHT		100			
				KIDNEY	INCREASED WEIGHT					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIRECT LIGHTFAST BLUE		**004399-55-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005947
DISULFOTON		**000298-04-4**							
LOAEL 0.04 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	EYE	DEGENERATION		4E-5		IRIS	010412
			BLOOD	CHOLINESTERASE INHIBITION		1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
ENDOSULFAN		**000115-29-7**							
NOAEL 15 PPM		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		6E-3		IRIS	010926
			KIDNEY	GLOMERULONEPHROSIS		100			
			BLOOD VESSEL	ANEURYSMS					
NOAEL 10 PPM		DOG							
	ORAL: DIET	1 YEAR	WHOLE BODY	DECREASED WEIGHT GAIN					010938
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHORNIC ORAL [RfD]. BASED ON CO-CRITICAL RAT AND DOG STUDIES.									
ENDOTHALL		**000145-73-3**							
NOEL 2 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	STOMACH	INCREASED WEIGHT		2E-2		IRIS	005948
			SMALL INTESTINE	INCREASED WEIGHT		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ENDRIN		**000072-20-8**							
NOEL	0.025 MG/KG/DAY ORAL: DIET	DOG 2 YEARS	CENTRAL NERVOUS SYSTEM	CONVULSIONS		3E-4 100		IRIS	005445
			LIVER	LESIONS					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
EPICHLOROHYDRIN		**000106-89-8**							
LOAEL	37.8 MG/CU M INHALATION: INTERMITTENT	RAT 136 WEEKS	KIDNEY	LESIONS		2E-3 1000		2E-3 1000	010440
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE-TO-ROUTE EXTRAPOLATION. THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (04/01/92).									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
NOAEL	19 MG/CU M INHALATION: INTERMITTENT	RAT 90 DAYS	NASAL EPITHELIUM	LESIONS	1E-2 100		IRIS		010492
EPTC		**000759-94-4**							
NOEL	2.5 MG/KG/DAY ORAL: DIET	RAT 2 GENERATIONS	HEART	DEGENERATIVE CARDIOMYOPATHY		2.5E-2 100		IRIS	005959
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RFD WAS DETERMINED FROM A 2-GENERATION REPRODUCTION STUDY.									
ETHOPROP		**013194-48-4**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005951

CHEMICAL LEVEL	DOSE RDUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE

ETHOXYETHANOL ACETATE, 2- 000111-15-9

010507

SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

ETHOXYETHANOL ACRYLATE, 2- 000106-74-1

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005953

ETHOXYETHANOL DODECANOATE, 2- 000106-13-8

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005956

ETHOXYETHANOL PHOSPHATE, 2- 068554-00-7

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005955

ETHOXYETHANOL, 2- 000110-80-5

LOAEL 357 MG/KG/DAY	RAT								
ORAL: GAVAGE	103 WEEKS	WHOLE BODY	DECREASED WEIGHT				4E-1 1000		005470
NOEL 50 uL/KG/DAY	RAT								
ORAL: GAVAGE	21 DAYS	FETUS	SKELETAL MALFORMATIONS			5E-1 100			.005468
NOAEL 380 MG/CU M	RABBIT								
INHALATION: INTERMITTENT	13 WEEKS	BLOOD	ALTERED HEMATOLOGY	2E+0 30				IRIS	01044I

SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 1-21 OF GESTATION.

ETHOXYETHYL METHACRYLATE, 2- 002370-63-0

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005954

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYL ACETATE		**000141-78-6**								
NOEL	900 MG/KG/DAY	RAT								
	ORAL: GAVAGE		90 DAYS	WHOLE BODY	INCREASED MORTALITY		9E+0		IRIS	005957
				WHOLE BODY	DECREASED WEIGHT		100			
ETHYL BENZENE		**000100-41-4**								
									IRIS	010867
								IRIS		010866

SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

ETHYL CHLORIDE		**000075-00-3**								
NOAEL	1504 PPM	MOUSE								
	INHALATION:		10 DAYS	FETUS	DEVELOPMENTAL TOXICITY	1E+1		IRIS		010371
	INTERMITTENT					300				

SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].
CHRONIC [RfC] COMMENT: BASED ON A DEVELOPMENTAL STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION.

ETHYL ETHER		**000060-29-7**								
NOAEL	500 MG/KG/DAY	RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	EFFECTS		2E+0		IRIS	010396
							300			

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYL METHACRYLATE		**000097-63-2**							
NOEL 7.5 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	2 YEARS	KIDNEY	INCREASED RELATIVE WEIGHT		9E-2 100		9E-2 100	005961
CHRONIC [RfD] COMMENT: CALCULATED FROM METHYL METHACRYLATE DATA BY MULTIPLYING BY THE RATIO OF THE MOLECULAR WEIGHTS (114.5/100.13).									
ETHYL-O-XYLENE, 4-		**000934-80-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010472
ETHYLANILINE, N-		**000103-69-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005958
ETHYLENE CYANOHYDRIN		**000109-78-4**							
NOEL 30 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	90 DAYS	HEART BRAIN	DECREASED WEIGHT DECREASED WEIGHT		3E-1 100		3E-1 100	005780
ETHYLENE DIAMINE		**000107-15-3**							
NOAEL 22.6 MG/KG/DAY		RAT							
	ORAL: DIET	3 MONTHS	HEART BLOOD	DECREASED WEIGHT HEMATOLOGIC CHANGES		2E-1 100		2E-2 1000	005796
							IRIS		010898
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/18/90) BY THE RfD/RfC WORK GROUP.									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYLENE GLYCOL		**000107-21-1**								
									IRIS	005454
NOEL	200 MG/KG/DAY	RAT								
	ORAL: DIET			FETUS	FETOTOXICITY		2E+0 100			005452
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION.										
ETHYLENE GLYCOL MONOBUTYL ETHER		**000111-76-2**								
NOAEL	121 MG/CU M	RAT								
	INHALATION: INTERMITTENT		13 WEEKS	BLOOD	ALTERED HEMATOLOGY	2E-1 100		2E-2 1000		010353
CHRONIC [RfC] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.										
ETHYLENE THIOUREA		**000096-45-7**								
LOAEL	0.25 MG/KG/DAY	RAT								
	ORAL: DIET		24 MONTHS	THYROID	HYPERPLASIA		8E-5 3000		IRIS	010397
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										010899
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/12/92) BY THE RfD/RfC WORK GROUP.										
ETHYLTOLUENE, M-		**000620-14-4**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005963
ETHYLTOLUENE, O-		**000611-14-3**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005962

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYLTOLUENE, P-		**000622-96-8**								
GENERAL COMMENT: OATA INAOEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005964
FLUORANTHENE		**000206-44-0**								
NOAEL 125 MG/KG/OAY		MOUSE								
	ORAL: GAVAGE		90 DAYS	KIONEY	NEPHROPATHY		4E-1		IRIS	010168
				LIVER	WEIGHT CHANGES		300			
				BLOOO	HEMATOLOGICAL CHANGES					
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIOERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.										010967
FLUORENE		**000086-73-7**								
NOAEL 125 MG/KG/OAY		MOUSE								
	ORAL: GAVAGE		13 WEEKS	ERYTHROCYTES	OECREASED COUNTS		4E-1		IRIS	010169
							300			
FLUORINE / (SOLUBLE FLUORIDE)		**007782-41-4**								
NOAEL 0.06 MG/KG/OAY		HUMAN								
	ORAL: DRINKING WATER			TOOTH	FLUOROSIS		6E-2		IRIS	005965
							1			
FLURIDONE		**059756-60-4**								
NOEL 200 PPM		RAT								
	ORAL: DIET		2 YEARS	KIONEY	GLOMERULONEPHRITIS		8E-2		IRIS	005966
				TESTIS	ATROPHY		100			
				WHOLE BODY	DECREASED WEIGHT					
				ORGANS	DECREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS AOOPTED AS THE SUBCHRONIC ORAL [RfD].										

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
FOLPET		**000133-07-3**							
NOEL	10 MG/KG/DAY	DOG							
	ORAL: CAPSULE	1 YEAR	WHOLE BODY	ALTERED WEIGHT GAIN		1E-1		IRIS	005967
			BLOOD	ALTERED CHEMISTRY		100			
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								
FORMALDEHYDE		**000050-00-0**							
NOAEL	15 MG/KG/DAY	RAT							
	ORAL: WATER	2 YEARS	GASTRO-INTESTINAL TRACT	LESIONS		2E-1 100		IRIS	010398
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								
FORMALDEHYDE CYANOHYDRIN		**000107-16-4**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005782
FORMIC ACID		**000064-18-6**							
NOAEL	200 MG/KG/DAY	RAT							
	ORAL: WATER	MULTI-GENERATION	WHOLE BODY	DECREASED GROWTH		2E+0 100		2E+0 100	010268
	CHRONIC [RfD] COMMENT: BASED ON A MULTI-GENERATION STUDY. WITHDRAWN FROM IRIS (12/01/90). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.								
FURAN		**000110-00-9**							
NOAEL	1.4 MG/KG/DAY	MOUSE							
	ORAL: GAVAGE	13 WEEKS	LIVER	LESIONS		1E-2 100		IRIS	005462

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
FURFURAL		**000098-01-1**							
LOAEL 7.9 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	LIVER	HEPATOTOXICITY		3E-2 300		IRIS	005466

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

GLYCIDALDEHYDE		**000765-34-4**							
NOAEL 29 MG/CU M		RAT							
	INHALATION: INTERMITTENT	12 WEEKS	WHOLE BODY KIDNEY	DECREASED WEIGHT EFFECTS	1E-2 300	4E-3 300	1E-3 3000	IRIS	005968

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRDNIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

HEPTACHLOR		**000076-44-8**							
NOEL 0.15 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	INCREASED WEIGHT		5E-4 300		IRIS	005506

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY

HEPTACHLOR EPOXIDE		**001024-57-3**							
LOAEL 0.0125 MG/KG/DAY		DOG							
	ORAL: DIET	60 WEEKS	LIVER	INCREASED RELATIVE WEIGHT		1.3E-5 1000		IRIS	010399

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINDGENICITY.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HEPTANE, N-		**000142-82-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005969
HEXABROMOBENZENE		**000087-82-1**							
NOAEL 2 MG/KG/DAY		RAT							
	ORAL: DIET	12 WEEKS	LIVER	INDUCED CARBOXYLESTERASE ACTIVITY		2E-2 100		IRIS	005970
HEXACHLOROBENZENE		**000118-74-1**							
								IRIS	010868
							IRIS		010900
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (11/15/90) BY THE RfD/RfC WORK GROUP.									
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
HEXACHLOROBUTADIENE		**000087-68-3**							
LOAEL 0.5 MG/KG/DAY		MOUSE							
	ORAL: DIET	13 WEEKS	RENAL TUBULES	REGENERATION				2E-4 1000	010927
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (05/01/93). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.									
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
HEXACHLOROCYCLOHEXANE, DELTA-		**000319-86-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010495
HEXACHLOROCYCLOHEXANE, EPSILON-		**006108-10-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010496

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HEXACHLOROCYCLOHEXANE, GAMMA- 000058-89-9									
NOAEL 0.33 MG/KG/DAY		RAT							
	ORAL: DIET	12 WEEKS	LIVER	TOXICITY		3E-3		IRIS	005537
			KIDNEY	TOXICITY		100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (05/27/92) BY THE RfD/RfC WORK GROUP.									010903
HEXACHLOROCYCLOPENTADIENE 000077-47-4									
NOAEL 7.1 MG/KG/OAY		RAT							
	ORAL	13 WEEKS	FORESTOMACH	LESIONS		7E-2		IRIS	005299
						100			
NOAEL 0.15 PPM		RAT							
	INHALATION:	13 WEEKS	NASAL CAVITY	SQUAMOUS METAPLASIA	7E-4		7E-5		010445
	INTERMITTENT				100		1000		
HEXACHLOROETHANE 000067-72-1									
NOAEL 1 MG/KG/DAY		RAT							
	ORAL: DIET	16 WEEKS	KIDNEY	DEGENERATION		1E-2		IRIS	005518
						100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (11/05/92). BY THE RfD/RfC WORK GROUP.									010904
HEXACHLOROPHENE 000070-30-4									
LOAEL 0.75 MG/KG/DAY		DOG							
	ORAL: DIET	13 WEEKS	NERVOUS SYSTEM	EFFECTS		3E-3		IRIS	005972
						300			

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM. IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HEXAMETHYLENE DIAMINE		**000124-09-4**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005973
HEXANE, N-		**000110-54-3**							
LOAEL 570 MG/KG/DAY	ORAL	RAT	NERVOUS SYSTEM	NEUROPATHY		6E-1		6E-2	005974
			TESTIS	ATROPHY		1000		10000	
LOAEL 73 MG/CU M	INHALATION: INTERMITTENT	HUMAN	NERVOUS SYSTEM	NEUROTOXICITY	2E-1 300		IRIS		010273
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
HEXANONE, 2-		**000591-78-6**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005976
HYDROGEN SULFIDE		**007783-06-4**							
NOAEL 3.1 MG/KG/DAY	ORAL: FOOD	PIG 105 DAYS	GASTRO-INTESTINAL SYSTEM	DISTURBANCE		3E-2 100		IRIS	010269
NOAEL 42 MG/CU M	INHALATION: INTERMITTENT	MOUSE 13 WEEKS	NASAL MUCOSA	INFLAMMATION	1E-2 100		IRIS		010354

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HYDROQUINONE		**000123-31-9**							
NOAEL 4.29 MG/KG/DAY		HUMAN							
	ORAL	3-5 MONTHS	BLOOD	HEMATOLOGICAL EFFECTS		4E-1		4E-2	005526
						10		100	
							IRIS		010905
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (10/01/90) BY THE RfD/RfC WORK GROUP.									
IRON		**007439-89-6**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005527
ISOBUTYL ALCOHOL		**000078-83-1**							
NOEL 316 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	NERVOUS SYSTEM	HYPOACTIVITY		3E+0		IRIS	005977
			NERVOUS SYSTEM	ATAXIA		100			
ISOPHORONE		**000078-59-1**							
NOEL 150 MG/KG/DAY		DOG							
	ORAL: CAPSULE	90 DAYS	KIDNEY	LESIONS		2E+0		IRIS	005910
						100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010906
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (11/15/90) BY THE RfD/RfC WORK GROUP.									
ISOPROPALIN		**033820-53-0**							
NOEL 15 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	BLOOD	HEMATOLIGICAL EFFECTS		1.5E-1		IRIS	005978
			ORGANS, UNSPECIFIED	ALTERED WEIGHTS		100			
LACTONITRILE		**000078-97-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005783

IRIS. EPA'S INTEGRATED RISK INFORMATION SYSTEM. IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
LEAD		**007439-92-1**							
									010447
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION. SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									
CHRONIC [RfD] COMMENT: REFER TO IRIS									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
LEAD ALKYLS									
									010448
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION. SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									
CHRONIC [RfD] COMMENT: REFER TO IRIS									
GENERAL COMMENT: DIMETHYLETHYL LEAD; METHYLTRIETHYL LEAD; TETRABUTYL LEAD; TETRAETHYL LEAD; TETRAMETHYL LEAD; TETRAPROPYL LEAD; TRIETHYL LEAD; TRIMETHYL LEAD; TRIMETHYLETHYL LEAD; TRIPROPYL LEAD									
LINURON		**000330-55-2**							
LOAEL 0.625 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	BLOOD	HEMATOLOGICAL EFFECTS		2E-3 300		IRIS	005990
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
MALATHION		**000121-75-5**							
NOEL 0.23 MG/KG/DAY		HUMAN							
	ORAL: CAPSULE	47 DAYS	BLOOD	HEMATOLOGICAL EFFECTS		2E-2 10		IRIS	005991
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfC] COMMENT: UNDER REVIEW.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MALEIC ANHYDRIDE		**000108-31-6**							
NOAEL 10 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	KIDNEY	LESIONS		1E-1		IRIS	005992
						100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
MALEIC HYDRAZIDE		**000123-33-1**							
LOAEL 500 MG/KG/DAY		RAT							
	ORAL: DIET	28 MONTHS	KIDNEY	ALTERED FUNCTION		5E-1		IRIS	005993
						1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
MALONONITRILE		**000109-77-3**							
LOAEL 0.21 MG/KG/DAY		RAT							
	ORAL: GAVAGE	120 DAYS	LIVER	EFFECTS		2E-4		2E-5	005994
			SPLEEN	EFFECTS		1000		10000	
MANCOZEB		**008018-01-7**							
NOEL 2.9 MG/KG/DAY		RAT							
	ORAL: DIET	90 WEEKS	THYROID	GOITROGENIC EFFECTS		3E-2		3E-2	005995
						100		100	
MANEB		**012427-38-2**							
NOEL 5 MG/KG/DAY		MONKEY							
	ORAL: DIET	6 MONTHS	THYROID	INCREASED WEIGHT		5E-2		IRIS	005996
						100			

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MANGANESE		**007439-96-5**								
NOAEL 0.14 MG/KG/DAY		HUMAN								
	ORAL: DIET		CHRONIC	CENTRAL NERVOUS SYSTEM	EFFECTS		1.4E-1 1		IRIS	010851
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL FOOD RfD WAS ADOPTED AS THE SUBCHRONIC ORAL FOOD [RfD]. SEE IRIS FOR SPECIFIC DIETARY INFORMATION.								IRIS		010959
SUBCHRONIC [RfC] COMMENT: A SUBCHRONIC [RfC] HAS NOT BEEN DERIVED FOR MANGANESE.										
MEPHOSFOLAN		**000950-10-7**								
NOEL 0.09 MG/KG/DAY		RAT								
	ORAL: DIET		17 WEEKS	LIVER	ALTERED WEIGHT		9E-4		9E-5	005997
				KIDNEY	ALTERED WEIGHT		100		1000	
				BLOOD	DECREASED CHOLINESTERASE ACTIVITY					
				ERYTHROCYTES	DECREASED CHOLINESTERASE ACTIVITY					
				BRAIN	DECREASED CHOLINESTERASE ACTIVITY					
MERCURIC CHLORIDE		**007487-94-7**								
		RAT								
	ORAL: SUBCUTANEOUS			IMMUNE SYSTEM	AUTOIMMUNE EFFECTS		3E-3 100		IRIS	005800
MERCURY, ELEMENTAL		**007439-97-6**								
NOAEL 0.009 MG/CU M		HUMAN								
	INHALATION:			NERVOUS SYSTEM	NEUROTOXICITY	3E-4 30		3E-4 30		010270
CHRONIC [RfC] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.										

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MERPHOS		**000150-50-5**							
NOEL	0.1 MG/KG/DAY	HEN							
	ORAL: CAPSULE	3 MONTHS	NERVOUS SYSTEM	ATAXIA		3E-4		IRIS	005998
			NERVOUS SYSTEM	DELAYED NEUROTOXICITY		300			
			WHOLE BODY	DECREASED WEIGHT					
									010907

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (06/25/92) BY THE RfD/RfC WORK GROUP.
SUBCHRONIC [RfD] CPMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].

MERPHOS OXIDE		**000078-48-8**							
NOEL	0.1 MG/KG/DAY	HEN							
	ORAL: CAPSULE	3 MONTHS	NERVOUS SYSTEM	ATAXIA		3E-4		IRIS	005999
			NERVOUS SYSTEM	DELAYED NEUROTOXICITY		300			
			WHOLE BODY	DECREASED WEIGHT					
									010908

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (06/25/92) BY THE RfD/RfC WORK GROUP.
SUBCHRONIC [RfD] CPMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].

METHACRYLONITRILE		**000126-98-7**							
NOAEL	3.2 PPM	DOG							
	INHALATION:	90 DAYS	LIVER	INCREASED SGOT		1E-3		IRIS	005812
	INTERMITTENT		LIVER	INCREASED SGPT		300			
			CENTRAL NERVOUS SYSTEM	LOSS OF HINDLIMB MOTDR CONTROL					
			BRAIN	LESIONS					

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHANOL		**000067-56-1**							
NOEL	500 MG/KG/DAY	RAT							
	ORAL: GAVAGE	90 DAYS	BLOOD	INCREASED ALKALINE PHOSPHATASE		5E+0		IRIS	010271
			BLOOD	INCREASED SGPT		100			
			BRAIN	DECREASED WEIGHT					
METHOMYL		**016752-77-5**							
NOEL	2.5 MG/KG/DAY	DOG							
	ORAL: DIET	24 MONTHS	KIDNEY	LESIONS		2.5E-2		IRIS	005802
						100			
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
METHOXYCHLOR		**000072-43-5**							
NOEL	5.01 MG/KG/DAY	RABBIT							
	ORAL: GAVAGE	13 DAYS	REPRODUCTION	LOSS OF LITTERS		5E-3		IRIS	010357
						1000			
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
							IRIS		010909
	CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (11/07/91) BY THE RfD/RfC WORK GROUP.								
METHOXYETHANOL ACETATE, 2-		**000110-49-6**							
									010497
	CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)								
	SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)								

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHOXYETHANOL, 2-		**000109-86-4**							
NOAEL 93 MG/CU M		RABBIT							
	INHALATION: INTERMITTENT	13 WEEKS	TESTICLE	EFFECTS	2E-1 100		IRIS		010372

SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).
CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

METHYL ACETATE		**000079-20-9**							
NOEL 1156 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	INCREASED ALKALINE PHOSPHATASE		1E+1		1E+0	010002
			LIVER	INCREASED SGPT		100		1000	

CHRONIC [RfD] COMMENT: CALCULATED FROM DATA OBTAINED WITH METHANOL BY MULTIPLYING BY THE MOLECULAR WEIGHT RATIO (74.08/32.04).

METHYL ACRYLATE **000096-33-3**

01049B

CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

METHYL CHLOROCARBONATE **000079-22-1**

CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (05/01/89).
GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL ETHYL KETONE		**000078-93-3**							
NOAEL 1711 MG/KG/DAY	ORAL: DRINKING WATER	RAT MULTI-GENERATION	FETUS	DECREASED BIRTH WEIGHT		2E+0 1000		IRIS	010853
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: MULTI-GENERATION DEVELOPMENTAL STUDY PERFORMED WHT THE SURROGATE 2-BUTANOL, A METABOLITE OF METHYL ETHYL KETONE.									
NOAEL 1010 PPM	INHALATION: INTERMITTENT	MOUSE 10 DAYS	FETUS	DECREASED BIRTH WEIGHT	1E+0 3000		IRIS		010845
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
METHYL ETHYL KETONE PEROXIDE		**001338-23-4**							
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP.									01094B
METHYL ISOBUTYL KETONE		**000108-10-1**							
NOAEL 250 MG/(KG-DAY)	ORAL: GAVAGE	RAT 13 WEEKS	WHOLE BODY	LETHARGY		8E-1 300		8E-2 3000	010949
			LIVER	INCREASED RELATIVE WEIGHT IN FEMALES					
			LIVER	INCREASED ABSOLUTE WEIGHT IN FEMALES					
			KIDNEY	INCREASED RELATIVE WEIGHT IN FEMALES					
			KIDNEY	INCREASED ABSOLUTE WEIGHT IN FEMALES					
			KIDNEY	INCREASED URINARY PROTEIN LEVELS IN FEMALES					
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (03/01/91). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL ISOCYANATE		**000624-83-9**							
							IRIS		010013
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/18/90) BY THE RfD/RfC WORK GROUP.									
METHYLMERCURY		**022967-92-6**							
CRITICAL ORAL DOSE		HUMAN							
0.001 MG/KG/DAY			DEVELOPMENTAL NEUROLOGICAL ABNORMALITIES IN HUMAN INFANTS			1E-4 10	IRIS		010970
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: A BENCHMARK DOSE APPROACH WAS USED RATHER THAN A NOAEL/LOAEL TO DERIVE THE RfD.									
METHYL METHACRYLATE		**000080-62-6**							
NOEL 7.5 MG/KG/DAY		RAT							
	ORAL: WATER	24 MONTHS	KIDNEY	INCREASED RELATIVE WEIGHT		8E-2 100		8E-2 100	010014
METHYL PARATHION		**000298-00-0**							
								IRIS	010015
NOAEL 2.5 PPM		RAT							
	ORAL: DIET	90 DAYS	ERYTHROCYTES	CHOLINESTERASE INHIBITION		2E-3 100			010846
METHYL STYRENE (MIXED ISOMERS)		**025013-15-4**							
									010500
CHRONIC [RfD] COMMENT: UNDER REVIEW. ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
METHYL STYRENE, ALPHA		**000098-83-9**							
									010499
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2- 000094-81-5									
NOEL	12 MG/KG/DAY	RAT							
	ORAL: DIET	13 WEEKS	LIVER	EFFECTS		1E-1		IRIS	010008
			KIDNEY	EFFECTS		100			
		DOG							
	ORAL: DIET	13 WEEKS	LIVER	EFFECTS					
			KIDNEY	EFFECTS					
METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2- 000093-65-2									
NOEL	3 MG/KG/DAY	RAT							
	ORAL: DIET	90 DAYS	KIDNEY	ALTERED WEIGHT		1E-2		IRIS	010009
						300			
METHYL-4-CHLOROPHENOXYACETIC ACID, 2- 000094-74-6									
NOEL	0.15 MG/KG/DAY	DOG							
	ORAL: DIET	52 WEEKS	KIDNEY	EFFECTS		5E-4		IRIS	010007
			LIVER	EFFECTS		300			
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
METHYLCYCLOHEXANE 000108-87-2									
NOAEL	287 MG/CU M	RAT							
	INHALATION:	1 YEAR	KIDNEY	MINERALIZATION	3E+0		3E+0		010431
	INTERMITTENT		KIDNEY	PAPILLARY HYPERPLASIA	100		100		
METHYLENE BROMIDE 000074-95-3									010501
	GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)								

CHEMICAL LEVEL	DOSE RDUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYLENE CHLORIDE (DICHLOROMETHANE) 000075-09-2									
NOAEL 5.85 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	24 MONTHS	LIVER	TOXICITY		6E-2 100		IRIS	005553
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
NOAEL 694.8 MG/CU M		RAT							
	INHALATION: INTERMITTENT	2 YEARS	LIVER	TOXICITY	3E+0 100		3E+0 100		005552
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4									
LOAEL 7.3 MG/KG/DAY		DOG							
	ORAL	9 YEARS	LIVER	EFFECTS		7E-4		7E-4	010413
			BLADDER	EFFECTS		10000		10000	
									010933
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE 02/10/93) BY THE RfD/RfC WORK GROUP.									
METHYLENEDIPHENYL ISOCYANATE, 4,4- (DIPHENYLMETHANE DIISOCYANATE) 000101-68-8									
NOAEL 0.2 MG/CU M		RAT							
	INHALATION: INTERMITTENT	24 MONTHS	NASAL CAVITY	LESIONS	2E-5 300		IRIS		010449
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC ON IRIS WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METOLACHLOR		**051218-45-2**							
NOAEL 300 PPM		RAT							
	ORAL: DIET	2 YEARS	WHDLE BODY	DECREASED WEIGHT GAIN		1.5E-1 100		1.5E-1 100	010950
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUCHRONIC ORAL [RfD].									
METRIBUZIN		**021087-64-9**							
NOAEL 100 PPM		DOG							
	ORAL: DIET	2 YEARS	LIVER	EFFECTS				IRIS	010928
			KIDNEY	EFFECTS					
			WHDLE BODY	MORTALITY					
			WHOLE BODY	DECREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: THE SUBCHRONIC ORAL [RfD] WAS REMOVED BECAUSE THE CHRONIC ORAL RfD UPON WHICH IT WAS BASED IS UNDER REVIEW BY THE RfD/RfC WORK GROUP.									
CHRONIC RfD COMMENT: THE CHRDNIC ORAL RfD. WHILE STILL ON IRIS. IS BEING RECONSIDERED BY THE RfD/RfC WDRK GROUP.									
MIREX		**002385-85-5**							
NOAEL 0.07 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	CYTDMEGALY		2E-4		IRIS	010841
			LIVER	FATTY METAMORPHOSIS		300			
			LIVER	ANGIECTASIS					
			THYROID	CYSTIC FOLLICLES					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MOLINATE		**002212-67-1**								
NOEL 0.2 MG/KG/DAY		RAT								
	ORAL: GAVAGE			REPRODUCTIVE SYSTEM	TOXICITY		2E-3 100		IRIS	010017
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY.										
MOLYBDENUM		**007439-98-7**								
LOAEL 0.14 MG/KG/DAY		HUMAN								
	ORAL: WATER, DIET			URINE	INCREASED URIC ACID		5E-3		IRIS	010489
				JOINTS	PAIN, SWELLING		30			
				BLOOD	DECREASED COPPER LEVELS					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RFD].										
MONOCHLORAMINE		**010599-90-3**								
NOAEL 9.5 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		2 YEARS	WHOLE BODY	WEIGHT CHANGES		1E-1		IRIS	010517
				LIVER	WEIGHT CHANGES		100			
				KIDNEY	WEIGHT CHANGES					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
NAPHTHALENE		**000091-20-3**								
CHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
NAPHTHOQUINONE, 1,4-		**000130-15-4**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010020
NICKEL CYANIDE		**000557-19-7**								
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/20/93) BY THE RfD/RfC WORK GROUP.										010953

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NICKEL, SOLUBLE SALTS		**VARIOUS**								
NOAEL 100 PPM		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT		2E-2		IRIS	005579
				ORGANS, MAJOR	DECREASED WEIGHT		300			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS DERIVED FROM NICKEL MOIETY OF ADMINISTERED NICKEL CHLORIDE.										
NICOTINONITRILE		**000100-54-9**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005584
NITRIC OXIDE		**010102-43-9**								
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.										010451
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD HAS BEEN PERMANENTLY WITHDRAWN (09/01/94) FROM IRIS.										
NITRITE		**014797-65-0**								
NOEL 10 PPM		HUMAN								
	ORAL: WATER			BLOOD	METHEMOGLOBINEMIA		1E-1		IRIS	010021
							10			
SUBCHRONIC [RfD] COMMENT: THIS VALUE IS BASED ON NITRATE (NITROGEN) DATA FROM THE MOST SENSITIVE HUMAN POPULATION (INFANTS). THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfD] COMMENT: THIS VALUE IS BASED ON NITRATE (NITROGEN) DATA FROM THE MOST SENSITIVE HUMAN POPULATION (INFANTS).										
NITROANILINE, 2-		**000088-74-4**								
										010936
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RFD] IS CONSIDERED NOT VERIFIABLE (06/23/92) BY THE RFD/RFC WORK GROUP.										
LOAEL 9.8 MG/CU M		RAT								
	INHALATION: INTERMITTENT		4 WEEKS	BLOOD	HEMATOLOGICAL EFFECTS	2E-3 1000		2E-4 10000		010935

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NITROANILINE, M-		**000099-09-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010400
NITROANILINE, P-		**000100-01-6**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010024
NITROBENZENE		**000098-95-3**							
LOAEL 25 MG/CU M		MOUSE							
	INHALATION: INTERMITTENT	90 DAYS	BLOOD	HEMATOLOGICAL EFFECTS		5E-3		IRIS	005589
			ADRENAL	LESIONS		1000			
			KIDNEY	LESIONS					
			LIVER	LESIONS					
		RAT							
	INHALATION: INTERMITTENT	90 DAYS	BLOOD	HEMATOLOGICAL EFFECTS					
			ADRENAL	LESIONS					
			KIDNEY	LESIONS					
			LIVER	LESIONS					
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS SUBCHRONIC AND CHRONICTOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfD] COMMENT: THE ORAL RFD, WHILE STILL AVAILABLE ON IRIS, IS BEING RECONSIDERED BY THE RFD WORKGROUP. BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
NITROFURANTOIN		**000067-20-9**							
NOAEL 300 PPM		MOUSE							
	ORAL: DIET	13 WEEKS	TESTIS	DAMAGE		7E-1		7E-2	005593
						100		1000	

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET.	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NITROGEN DIOXIDE		**010102-44-0**							
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD HAS BEEN PERMANENTLY WITHDRAWN (09/01/94) FROM IRIS.									010402
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010912
NITROGEN OXIDES									
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010170
NITROMETHANE		**000075-52-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010026
NITROPHENOLS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005594
NITROPROPANE, 2-		**000079-46-9**							
LOAEL 78 MG/CU M		RAT							
	INHALATION: INTERMITTENT	22 MONTHS	LIVER	LESIONS	2E-2 1000		IRIS		010374
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
NITROSODIPHENYLAMINE, P-		**000156-10-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010027
NITROTOLUENE, M-		**000099-08-1**							
LDAEL 200 MG/KG/DAY		RAT							
	ORAL: GAVAGE	6 MONTHS	SPLEEN	LESIONS		1E-1 1000		1E-2 10000	010029
SUBCHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.									
CHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NITROTOLUENE, O-			**000088-72-2**							
LOAEL 200 MG/KG/DAY		RAT								
	ORAL: GAVAGE		6 MONTHS	SPLEEN	LESIONS		1E-1 1000		1E-2 10000	010028
NITROTOLUENE, P-			**000099-99-0**							
LOAEL 200 MG/KG/DAY		RAT								
	ORAL: GAVAGE		6 MONTHS	SPLEEN	LESIONS		1E-1 1000		1E-2 10000	010030

SUBCHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.
CHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.

OCTABROMODIPHENYL ETHER			**032536-52-0**							
NOAEL 2.5 MG/KG/DAY		RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	HISTOLOGICAL CHANGES		3E-2 100		IRIS	010032
OCTAMETHYLPYROPHOSPHORAMIDE			**000152-16-9**							
NOAEL 0.02 MG/KG/DAY		HUMAN								
	ORAL		AT LEAST 30 DAYS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		2E-3 10		2E-3 10	010031

OSMIUM TETROXIDE **020816-12-0**
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP. 010954

OZONE **010028-15-6**
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS. 010171

PARALDEHYDE **000123-63-7**
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. 010033

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL / LEVEL	DOSE / ROUTE	SPECIES / EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) / UF	Subchronic [RfD] (mg/kg/day) / UF	Chronic [RfC] (mg/cu m) / UF	Chronic [RfD] (mg/kg/day) / UF	REFERENCE
PARATHION			**000056-38-2**							
NOAEL 0.064 MG/KG/DAY		HUMAN								
	ORAL			CHOLINESTERASE	DECREASED CHOLINESTERASE ACTIVITY		6E-3 10		6E-3 10	005598
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
PARTICULATE MATTER										
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION. SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.										010034
PEBULATE			**001114-71-2**							
NOEL 5 MG/KG/DAY		RAT								
	ORAL: DIET	SUBCHRONIC		BLOOD	INCREASED CLOTTING TIME		5E-2 100		5E-2 100	010036
PENDIMETHALIN			**040487-42-1**							
NOEL 12.5 MG/KG/DAY		DOG								
	ORAL: CAPSULE	2 YEARS		LIVER	EFFECTS		4E-2 300		IRIS	010037
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
PENTABROMODIPHENYL ETHER			**032534-81-9**							
NOAEL 1.8 MG/KG/DAY		RAT								
	ORAL: GAVAGE	90 DAYS		LIVER	ALTERED ENZYME ACTIVITIES		2E-2 100		IRIS	010038

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PENTACHLOROBENZENE		**000608-93-5**							
LOAEL 8.3 MG/KG/DAY		RAT							
	ORAL: DIET	100 DAYS	LIVER	TOXICITY		8E-3		IRIS	010039
			KIDNEY	TOXICITY		1000			
PENTACHLOROCYCLOPENTADIENE		**025329-35-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005302
PENTACHLORONITROBENZENE		**000082-68-8**							
NOEL 0.75 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	LIVER	TOXICITY		3E-3		IRIS	010040
						300			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PENTACHLOROPHENOL		**000087-86-5**							
NOEL 3 MG/KG/DAY		RAT							
	ORAL: GAVAGE	62 DAYS	FETUS	FETOTOXICITY		3E-2		IRIS	005600
						100			
SUBCHRONIC [RfD] COMMENT: BASED ON A TERATOLOGY STUDY WITH EXPOSURE 62 DAYS PRIOR TO MATING AND THROUGHOUT GESTATION AND LACTATION.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PENTACHLOROPROPENE, 1,1,2,3,3,-		**001600-37-9**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010041
PENTANE, N-		**000109-66-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005603

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PHENANTHRENE		**000085-01-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005604
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									
PHENOL		**000108-95-2**							
NOAEL 60 MG/KG/DAY		RAT							
	ORAL: GAVAGE		FETUS	DECREASED WEIGHT		6E-1 100		IRIS	005824
SUBCHRONIC [RfD] COMMENT: BASED ON A DEVELOPMENTAL STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: BASED ON A DEVELOPMENTAL STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION.									
							IRIS		010913
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (02/22/90) BY THE RfD/RfC WORK GROUP.									
PHENYLENEDIAMINE, M-		**000108-45-2**							
NOEL 6 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	LESIONS		6E-2 100		IRIS	010044
PHENYLENEDIAMINE, O-		**000095-54-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010042
PHENYLENEDIAMINE, P-		**000106-50-3**							
NOAEL 18.7 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	EFFECTS				1.9E-1 100	010043

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PHENYLMERCURIC ACETATE		**000062-38-4**							
NOAEL 0.0084 MG/KG/DAY	ORAL: DIET	RAT 2 YEARS	KIDNEY	DAMAGE		8E-5 100		IRIS	010277
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CALCULATED BY ANALOGY TO MERCURY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO MERCURY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
PHORATE		**000298-02-2**							
NOAEL 0.033 MG/KG/DAY	ORAL: DIET	RAT 13 WEEKS	CHOLINESTERASE	INHIBITION		2E-4 200		2E-4 200	010403
SUBCHRONIC [RfD] COMMENT: THE CHRONIC DRAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
PHOSGENE		**000075-44-5**							
							IRIS		010045
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (10/01/90) BY THE RfD/RfC WORK GROUP.									
PHOSPHINE		**007803-51-2**							
NOEL 0.026 MG/KG/DAY	DRAL: DIET	RAT 2 YEARS				3E-4 100		IRIS	010174
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
NDAEL 1.4 MG/CU M	INHALATION: INTERMITTENT	MOUSE 13 WEEKS	WHOLE BODY	DECREASED WEIGHT	3E-3 100		IRIS		010976

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PHOSPHORUS, WHITE		**007723-14-0**							
								IRIS	010452
GENERAL COMMENT: FORMERLY LISTED AS PHOSPHORUS (INORGANIC COMPOUNDS).									
PHOTOCHEMICAL OXIDANTS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010172
PHTHALIC ACID, M-		**000121-91-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010047
PHTHALIC ACID, O-		**000088-99-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010046
PHTHALIC ACID, P-		**000100-21-0**							
NDEL	142 MG/KG/DAY	RAT							
	ORAL: DIET	2 YEARS	BLADDER	HYPERPLASIA		1E+0		1E+0	010048
						100		100	
PHTHALIC ANHYDRIDE		**000085-44-9**							
LOAEL	1562 MG/KG/DAY	MOUSE							
	ORAL: DIET	104 WEEKS	LUNG	HISTOPATHOLOGY		2E+0		IRIS	010049
			KIDNEY	HISTOPATHOLOGY		1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
LOAEL	0.1 MG/CU M	HUMAN							
	INHALATION:	12 YEARS	NOSE	RHINITIS	1.2E-1		1.2E-1		010847
	INTERMITTENT		LUNGS	BRONCHITIS	300		300		
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
POLYBROMINATED BIPHENYLS									
LOAEL 0.07 MG/KG/DAY		RAT							
	ORAL: GAVAGE	25 WEEKS	LIVER	INCREASED WEIGHT		7E-5		7E-6	010050
			LIVER	LESIONS		1000		10000	
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
POTASSIUM CYANIDE		**000151-50-8**							
NOAEL 27 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		5E-2		IRIS	010278
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
POTASSIUM SILVER CYANIDE		**000506-61-6**							
NOAEL 82.7 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		2E-1		IRIS	010279
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
PROFLURALIN		**026399-36-0**							
NOEL 3 MG/KG/DAY		RAT							
	ORAL: DIET	SUBCHRONIC		NONE OBSERVED		6E-3		6E-3	010051
						500		500	

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CHEMICAL LEVEL	DDSE RDUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PRONAMIDE			**023950-58-5**							
NDEL	7.5 MG/KG/DAY	DOG								
	DRAL: DIET		2 YEARS		NONE OBSERVED		7.5E-2 100		IRIS	010280
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
PROPACHLOR			**001918-16-7**							
NDEL	13.3 MG/KG/DAY	RAT								
	DRAL: DIET		90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		1.3E-1 100		IRIS	010175
PROPAZINE			**000139-40-2**							
NDEL	5 MG/KG/DAY	RAT								
	DRAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		2E-2 300		IRIS	010052
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
PROPIONITRILE			**000107-12-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010053
PROPYL ALCOHOL, N-			**000071-23-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005627

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PROPYLENE GLYCOL		**000057-55-6**								
NOEL	50000 PPM	DOG								
	ORAL: DIET		2 YEARS	ERYTHROCYTES	DECREASED COUNT				2E+1	005631
				BLOOD	DECREASED HEMATOCRIT				100	
				BLOOD	DECREASED HEMOGLOBIN					
NOEL	6 %	RAT								
	ORAL: DIET		20 WEEKS	KIDNEY	LESIONS		3E+1			005629
							100			
								IRIS		010914
	CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/25/91) BY THE RfD/RfC WORK GROUP.									
PROPYLENE GLYCOL MONOETHYL ETHER		**001569-02-4**								
NOEL	680 MG/KG/DAY	RAT								
	ORAL: DRINKING WATER		30 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		7E+0		7E-1	005488
							100		1000	
								IRIS		010915
	CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/25/91) BY THE RfD/RfC WORK GROUP.									
PROPYLENE GLYCOL MONOMETHYL ETHER		**000107-98-2**								
NOEL	947 MG/KG/DAY	RAT								
	ORAL: GAVAGE		35 DAYS	LIVER	HISTOPATHOLOGY		7E+0		7E-1	005486
				KIDNEY	HISTOPATHOLOGY		100		1000	
NOAEL	1000 PPM	RAT, RABBIT								
	INHALATION: INTERMITTENT		13 WEEKS	CENTRAL NERVOUS SYSTEM	EFFECTS	2E+1 30		IRIS		010276

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PROPYLENE OXIDE		**000075-56-9**							
LOAEL 71 MG/CU M		RAT							
	INHALATION:	2 YEARS	EPITHELIUM	UNSPECIFIED	3E-2		IRIS		010375
	INTERMITTENT				100				
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RFC].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PYRENE		**000129-00-0**							
NOAEL 75 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	13 WKS	KIDNEY	EFFECTS		3E-1		IRIS	010176
						300			
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									010968
PYRIDINE		**000110-86-1**							
NOAEL 1 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	INCREASED WEIGHT		1E-2		IRIS	010055
			LIVER	INCREASED RELATIVE WEIGHT		100			
RDX / (CYCLONITE)		**000121-82-4**							
NOEL 0.3 MG/KG/DAY		RAT							
	ORAL	105 WEEKS	PROSTATE	INFLAMMATION		3E-3		IRIS	010056
			PROSTATE	HEMOSIDEROSIS		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
RONNEL		**000299-84-3**							
NOAEL 5 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	EFFECTS		5E-2		5E-2	010057
						100		100	

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SELENIOUS ACID			**007783-00-8**							
NDAEL 0.046 MG/KG/DAY		HUMAN								
	ORAL: DIET			WHOLE BODY	SELENOSIS, CLINICAL		5E-3 3		IRIS	010504
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
SELENIUM			**007782-49-2**							
NOAEL 0.853 MG/DAY		HUMAN								
	ORAL: DIET			WHOLE BODY	SELENOSIS, CLINICAL		5E-3 3		IRIS	010404
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
SELENOUREA			**000630-10-4**							
NOAEL 0.072 MG/KG/DAY		HUMAN								
	ORAL: DIET			WHOLE BODY	SELENOSIS		5E-3 15		5E-3 15	010473
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (05/01/91). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.										
SILVER			**007440-22-4**							
LOAEL 0.014 MG/KG/DAY		HUMAN								
	IV		2-9 YEARS	SKIN	ARGYRIA		5E-3 3		IRIS	010453
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: BASED ON A TOTAL IV DOSE OF 1 GRAM.										

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SILVER CYANIDE		**000506-64-9**							
NOAEL 55.7 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		1E-1		IRIS	010283
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
SIMAZINE		**000122-34-9**							
NOAEL 0.52 MG/(KG-DAY)		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		5E-3		IRIS	010955
			BLOOD	HEMATOLOGICAL EFFECTS		100			
SUBCHRONIC [RfD] COMMENT: THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY									
SODIUM CYANIDE		**000143-33-9**							
NOAEL 20.4 MG/KG/DAY		RAT							
	ORAL: DIET		CENTRAL NERVOUS SYSTEM	EFFECTS		4E-2		IRIS	005640
						500			
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
SODIUM DIETHYLDITHIOCARBAMATE		**000148-18-5**							
NOEL 30 MG/KG/DAY		RAT							
	DRAL	90 DAYS	EYE	CATARACTS		3E-1		IRIS	005644
			WHOLE BODY	DECREASED WEIGHT		100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SODIUM METAVANADATE		**013718-26-8**							
NOAEL 10 PPM		RAT							
	ORAL: DRINKING WATER	3 MONTHS	KIDNEY	IMPAIRED FUNCTION		1E-2 100		1E-3 1000	005735
STRONTIUM, STABLE		**007440-24-6**							
NOAEL 190 MG/KG/DAY		RAT, YOUNG							
	ORAL: DRINKING WATER	20 DAYS	BONE	RACHITIC CHANGES		6E-1 300		IRIS	010842
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
STRYCHNINE		**000057-24-9**							
LOAEL 2.5 MG/KG/DAY		RAT							
	ORAL: GAVAGE	28 DAYS	UNSPECIFIED UNSPECIFIED	TOXICITY HISTOPATHOLOGY		3E-3 1000		IRIS	010285
GENERAL COMMENT: THE LOAEL IS ALSO THE FEL.									
STYRENE		**000100-42-5**							
								IRIS	010059
NOAEL 22 PPM		HUMAN							
	INHALATION: OCCUPATIONAL		CENTRAL NERVOUS SYSTEM	EFFECTS	3E+0 10		IRIS		010511
CHRONIC [RfC] COMMENT: THE MEAN DURATION OF EXPOSURE FOR 50 WORKERS WAS 8.6 YEARS. AIR EXPOSURE CONCENTRATIONS WERE ESTIMATED FROM THE SUMMATION OF THE PRINCIPLE URINARY METABOLITES OF STYRENE. MANDELIC ACID AND PHENYLGLYOXYLIC ACID. SEE IRIS FOR MORE INFORMATION.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
SUCCINONITRILE		**000110-61-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005585

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SULFUR DIOXIDE		**007446-09-5**							
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010505
SULFUR OXIDES									
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010035
SULFURIC ACID		**007664-93-9**							
NOAEL 0.066-0.098 MG/CU M		HUMAN							
	INHALATION		RESPIRATORY SYSTEM	RESPIRATORY EFFECTS					005647
CHRONIC [RfC] COMMENT: REPORTED EFFECTS OCCURRED AT PORTAL OF ENTRY. ESTIMATES OF MG/DAY REFERENCE DOSES ARE INAPPROPRIATE BECAUSE EFFECTS AT PORTAL OF ENTRY DEPEND ON CONCENTRATION IN AIR. AN ACCEPTABLE AIR CONCENTRATION OF 0.07 MG/CU M WAS ESTIMATED BY CARSON ET AL (1981) FROM AVAILABLE DATA.									
TEMEPHOS		**003383-96-8**							
NOAEL 200 PPM		RAT							
	ORAL: DIET	99 DAYS				2E-1 100		2E-2 1000	010060
TERBUFOS		**013071-79-9**							
NOAEL 0.0025 MG/KG/DAY		DOG							
	ORAL: DIET	6 MONTHS	CHOLINESTERASE	INHIBITION		2.5E-5 100		2.5E-5 100	010408
TEREPHTHALIC ACID		**000100-21-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010474
TETRACHLOROAZOXYBENZENE		**021232-47-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010064

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TETRACHLOROBENZENE, 1,2,4,5- 000095-94-3										
NOAEL 0.34 MG/KG/DAY		RAT								
	ORAL: DIET		13 WEEKS	KIDNEY	LESIONS		3E-3 100		IRIS	010286
TETRACHLOROCYCLOPENTADIENE 000695-77-2										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005303
TETRACHLOROETHANE, 1,1,1,2- 000630-20-6										
LOAEL 89.3 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 WEEKS	LIVER	LESIONS		3E-2		IRIS	010407
				KIDNEY	LESIONS		3000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TETRACHLOROETHYLENE 000127-18-4										
NOAEL 14 MG/KG/DAY		MOUSE								
	ORAL		6 WEEKS	LIVER	HEPATOTOXICITY		1E-1 100		IRIS	005650
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TETRACHLOROHYDRAZOBENZENE 071753-42-9										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010065
TETRACHLOROPHENOL, 2,3,4,5- 004901-51-3										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005324

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TETRACHLOROPHENOL, 2,3,4,6- 000058-90-2									
NOAEL 25 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	INCREASED WEIGHT		3E-1		IRIS	005323
			LIVER	CENTRILOBULAR HYPERTROPHY		100			
TETRACHLOROPHENOL, 2,3,5,6- 000935-95-5									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005325
TETRACHLOROPROPENE, 1,1,2,3- 010436-39-2									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010066
TETRACHLOROVINPHOS / (STIROPHOS) 000961-11-5									
NOEL 3.1 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	LIVER	INCREASED WEIGHT		3E-2		IRIS	010067
			KIDNEY	INCREASED WEIGHT		100			
			WHOLE BODY						
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
TETRAETHYL DITHIOPYROPHOSPHATE 003689-24-5									
NOEL 0.5 MG/KG/DAY		RAT							
	ORAL: DIET	3 MONTHS	ERYTHRDCYTES	DECREASED CHOLINESTERASE ACTIVITY		5E-3		IRIS	010287
						100			
			BLOOD	DECREASED CHOLINESTERASE ACTIVITY					
THALLIC OXIDE 001314-32-5									
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP.									010956

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
THALLIUM (I) ACETATE		**000563-68-8**							
NOAEL 0.26 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		9E-4		IRIS	005664
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
THALLIUM (I) CARBONATE		**006533-73-9**							
NOAEL 0.23 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		8E-4		IRIS	005668
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
THALLIUM (I) CHLORIDE		**007791-12-0**							
NOAEL 0.23 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		8E-4		IRIS	005672
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
THALLIUM, INSOLUBLE SALTS									
CHRONIC [RfD] COMMENT: REFER TO IRIS FOR OTHER THALLIUM SALTS.									010458

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
THALLIUM (I) NITRATE		**010102-45-1**							
NOAEL 0.26 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		9E-4		IRIS	005676
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.									
THALLIUM SELENITE		**012039-52-0**							
									010957
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS WITHDRAWN FROM IRIS (08/01/93). THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP.									
THALLIUM (I) SULFATE		**007446-18-6**							
NOAEL 0.25 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		8E-4		IRIS	005682
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					
THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(		**021564-17-0**							
NOEL 25 MG/KG/DAY		RAT							
	ORAL: DIET	SUBCHRONIC	STOMACH	LESIONS		3E-1		3E-2	010068
						100		1000	
SUBCHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA									
CHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
THIOFANOX		**013196-18-4**							
NOAEL 0.025 MG/KG/DAY		DOG							
	ORAL	8 DAYS	CHOLINESTERASE	DECREASED CHOLINESTERASE ACTIVITY		3E-4 100		3E-4 100	010069
SUBCHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA.									
CHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA.									
THIRAM		**000137-26-8**							
								IRIS	010459
NOAEL 0.61 MG/KG/DAY		FERRET							
	ORAL	24 WEEKS	REPRODUCTION	IMPAIRED		6E-3 100			010070
TIN AND COMPOUNDS									
NOAEL 2000 PPM		RAT							
	ORAL: DIET	2 YEARS	LIVER KIDNEY	LESIONS LESIONS		6E-1 100		6E-1 100	005688
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO STANNOUS CHLORIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO STANNOUS CHLORIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
TOLUENE		**000108-88-3**							
NOAEL 223 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	LIVER KIDNEY	ALTERED WEIGHT ALTERED WEIGHT		2E+0 100		IRIS	010469
							IRIS		010844
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TOLUENE-2,5-DIAMINE			**000095-70-5**							
NOAEL 56 MG/KG/DAY		RAT								
	DRAL: DIET		78 WEEKS				6E-1		6E-1	010073
							100		100	

SUBCHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE SULFATE SALT.
CHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE SULFATE SALT.

TOLUENE-2,6-DIAMINE			**000823-40-5**							
NOAEL 16 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS				2E-1		2E-1	010074
							100		100	

SUBCHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE DIHYDROCHLORIDE.
CHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE DIHYDROCHLORIDE.

TOLUENEDIAMINE, 2,3- **002687-25-4**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 010071

TOLUENEDIAMINE, 3,4- **000496-72-0**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 010072

TOLUIDINE, M- **000108-44-1**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 010075

TRIALLATE			**002303-17-5**							
NOAEL 1.275 MG/KG/DAY		DOG								
	DRAL: DIET		24 MONTHS	SPLEEN	EFFECTS		1.3E-2		IRIS	010076
				LIVER	EFFECTS		100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRIBROMOBENZENE, 1,2,4-		**000615-54-3**								
NOAEL 5 MG/KG/DAY		RAT								
	ORAL: DIET		45 OR 90 DAYS	LIVER	ALTERED WEIGHT		5E-2		IRIS	010077
				LIVER	ENZYME INDUCTION		100			
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-		**000076-13-1**								
									IRIS	010460
NOEL 2000 PPM		RAT								
	INHALATION: INTERMITTENT		24 MONTHS	WHOLE BODY	DECREASED WEIGHT	3E+1 100	3E+0 100	3E+1 100		010376
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.2.										
TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'-		**003380-34-5**								
NOEL 500 MG/KG/DAY		RAT								
	ORAL		4 WEEKS	WHOLE BODY	DECREASED WEIGHT		4E+0 100			005492
TRICHLOROBENZENE, 1,2,4-		**000120-82-1**								
NOAEL 100 PPM		RAT								
	ORAL: DRINKING WATER			ADRENAL	INCREASED WEIGHT		1E-2 1000		IRIS	010506
SUBCHRONIC [RfD] COMMENT: BASED ON A MULTIGENERATION REPRODUCTION STUDY.										
NOAEL 104 PPM		RAT, RABBIT, DOG, MONKEY								
	INHALATION		6 AND 26 WEEKS	LIVER	NON-ADVERSE WEIGHT CHANGES	2E+0 100		2E-1 1000		010958
TRICHLOROCYCLOPENTADIENE		**077323-84-3**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005304

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROETHANE, 1,1,1-		**000071-55-6**							
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
TRICHLOROETHANE, 1,1,2-		**000079-00-5**							
NOAEL 3.9 MG/KG/DAY		MOUSE							
	ORAL: DRINKING WATER	90 DAYS	BLOOD	CLINICAL CHEMISTRY ALTERATIONS		4E-2 100		IRIS	005702
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
TRICHLOROFLUOROMETHANE		**000075-69-4**							
								IRIS	005502
LOAEL 1000 MG/KG/DAY		RAT							
	ORAL	6 WEEKS	WHOLE BODY	INCREASED MORTALITY		7E-1 1000			005500
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
TRICHLOROPHENOL, 2,3,4-		**015950-66-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005330
TRICHLOROPHENOL, 2,3,5-		**000933-78-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005331
TRICHLOROPHENOL, 2,3,6-		**000933-75-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005332

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROPHENOL, 2,4,5- 000095-95-4										
NOEL	1000 PPM	RAT								
	ORAL: DIET		98 DAYS	LIVER	HEPATOTOXICITY		1E+0		IRIS	005329
				KIDNEY	EFFECTS		100			
								IRIS		010919
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/24/91) BY THE RfD/RfC WDRK GROUP.										
TRICHLOROPHENOL, 2,4,6- 000088-06-2										
								IRIS		010461
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/24/91) BY THE RfD/RfC WORK GROUP.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TRICHLOROPHENOL, 3,4,5- 000609-19-8										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005333
TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5- 000093-72-1										
NOEL	0.75 MG/KG/DAY	DOG								
	ORAL: DIET		2 YEARS	LIVER	HISTOPATHOLOGY		8E-3		IRIS	010284
							100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
TRICHLOROPHENOXYACETIC ACID, 2,4,5- 000093-76-5										
									IRIS	010178
NOEL	10 MG/KG/DAY	RAT								
	ORAL: DIET		90 DAYS	KIDNEY	WEIGHT EFFECTS		1E-1			010179
				LIVER	WEIGHT EFFECTS		100			
TRICHLOROPROPANE, 1,1,1- 007789-89-1										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005705

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROPROPANE, 1,1,2- 000598-77-6										
NOEL 100 MG/L		RAT								
	ORAL: DRINKING WATER		13 WEEKS	LIVER	HISTOPATHOLOGY		5E-2		IRIS	005708
				KIDNEY	HISTOPATHOLOGY		300			
				THYROID	HISTOPATHOLOGY					
TRICHLOROPROPANE, 1,2,2- 003175-23-3										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005706
TRICHLOROPROPANE, 1,2,3- 000096-18-4										
NOAEL 8 MG/KG/DAY		RAT								
	ORAL		120 DAYS	WHOLE BODY	TOXICITY		6E-2		IRIS	005714
				LIVER	LESIONS		100			
				KIDNEY	LESIONS					
				ERYTHROCYTES	DECREASED COUNT					
				BLOOD	DECREASED HEMATOCRIT					
				BLOOD	DECREASED HEMOGLOBIN					
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TRICHLOROPROPENE, 1,2,3- 000096-19-5										
NOEL 18 MG/CU M		DOG								
	INHALATION: INTERMITTENT		66 WEEKS	EYE	IRRITATION		5E-3		5E-3	010078
							100		100	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROTOLUENE, 2,3,6-			**002077-46-5**							
LOAEL 0.5 PPM		RAT								
	ORAL: DIET		28 DAYS	LIVER	LESIONS		5E-5			005335
				KIDNEY	LESIONS		1000			
				THYROID	LESIONS					
TRICHLOROTOLUENE, ALPHA,2,6-			**002014-83-7**							
LOAEL 0.5 PPM		RAT								
	ORAL: DIET		28 DAYS	LIVER	LESIONS		5E-5			005339
				KIDNEY	LESIONS		1000			
				THYROID	LESIONS					
TRIFLURALIN			**001582-09-8**							
NOEL 0.75 MG/KG/DAY		DOG								
	ORAL: DIET		12 MONTHS	LIVER	INCREASED WEIGHT		7.5E-3		IRIS	010080
				BLOOD	METHEMOGLOBINEMIA		100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

TRIMETHYLBENZENES

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005727

TRINITROBENZENE, 1,3,5-			**000099-35-4**							
NOAEL 0.51 MG/KG/DAY		RAT								
	ORAL: WATER		16 WEEKS	SPLEEN	INCREASED WEIGHT		5E-4		IRIS	010081
							1000			

SUBCHRONIC [RfD] COMMENT: CALCULATED FROM DATA OBTAINED WITH 1,3-DINITROBENZENE.
CHRONIC [RfD] COMMENT: CALCULATED FROM DATA OBTAINED WITH 1,3-DINITROBENZENE.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRINITROPHENOLS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010082
TRINITROPHENYLMETHYLNITRAMINE 000479-45-8									
LOAEL 125 MG/KG/DAY		RABBIT							
	ORAL: GAVAGE	9 MONTHS	LIVER	HISTOPATHOLOGICAL EFFECTS		1E-1		1E-2	010377
			KIDNEY	HISTOPATHOLOGICAL EFFECTS		1000		10000	
			SPLEEN	HISTOPATHOLOGICAL EFFECTS					
TRINITROTOLUENE, 2,4,6- 000118-96-7									
LOAEL 0.5 MG/KG/DAY		DOG							
	ORAL: GAVAGE		LIVER	EFFECTS		5E-4		IRIS	010416
						1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: . ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
VANADIUM 007440-62-2									
NOAEL 5 PPM		RAT							
	ORAL: DRINKING WATER	LIFETIME				7E-3		7E-3	005739
						100		100	
VANADIUM PENTOXIDE 001314-62-1									
NOAEL 17.85 PPM		RAT							
	ORAL: DIET	LIFETIME				9E-3		IRIS	005743
						100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
VANADIUM SULFATE		**036907-42-3**								
NOAEL 2.24 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME				2E-2 100		2E-2 100	005747
VERNAM / (VERNOLATE)		**001929-77-7**								
NOEL 1 MG/KG/DAY		RAT								
	ORAL: DIET			WHOLE BODY	DECREASED WEIGHT		1E-2 100		IRIS	010083
VINYL ACETATE		**000108-05-4**								
NOAEL 100 MG/KG/DAY		RAT								
	ORAL: WATER		2 YEARS	WHOLE BODY	ALTERED WEIGHT		1E+0		1E+0	010417
				KIDNEY	ALTERED WEIGHT		100		100	
NOAEL 176 MG/CU M		MOUSE								
	INHALATION: INTERMITTENT		104 WEEKS	NASAL CAVITY	LESIONS	2E-1 30		IRIS		010418

SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].

VINYL CHLORIDE **000075-01-4**

SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

VINYL-1-CYCLOHEXENE, 4- **000100-40-3**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 010084

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
WARFARIN		**000081-81-2**							
LOAEL 2 MG/DAY	ORAL	HUMAN	BLOOD	INCREASED PROTHROMBIN TIME		3E-4 100		IRIS	010409
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
XYLENE, M-		**000108-38-3**							
NOAEL 250 MG/KG	ORAL: GAVAGE	RAT 103 WEEKS	CENTRAL NERVOUS SYSTEM	HYPERACTIVITY				2E+0 100	005755
			WHOLE BODY	DECREASED WEIGHT					
			WHOLE BODY						
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									010920
XYLENE, MIXTURE		**001330-20-7**							
								IRIS	010872
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									010921
XYLENE, O-		**000095-47-6**							
NOEL 250 MG/KG	ORAL: GAVAGE	RAT 103 WEEKS	CENTRAL NERVOUS SYSTEM	HYPERACTIVITY				2E+0 100	005751
			WHOLE BODY	DECREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									010922

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
XYLENE, P-		**000106-42-3**							
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									010923
ZINC (METALLIC)		**007440-66-6**							
LOAEL 1.0 MG/KG/DAY		HUMAN							
	ORAL: DIET SUPPLEMENT	10 WEEKS	BLOOD	DECREASED BLOOD ENZYME		3E-1 3		IRIS	010937
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
ZINC CYANIDE		**000557-21-1**							
NOAEL 24.3 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		5E-2		IRIS	0102B9
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
ZINC PHOSPHIDE		**001314-84-7**							
LOAEL 3.4B MG/KG/DAY		RAT							
	ORAL: DIET	13 WEEKS	WHOLE BODY	DECREASED WEIGHT		3E-3		IRIS	010290
			WHOLE BODY	DECREASED FOOD INTAKE		1000			
ZINEB		**012122-67-7**							
LOAEL 25 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	THYROID	HYPERPLASIA		5E-2 500		IRIS	0100B5
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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ACENAPHTHENE 000083-32-9

010165 US EPA. 1989. MOUSE ORAL SUBCHRONIC STUDY WITH ACENAPHTHENE. STUDY CONDUCTED BY HAZELTON LABORATORIES, INC., FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

ACENAPHTHYLENE 000208-96-8

005202 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACENAPHTHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

ACEPHATE 030560-19-1

005833 CHEVRON CHEMICAL COMPANY. 1987. CONFIDENTIAL BUSINESS INFORMATION UNPUBLISHED DATA. MRID NO. 40504819

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACEPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

ACETONE 000067-64-1

005204 US EPA. 1986. NINETY-DAY GAVAGE STUDY IN ALBINO RATS USING ACETONE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR ACETONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

ACETONE CYANOHYDRIN / (METHYLLACTONITRILE) 000075-86-5

005776 HAZELTON LABORATORIES AMERICA. 1988. SUBCHRONIC TOXICITY STUDY IN RATS WITH 2-METHYLLACTONITRILE. HLA STUDY NO. 2399-114. REPORT PREPARED FOR DYNAMAC CORPORATION.

US EPA. 1994. RfD/RfC WORK GROUP.

ACETONITRILE 000075-05-8

005210 NATIONAL TOXICOLOGY PROGRAM (NTP). 1983. 90-DAY SUBCHRONIC TOXICITY STUDIES OF ACETONITRILE IN RATS AND MICE. REPORT TO NATIONAL TOXICOLOGY PROGRAM.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACETONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

ACETOPHENONE 000098-86-2

005212 HAGAN, EC, WH HANSEN, DG FITZHUGH, ET AL. 1967. FOOD FLAVORINGS AND COMPOUNDS OF RELATED STRUCTURE. II. SUBACUTE AND CHRONIC TOXICITY. FOOD COSMET. TOXICOL. 5(2): 141-157.

US EPA. 1987. RfD/RfC WORK GROUP.

010874 US EPA. 1992. RfD/RfC WORK GROUP.

ACROLEIN 000107-02-8

010390 NEWELL GW. 1958. ACUTE AND SUBACUTE TOXICITY OF ACROLEIN. STANFORD RESEARCH INSTITUTE. SRI PROJECT NO. 5-868-2.

NAS (NATIONAL ACADEMY OF SCIENCES). 1977. DRINKING WATER AND HUMAN HEALTH. WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACROLEIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

010856 FERON VJ, A KRUYSSE, HP TIL, AND HR IMMEL. 1978. REPEATED EXPOSURE TO ACROLEIN VAPOR: SUBACUTE STUDIES IN HAMSTERS, RATS AND RABBITS. TOXICOLOGY. 9: 47-57.

US EPA. 1991. RfD/RfC WORK GROUP.

ACRYLAMIDE 000079-06-1

005835 BUREK JD, RR ALBEE, JE BEYER, ET AL. 1980. SUBCHRONIC TOXICITY OF ACRYLAMIDE ADMINISTERED TO RATS IN THE DRINKING WATER FOLLOWED BY UP TO 144 DAYS OF RECOVERY. J ENVIRON PATHOL TOXICOL. 4: 157-182.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACRYLAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RFD/RFC WORK GROUP.

010876 US EPA. 1990. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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ACRYLIC ACID 000079-10-7

005836 BASF. 1993. REPRODUCTION TOXICITY STUDY WITH ACRYLIC ACID IN RATS: CONTINUOUS ADMINISTRATION IN THE DRINKING WATER OVER 2 GENERATIONS (1 LITTER IN THE FIRST AND 1 LITTER IN THE SECOND GENERATION). PROJECT NO. 71R0114/92011. BASF AKTIENGELLSCHAFT. DEPT. OF TOXICOLOGY, RHEIN, FRG.

US EPA. 1994. RfD/RfC WORK GROUP.

010346 MILLER, RR, JA AYERS, GC JERSEY AND MJ MCKENNA. 1981. INHALATION TOXICITY OF ACRYLIC ACID. FUND APPL TOXICOL. 1(3): 271-277.

MILLER, RR, JA AYERS, GC JERSEY. 1979. ACRYLIC ACID 90-DAY VAPOR INHALATION STUDY WITH RATS AND MICE. FINAL REPORT #79RC-1024. TOXICOLOGY RESEARCH LABORATORY, HEALTH AND ENVIRONMENTAL SCIENCE, DOW CHEMICAL COMPANY, MIDLAND, MI.

US EPA. 1990. RfD/RfC WORK GROUP.

ACRYLONITRILE 000107-13-1

010939 TANDON R, DK SAXENA, SV CHANDRA, PK SETH, SP SRIVASTAVA. 1988. TESTICULAR EFFECTS OF ACRYLONITRILE IN MICE. TOXICOLOGY LETTERS. 42: 55-63.

BIODYNAMICS. 1980. A TWENTY-FOUR MONTH ORAL TOXICITY/CARCINOGENICITY STUDY OF ACRYLONITRILE ADMINISTERED TO SPARTAN RATS IN THE DRINKING WATER, VOL 1-2. PREPARED BY BIODYNAMICS, INC., DIVISION OF BIOLOGY AND SAFETY EVALUATION, EAST MILLSTONE, NJ, FOR MONSANTO COMPANY, ST. LOUIS, MO.

US EPA. 1993. RfD/RfC WORK GROUP.

ADIPONITRILE 000111-69-3

005157 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ADIPONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ALACHLOR 015972-60-8

005837 MONSANTO CO. 1984. MRID NO 00148923. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC. 20460.

US EPA. 1992. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ALACHLOR. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE OF THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

5

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

ALDICARB 000116-06-3

010960 RHONE-POULENC AG COMPANY. 1992. MRID NO 423730-01. HED DOC NO 010459. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

UNION CARBIDE CORP. 1971. R HAINES. JB DERNEHL. JB BLOCK. SUPERVISING PHYSICIANS. INGESTION OF ALDICARB BY HUMAN VOLUNTEERS: A CONTROLLED STUDY OF THE EFFECTS OF ALDICARB ON MAN. ALD-03-77-2215. FEB 11. 1971. MRID NO 00101911. HED DOC NO 010450. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

GOLDMAN LR. M BELLER. RJ JACKSON. 1990. ALDICARB FOOD POISONING IN CALIFORNIA. 19B5-198B: TOXICITY ESTIMATES FOR HUMANS. ARCH ENVIRON HEALTH. 45(3): 141-147. HED DOC NO 010451. 010455. 01045B. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

GOLDMAN. LR. DF SMITH. RR NEUTRA ET AL. 1990. PESTICIDE FOOD POISONING FROM CONTAMINATED WATERMELONS IN CALIFORNIA. 19B5. ARCH ENVIRON HEALTH. 45(4): 229-236.

HIRSCH GH. BT MORI. GB MORGAN. PR BENNET. BC WILLIAMS. 19B7. REPORT OF ILLNESSES CAUSED BY ALDICARB-CONTAMINATED CUCUMBERS. FOOD ADDITIVES AND CONTAMINANTS. 5(2): 155-60. HED DOC NO 010455. 01045B. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 020460.

US EPA. 1992. RfD/RfC WORK GROUP.

ALDRIN 000309-00-2

005159 FITZHUGH OG. AA NELSON AND ML QUAIFE. 1964. CHRONIC ORAL TOXICITY OF ALDRIN AND DIELDRIN IN RATS AND DOGS. FOOD COSMET TOXICOL. 2: 551-562.

US EPA. 19B7. HEALTH EFFECTS ASSESSMENT FOR ALDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 19B5. RfD/RfC WORK GROUP.

ALLIDOCHLOR 000093-71-0

00583B US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALLIDOCHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

ALLYL ALCOHOL 000107-18-6

005B39 CARPANINI FMB. IF GAUNT. J HARDY. ET AL. 197B. SHORT-TERM TOXICITY OF ALLYL ALCOHOL IN RATS. TOXICOLOGY. 9: 29-45.

US EPA. 19B5. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALLYL ALCOHOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

152

ALLYL CHLORIDE 000107-05-1

010369 BOQUIN, L. D SHUWEI, Y AIRU, ET AL. 1982. STUDIES ON THE TOXICITY OF ALLYL CHLORIDE. ECOTOXICOL ENVIRON SAF. 6: 19-27.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALLYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ALUMINUM 007429-90-5

005162 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ALUMINUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

ALUMINUM PHOSPHIDE 020859-73-8

010255 HACKENBURG U. 1972. CHRONIC INGESTION BY RATS OF STANDARD DIET TREATED WITH ALUMINUM PHOSPHIDE. TOXICOL APPL PHARMACOL. 23(1): 147-158.

US EPA. 1985. RfD/RfC WORK GROUP.

AMETRYN 000834-12-8

005841 CIBA-GEIGY CORPORATION. 1961. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00034843. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMETRYN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTDN, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

AMINO-2-NAPHTHOL, 1- 002834-92-6

005842 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1-AMINO-2-NAPHTOL AND 1-AMINO-2-NAPHTOL HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

AMINO-2-NAPHTOL HYDROCHLORIDE, 1- 001198-27-2

005843 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1-AMINO-2-NAPHTOL AND 1-AMINO-2-NAPHTOL HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

AMINOPHENOL, M- 000591-27-5

005844 RE TA, RF LOEHR, SC RODRIGUEZ, ET AL. 1984. RESULTS OF TERATOGENICITY TESTING OF M-AMINOPHENOL IN SPRAGUE-DAWLEY RATS. FUND APPL TOXICOL. 4(1): 98-104.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMINOPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

153

AMINOPHENOL, O- 000095-55-6

005845 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMINOPHENOLS. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMINOPHENOL, P- 000123-30-8

005846 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMINOPHENOLS. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMINOPYRIDINE, 4- 000504-24-5

005847 KOHN FE. 1968. FOUR-WEEK SUBACUTE ORAL TOXICITY OF COMPOUND 1861 HYDROCHLORIDE --AL8INO RATS. (UNPU8LISHED STUDY). PREPARED 8Y INDUSTRIAL BIOTEST LABORATORIES, INC. UNDER 224-12. SUBMITTED BY PHILLIPS PETROLEUM CO., BARTLESVILLE, OK. CDL: 229844-E.

US EPA. 1980. 4-AMINOPYRIDINE. AVITROL PESTICIDE REGISTRATION STANDARD. PREPARED BY THE OFFICE OF PESTICIDE PROGRAMS, US EPA, WASHINGTON, DC. NTIS PB84-209907.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4-AMINOPYRIDINE. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMMONIA 007664-41-7

005166 CAMPBELL CL, RK DAWES, S DEOLALKAR AND MC MERRITT. 1958. EFFECT OF CERTAIN CHEMICALS IN WATER ON THE FLAVOR OF 8REWED COFFEE. FOOD RES. 23: 575-579. CITED IN US EPA, 1981.

WHO (WORLD HEALTH ORGANIZATION). 1986. ENVIRONMENTAL HEALTH CRITERIA. 54. AMMONIA. WHO, GENEVA, SWITZERLAND.

US EPA. 1981. AM8IENT WATER QUALITY CRITERION FOR THE PROTECTION OF HUMAN HEALTH: AMMONIA. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR AMMONIA. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE DFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

010392 HOLNESS DL, JT PURDHAM AND JR NETHERCOTT. 1989. ACUTE AND CHRONIC RESPIRATORY EFFECTS OF OCCUPATIONAL EXPOSURE TO AMMONIA. AMIND HYG ASSOC J. 50: 646-650.

8RODERSON JR, JR LINDSEY AND JE CRAWFORD. 1976. THE ROLE OF ENVIRONMENTAL AMMONIA IN RESPIRATORY MYCOPLASMOSIS OF RATS. AM J PATHOL. 85: 115-130.

US EPA. 1991. RfD/RfC WORK GROUP.

154

ANILINE 000062-53-3

010370 OBERST FW, E HACKLEY, C COMSTOCK. 1956. CHRONIC TOXICITY OF ANILINE VAPOR (5PPM) BY INHALATION. ARCH IND HEALTH 13:379-384.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

ANTHRACENE 000120-12-7

010166 US EPA. 1989. SUBCHRONIC TOXICITY IN MICE WITH ANTHRACENE. FINAL REPORT. HAZELTON LABORATORIES AMERICA, INC. PREPARED FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR ANTHRACENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010964 US EPA. 1994. RfD/RfC WORK GROUP.

ANTIMONY PENTOXIDE 001314-60-9

005174 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMDNY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-66.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTDN, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ANTIMONY POTASSIUM TARTRATE 000304-61-0

005234 SCHROEDER HA, M MITCHENER ANO AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

155

ANTIMONY TETROXIDE **001332-81-6**

005238 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMDNY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

ANTIMONY TRIOXIDE **001309-64-4**

005242 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY ANO LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMFRGENCY RESPONSE. WASHINGTON, DC.

010974 NEWTON PE, HF BOLTS, IW DALY ET AL. 1994. SUBCHRONIC AND CHRONIC INHALATION TOXICITY OF ANTIMONY TRIOXIDE IN THE RAT. FUND APPL TOXICOL 32: 561-576.

US EPA. 1995. RfD/RfC WORK GROUP.

ANTIMONY, METALLIC **007440-36-0**

005170 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-66.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FDR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTDN, DC.

156

ARAMITE **000140-57-8**

005849 OSER BL, M OSER. 1962. 2-(P-TERT-BUTYLPHENOXY)ISOPROPYL 2-CHLOROETHYL SULFITE (ARAMITE) II. CARCINOGENICITY. TOXICOL APPL PHARMACOL. 4: 70-88.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ARAMITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005B50 POPPER H, SS STERNBERG, BL OSER AND M OSER. 1960. THE CARCINOGENIC EFFECT OF ARAMITE IN RATS. CANCER. 13(5): 1035-1046.

OSER BL AND M OSER. 1962. 2-(P-TERT-BUTYLPHENOXY)ISOPROPYL 2-CHLOROETHYL SULFITE (ARAMITE). CARCINOGENICITY. TOXICOL APPL PHARMACOL. 4: 70-88.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ARAMITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AROCLOR 1248 **012672-29-6**

010940 US EPA. 1993. RfD/RfC WORK GROUP.

AROCLOR 1254 **011097-69-1**

010963 US EPA. 1994. RfD/RfC WORK GROUP.

ARSENIC, INORGANIC **007440-38-2**

010434 TSENG WP. 1977. EFFECTS AND DOSE-RESPONSE RELATIONSHIPS OF SKIN CANCER AND BLACKFODT DISEASE WITH ARSENIC. ENVIRON. HEALTH PERSPECT. 19: 109-119.

TSENG, WP, HM CHU, SW HOU, JM FONG, CS LIN, S YEH. 1968. PREVALENCE OF SKIN CANCER IN AN ENDEMIC AREA OF CHRONIC ARSENICISM IN TAIWAN. J. NATL. CANCER INST. 40: 453-463.

US EPA. 1990. RfD/RfC WORK GROUP.

ATRAZINE **001912-24-9**

010855 CIBA-GEIGY CORP. 1986. MRID NO 00141874, 00157875, 00158930, 40629302. HED DOC NO 005940, 006937. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

CIBA-GEIGY CORP. AGRICULTURAL DIVISION. 1987. MRID NO 40431301, 41293801.HED DOC NO 006718, 006937, 007647. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1992. RfD/RfC WORK GROUP.

157

BARIUM 007440-39-3

010348 WONES, RG, BL STADLER, LA FROHMAN. 1990. LACK OF EFFECT OF DRINKING WATER BARIUM ON CARDIOVASCULAR RISK FACTOR. ENVIRON HEALTH PERSPECT. 85: 1-13.

BRENNIMAN, GR, PS LEVY. 1984. HIGH BARIUM LEVELS IN PUBLIC DRINKING WATER AND ITS ASSOCIATION WITH ELEVATED BLOOD PRESSURE. IN: ADVANCES IN MODERN TOXICOLOGY IX. EJ CLALBRESE. ED. PRINCETON SCIENTIFIC PUBLICATIONS. PRINCETON, NJ. P231-249.

US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT FOR BARIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC. EXT REVIEW DRAFT. FINAL DRAFT (ON PUBLIC COMMENT). NTIS PB 86-118031/AS.

US EPA. 1990. RfD/RfC WORK GROUP.

BARIUM CYANIDE 000542-62-1

010941 US EPA. 1993. RfD/RfC WORK GROUP.

BENEFIN 001861-40-1

005852 ELI LILLY AND CO. 1972. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00037678. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENEFIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

BENZAL CHLORIDE 000098-87-3

005853 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZAL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

BENZALDEHYDE 000100-52-7

005854 KLUWE WM. CA MONTGOMERY. HD GILES AND JD PREJEAU. 1983. ENCEPHALOPATHY IN RATS AND NEPHROPATHY IN RATS AND MICE AFTER SUBCHRONIC ORAL EXPOSURE TO BENZALDEHYDE. FOOD CHEM TOXICOL. 21(3): 245-250.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. RfD/RfC WORK GROUP.

158

BENZALDEHYDE CYANOHYDRIN 000532-28-5

005781 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BENZO[A]ANTHRACENE 000056-55-3

010965 US EPA. 1994. RfD/RfC WORK GROUP.

BENZENE 000071-43-2

010857 US EPA. 1989. RfD/RfC WORK GROUP.

BENZENETHIOL / (THIOPHENOL) 000108-98-5

010942 AMERICAN BIOGENICS CORP. 1989. NINETY-DAY GAVAGE STUDY IN ALBINO RATS USING THIOPHENOL. PREPARED BY DYNAMAC CORP OF ROCKVILLE, MD FOR THE US EPA OFFICE OF SOLID WASTE.

FAIRCHILD EJ AND HE STOKINGER. 1958. TOXICOLOGIC STUDIES ON ORGANIC SULFUR COMPOUNDS. 1. ACUTE TOXICITY OF SOME ALIPHATIC AND AROMATIC THIOLS (MERCAPTANS). AM IND HYG ASSOC J. 19: 171-189.

US EPA. 1993. RfD/RfC WORK GROUP.

BENZIDINE 000092-87-5

005830 LITTLEFIELD NA, CJ NELSON AND CH FRITH. 1983. BENZIDINE DIHYDROCHLORIDE: TOXICOLOGICAL ASSESSMENTS IN MICE DURING CHRONIC EXPOSURE. J. TOXICOL. ENVIRON. HEALTH. 12: 671-685.

US EPA. 1987. RfD/RfC WORK GROUP.

010877 US EPA. 1991. RfD/RfC WORK GROUP.

BENZOIC ACID 000065-85-0

005260 FDA (FOOD AND DRUG ADMINISTRATION). 1973. EVALUATION OF THE HEALTH ASPECTS OF BENZOIC ACID AND SODIUM BENZOATE AS FOOD INGREDIENTS. DHEW, WASHINGTON, DC. REPORT NO. SCOGS-7 NTIS PB-223 837/6. P.17.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BENZOIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

BENZYL ALCOHOL 000100-51-6

005855 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. TOXICOLOGY AND CARCINOGENESIS STUDIES OF BENZYL ALCOHOL (CAS NO 100-51-6) IN F344/NRATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECHNICAL REPORT. NTP TR 343. P 1-161.

005856 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. TOXICOLOGY AND CARCINOGENESIS STUDIES OF BENZYL ALCOHOL (CAS NO 100-51-6) IN F344/NRATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECHNICAL REPORT. NTP TR 343. P 1-161.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BENZYL ALCOHOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

BERYLLIUM 007440-41-7

005262 SCHROEDER HA AND M MITCHNER. 1975. LIFE-TERM STUDIES IN RATS: EFFECTS OF ALUMINUM. BARIUM. BERYLLIUM AND TUNGSTEN. J NUTR. 105: 421-427.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR BERYLLIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

BIPHENYL, 1,1' 000092-52-4

005857 AMBROSE AM. AN BOOTH. F DE EDS AND AJ COS JR. 1960. A TOXICOLOGICAL STUDY OF BIPHENYL. A CITRUS FUNGISTAT. FOOD RES. 25: 328-336.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,1'-BIPHENYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010878 US EPA. 1990. RfD/RfC WORK GROUP.

BIS(2-CHLOROISOPROPYL) ETHER 039638-32-9

010257 MITSUMORI K. T USUI. K TAKAHASHI. AND Y SHIRASU. 1979. TWENTY-FOUR MONTH CHRONIC TOXICITY STUDIES OF DICHLORODIISOPROPYL ETHER IN MICE. NIPPON NOYAKU GAKKAISHI. 4(3): 323-335.

US EPA. 1989. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP) 000117-81-7

010859 CARPENTER, CP, CS WEIL AND HF SMYTH. 1953. CHRONIC ORAL TOXICITY OF DI(2-ETHYLHEXYL) PHTHALATE FOR RATS, GUINEA PIGS AND DOGS. ARCH IND HYG OCC MED. 8: 219-226.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

BISPHENOL A 000080-05-7

005268 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF BISPHENOL A IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REP SER. NO. 80-35 NTIS PB 84-1555308 P. 192.

US EPA. 1988. RfD/RfC WORK GROUP.

005266 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF BISPHENOL A IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REP SER. NO. 80-35 NTIS PB 84-1555308 P. 192.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BISPHENOL A. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BORON TRIFLUORIDE 007637-07-2

010395 RUSCH GM, GM HOFFMAN, RF MCCONNELL ET AL. 1986. INHALATION TOXICITY STUDIES WITH BORON TRIFLUORIDE. TOXICOL APPL PHARMACOL. 83: 69-78.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BORON AND BORON COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

BORON, ELEMENTAL 007440-42-8

005272 WEIR RJ, JR AND RS FISHER. 1972. TOXICOLOGIC STUDIES ON BORAX AND BORIC ACID. TOXICOL APPL PHARMACOL. 23(3): 351-364.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BORON AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR BORON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

005269 GARABRANT DH, L BERNSTEIN, JM PETERS ET AL. 1985. RESPIRATORY EFFECTS OF BORAX DUST. BR J IND MED. 42: 831-837.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BORON AND BORON COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMINATED DIBENZO-P-DIOXINS

005858 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZO-P-DIOXINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZOFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMINATED DIBENZOFURANS

005859 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZOFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZO-P-DIOXINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMOACETONE 000598-31-2

005860 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOACETONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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BROMOCHLOROETHANES

005861 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FDR BROMOCHLOROETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMODICHLOROMETHANE 000075-27-4

005715 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICITY AND CARCINOGENICITY STUDIES OF BROMODICHLOROMETHANE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECH REPORT, SER NO 321, NIH PUB NO 87-2537.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

BROMOETHENE / (VINYL BROMIDE) 000593-60-2

010929 BENYA TJ, WM BUSEY, MA DORATO AND PE BERTEAU. 1982. INHALATION CARCINOGENICITY BIOASSAY OF VINYL BROMIDE IN RATS. TOXICOL APPL PHARMACOL. 64(3): 367-379.

BUSEY WM. 1979. ONCOGENIC POTENTIAL OF VINYL BROMIDE DURING CHRONIC INHALATION EXPOSURE -- RATS: PATHOLOGY REPORT. EPA/OTS 8EHQ-0479-0281.

US EPA. 1993. RfD/RfC WORK GROUP.

BROMOFORM 000075-25-2

005722 NTP (NATIONAL TOXICOLOGY PROGRAM). 1989. TOXICOLOGY AND CARCINOGENICITY STUDIES OF TRIBROMOMETHANE AND BROMOFORM IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-350.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BROMOFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010961 US EPA. 1993. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

BROMOMETHANE 000074-83-9

010861 DANSE LH, FL VAN VELSEN AND CA VAN DER HEIJDEN. 1984. METHYL BROMIDE: CARCINOGENIC EFFECTS IN THE RAT FORESTOMACH. TOXICOL APPL PHARMACOL. 72: 262-271.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BROMOMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL BROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR BROMOMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

010860 REUZEL, PGJ, CF KUPER, HC DREEF-VAN DER MEULEN, VMH HOLLANDERS. 1987. CHRONIC (29 MONTH) INHALATION TOXICITY AND CARCINOGENICITY STUDY OF METHYL BROMIDE IN RATS. REPORT NO. V86.469/221044. NETHERLANDS ORGANIZATION FOR APPLIED SCIENTIFIC RESEARCH, DIVISION FOR NUTRITION AND FOOD RESEARCH, TNO. EPA/OTS DOCUMENT #86-8700001202.

REUZEL, PGJ, HC DREEF-VANDER MEULEN, VMH HOLLANDERS, CF KUPER, VJ FERDN, CA VAN DER HEIJDEN. 1991. CHRONIC INHALATION TOXICITY AND CARCINOGENICITY STUDY OF METHYL BROMIDE IN WISTAR RATS. FOOD CHEM. TOXICOL. 29(1): 31-39.

US EPA. 1991. RfD/RfC WORK GROUP.

BROMOPHENYL PHENYL ETHER, 4- 000101-55-3

005864 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-BROMOPHENYL PHENYL ETHER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMOPHOS 002104-96-3

005865 LEUSCHNER F, A LEUSCHNER AND E POPPE. 1967. CHRONISCHER REPRODUKTIONSVERSUCH UBER 3 GENERATIONEN AN WISTAR-RATTEN BEI FORTDAUERNER VERABREICHUNG VON BROMOPHOS. REPORT CH BOEHRINGER SOHN. (UNPUBLISHED).

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMOXYNIL 001689-84-5

005866 UNION CARBIDE AGRICULTURE PRODUCTS, INC. 1982. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00096521. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOXYNIL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

BROMOXYNIL OCTANOATE 001689-99-2

005867 UNION CARBIDE AGRICULTURE PRODUCTS, INC. 1982. CONFIDENTIAL 8USINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00096521. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 19B4. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOXYNIL OCTANOATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

BUSAN 77 031512-74-0

005868 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUSAN 77. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BUSAN 90 002491-38-5

005869 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUSAN 90. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BUTANOL, 1- 000071-36-3

005870 US EPA. 1986. BUTANOL: RAT ORAL SUBCHRONIC TOXICITY STUDY. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1-BUTANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 19B6. RfD/RfC WORK GROUP.

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BUTYL BENZYL PHTHALATE, N- **000085-68-7**

005616 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. PROJECT NO 12307-02, -03. HAZELTON LABORATORIES AMERICA, INC. UNPUBLISHED STUDY.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BUTYL BENZYL PHTHALATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

BUTYLATE **002008-41-5**

005871 STAUFFER CHEMICAL COMPANY. 1987. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 40289101. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUTYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WDRK GROUP.

BUTYLCHLORIDE, T- **000507-20-0**

005810 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BUTYROLACTONE, GAMMA- **000096-48-0**

005872 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUTYROLACTONE, GAMMA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CACODYLIC ACID **000075-60-5**

005873 NEES PO. 1968. REPORT ON CACODYLIC ACID TOXICITY TO ANIMALS. WISCONSIN ALUMNI RES FOUND. EPA PESTICIDE PETITION NO OF 0911.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CACODYLIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CADMIUM 007440-43-9

005280 US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT ON CADMIUM. OFFICE OF DRINKING WATER. WASHINGTON, DC. FINAL DRAFT.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CADMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. DH FDR THE DFFICE DF WATER REGULATIDNS AND STANDARDS. WASHINGTDN. DC. EPA-440/5-80-025.

US EPA. 1988. RfD/RfC WORK GROUP.

CALCIUM CYANIDE 000592-01-8

010258 HOWARD JW AND RF HANZAL. 1955. CHRDNIC TOXICITY FOR RATS OF FDOD TREATED WITH HYDROGEN CYANIDE. AGRIC FODD CHEM. 3: 325-329.

PHILBRICK DJ. JB HOPKINS. DC HILL. JC ALEXANDER AND RG THOMSDN. 1979. EFFECTS OF PRDLDNGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WDRK GRDUP.

CAPROLACTAM 000105-60-2

005284 SEROTA DG. AM HOBERMAN AND SC GAD. 1984. A THREE-GENERATION REPRODUCTION STUDY WITH CAPROLACTAM IN RATS. IN: PROCEEDINGS OF A SYMPOSIUM ON AN INDUSTRY APPROACH TO CHEMICAL RISK ASSESSMENT: CAPRDLACTAM AND RELATED COMPOUNDS AS A CASE STUDY. INDUSTRY HEALTH FOUND. ARLINGTON. VA.. P 191-204.

US EPA. 1988. HEALTH AND ENVIRDNMENTAL EFFECTS DOCUMENT FDR CAPRDLACTAM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE. CINCINNATI. OH FOR THE OFFICE OF SDLID WASTE AND EMERGENCY RESPDNSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

005282 PDWERS WJ. JR. JC PECKHAM. KM SIINO AND SC GAD. 1984. EFFECTS OF SUBCHRONIC DIETARY CAPRDLACTAM ON RENAL FUNCTION. IN: PROCEEDINGS OF A SYMPOSIUM ON AN INDUSTRY APPROACH TO CHEMICAL RISK ASSESSMENT: CAPROLACTAM AND RELATED COMPDUNDS AS A CASE STUDY. INDUSTRY HEALTH FOUND. ARLINGTON. VA.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DDCUMENT FDR CAPRDLACTAM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE. CINCINNATI. DH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

010966 US EPA. 1994. RfD/RfC WORK GRDUP.

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CAPTAFOL 002425-06-1

005874 ORTHO-CHEVRON CHEMICAL COMPANY. 1985. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 260671. MRID NO. 00149488. 00155196. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAFOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. RFD/RFC WORK GROUP.

CAPTAN 000133-06-2

005875 CHEVRON CHEMICAL COMPANY. 1982. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00125293. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

STAUFFER CHEMICAL COMPANY. 1982. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00120315. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CARBARYL 000063-25-2

005876 CARPENTER CP. CW WEIL. PE POLIN. ET AL. 1961. MAMMALIAN TOXICITY OF 1-NAPHTHYL-N-METHYLCARBAMATE (SEVIN INSECTICIDE). J AGRIC FOOD CHEM. 9: 30-39.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CARBARYL. PREPARED BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010882 US EPA. 1991. RfD/RfC WORK GROUP.

CARBOFURAN 001563-66-2

005877 FMC CORPORATION. 1983. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 250740-250755. MRID NO. 00129507. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PRDFILE FOR CARBOFURAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. RfD/RfC WORK GROUP.

CARBON DISULFIDE 000075-15-0

010259 HARDIN BD, GP BOND, MR SIKOR, FD ANDREW, RP BELILES AND RW NIEMEIR. 1981. TESTING OF SELECTED WORKPLACE CHEMICALS FOR TERATOGENIC POTENTIAL. SCAND J WORK ENVIRON HEALTH. 7(SUPPL 4): 66-75.

US EPA. 1985. RfD/RfC WORK GROUP.

010975 JOHNSON BL, J BOYD, JR BURG ET AL. 1983. EFFECTS ON THE PERIPHERAL NERVOUS SYSTEM OF WORKERS' EXPOSURE TO CARBON DISULFIDE. NEUROTOXICOLOGY 4: 53-66.

US EPA. 1995. RfD/RfC WORK GROUP.

CARBON MONOXIDE 000630-05-0

010493 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

CARBON TETRACHLORIDE 000056-23-5

010862 BRUCKNER, JV, WF MACKENZIE, S MURALIDHARA, ET AL. 1986. ORAL TOXICITY OF CARBON TETRACHLORIDE: ACUTE, SUBACUTE AND SUBCHRONIC STUDIES IN RATS. FUND APPL TOXICOL. 6(1): 16-34.

US EPA. 1985. RfD/RfC WORK GROUP.

CHLORAL 000075-87-6

005290 SANDERS VM, BM KAUFFMANN, KL WHITE, JR. 1982. TOXICOLOGY OF CHLORAL HYDRATE IN THE MOUSE. ENVIRON HEALTH PERSPECT. 44: 146-173.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORAL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

CHLORDANE 000057-74-9

005296 VELSICOL CHEMICAL CORP. 1983. ACC NO 252267. MRID NO. 00138591, 00144313. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1989. RfD/RfC WORK GROUP.

169

CHLORINE CYANIDE 000506-77-4

010261 HOWARO JW ANO RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATEO WITH HYOROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK OJ. JB HOPKINS. DC HILL. JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

CHLORO-1,3-BUTADIENE, 2- / (CHLOROPRENE) 000126-99-8

010515 NTP (NATIONAL TOXICOLOGY PROGRAM). 19B8. SUBCHRONIC INHALATION TOXICITY STUDY OF CHLOROPRENE IN MICE AND RATS. CONDUCTED BY BATELLE PACIFIC NORTHWEST LABORATORY. RICHLANO. WA.

US EPA. 1992. RfD/RfC WORK GROUP.

CHLORO-M-CRESOL, P- 000059-50-7

005366 MAOSEN C. PH ANOERSEN. O MEYER AND G WURTZEN. 1986. 4-CHLORO-E-METHYLPHENOL: SALMONELLA/MAMMALIAN-MICROSOME MUTAGENICITY TEST AND SUBACUTE TOXICITY TEST IN RATS. BULL ENVIRON CONTAM TOXICOL. 37(5): 651-654.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR P-CHLORO-M-CRESOL. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHLOROACETALDEHYDE 000107-20-0

005342 US EPA. 19BB. HEALTH ANO ENVIRONMENTAL EFFECTS OOCUMENT FOR CHLOROACETALDEHYOE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. OC.

CHLOROACETIC ACID 000079-11-8

005346 IRDC (INTERNATIONAL RESEARCH ANO OEVELOPMENT CORPORATION). 1982. SUBCHRONIC ORAL TOXICITY TEST WITH MONOCHLOROACETIC ACIO IN RATS. NATIONAL TOXICOLOGY PROGRAM. BETHESOA. MO P 1-101.

US EPA. 1988. HEALTH ANO ENVIRONMENTAL EFFECTS OOCUMENT FOR CHLOROACETIC ACIO. PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. OC.

CHLOROANILINE, 2- 000095-51-2

005347 US EPA. 1987. HEALTH ANO ENVIRONMENTAL EFFECTS OOCUMENT FOR CHLOROANILINES. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. OC.

P70

CHLOROANILINE, 3- **000108-42-9**

005348 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

CHLOROANILINE, 4- **000106-47-8**

005349 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF P-CHLOROANILINE FOR POSSIBLE CARCINOGENICITY. NCI CARC. TECH. REP. SER.NO. 189. NTIS PB-295896.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

CHLOROBENZENE **000108-90-7**

010863 MONSANTO COMPANY. 1967. 13-WEEK ORAL ADMINISTRATION--DOGS. MONOCHLOROBENZENES. FINAL REPORT. PROJECT NO. 241-105. FEBRUARY 24. PREPARED BY HAZELTON LABORATORIES.

KNAPP, WK, WM BUSEY, AND W KUNDZINS. 1971. SUBACUTE ORAL TOXICITY OF MONOCHLOROBENZINE IN DOGS AND RATS. TOXICOL APPL PHARMACOL. 19: 393 (ABSTRACT).

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR CHLORINATED BENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. EPA 600/8-84-015F. NTIS PB85-150332.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHOLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CHLOROBENZILATE **000510-15-6**

010260 CIBA-GEIGY CORPORATION. 1984. MRID NO 00144691. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROBENZILATE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEATH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

US EPA. 1989. RfD/RfC WORK GROUP.

010931 US EPA. 1993. RfD/RfC WORK GROUP.

171

CHLOROBENZOIC ACID, P- **000074-11-3**

005360 KIECKEBUSCH W. W GRIEM AND K LANG. 1960. THE TOLERABILITY OF P-CHLOROBENZOIC ACID. ARZNEIMI HEL-FORSCH. 10: 999-10001.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR P-CHLOROBENZOIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBENZOTRIFLUORIDE, 4- **000098-56-6**

005364 HOOKER CHEMICAL CORP. 1981. MODIFIED 90-DAY GAVAGE AND REPRODUCTION STUDY IN RATS PCBTF. CONDUCTED BY ELARS BIORESEARCH LABORATORIES, INC, FORT COLLINS, CO. US EPA/OPTS PUBLIC FILES. MICROFICHE #OTS0508148.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS OOCUMENT FOR 4-CHLOROBENZOTRIFLUORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBUTANE, 1- **000109-69-3**

005808 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF N-BUTYL CHLORIDE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). CAS NO 109-69-3. NTP-TR-312. 198 P.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005806 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF N-BUTYL CHLORIDE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). CAS NO 109-69-3. NTP-TR-312. 198 P.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBUTANE, 2- **000078-86-4**

005809 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROCYCLOPENTADIENE **041851-50-7**

005297 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

172

CHLOROFORM 000067-66-3

005372 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTIDIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROMETHANE (METHYL CHLORIDE) 000074-87-3

010005 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL CHLORIDE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE DFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORONITROBENZENE, M- 000121-73-3

005879 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORONITRO8ENZENES. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROPHENOL, 2- 000095-57-8

010436 EXON JH, LD KDELLER. 1982. EFFECTS DF TRANSPLACENTAL EXPDSURE TO CHLDRINATED PHENOLS. ENVIRON HEALTH PERSPECT. 46: 137-140.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2-CHLDRDPHENDL AND 2,4-DICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENDLS. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FDR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTDN, DC.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-CHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

CHLOROPHENOL, 3- 000108-43-0

005309 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DDCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHLOROPHENOL, 4- **000106-48-9**

005310 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROPROPANE, 2- **000075-29-6**

010444 GAGE JC. 1970. THE SUBACUTE INHALATIDN TOXICITY OF 109 INDUSTRIAL CHEMICALS. BR J IND MED. 27(1): 1-18.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DDCUMENT FOR 2-CHLOROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SDLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROTHALONIL **001897-45-6**

005883 DIAMOND SHAMROCK CHEMICAL COMPANY. 1970. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NO 111253. MRID NO. 00057702, 00114034. AVAILABLE FROM EPA. WRITE TO FDI. EPA. WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

CHLOROTOLUENE, M- **000108-41-8**

005880 US EPA. 1985. HEALTH AND ENVIRDNMENTAL EFFECTS PROFILE FOR CHLOROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROTOLUENE, O- **000095-49-8**

010167 GIBSON, WR, FO GOSSETT, GR KOENIG, F MARROQUIN. 1974. THE TOXICITY OF DAILY ORAL DOSES OF O-CHLOROTOLUENE IN THE RAT. TOXICOLOGY DIVISION, LILLY RESEARCH LABORATORIES. SUBMITTED TO TEST RULES DEVELOPMENT BRANCH, OFFICE OF TOXIC SUBSTANCES, US EPA, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CHLOROTOLUENE, P- **000106-43-4**

010200 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FDR CHOROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTDN, DC.

CHLORPYRIFOS **002921-88-2**

005881 DOW CHEMICAL COMPANY. 1972. CDNFIDENTIAL BUSINESS INFORMATIDN. UNPUBLISHED STUDY. ACCESSION NO 112118.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORPYRIFOS AND CHLOROPYRIFOS-METHYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FDR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

179

CHLORPYRIFOS METHYL 005598-13-0

005882 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORPYRIFOS AND CHLORPYRIFOS-METHYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORTHIOPHOS 060238-56-4

005884 WORTHING CR AND SB WALKER, ED. 1983. THE PESTICIDE MANUAL, 7TH ED. BRITISH CROP PROTECTION COUNCIL, THE LAVENHAM PRESS LTD. SUFFOLK, ENGLAND. P 130.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORTHIOPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHROMIUM(III) 016065-83-1

005731 IVANKOVIC S AND R PREUSSMAN. 1975. ABSENCE OF TOXIC AND CARCINOGENIC EFFECTS AFTER ADMINISTRATIONS OF HIGH DOSES OF CHROMIC OXIDE PIGMENT IN SUBACUTE AND LONG-TERM FEEDING EXPERIMENTS IN RATS. FOOD COSMET TOXICOL. 13: 347-351.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR TRIVALENT CHROMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

CHROMIUM(VI) 018540-29-9

005522 MACKENZIE RD, RU BYERRUM, CF DECKER ET AL. 1958. CHRONIC TOXICITY STUDIES, II. HEXAVALENT AND TRIVALENT CHROMIUM ADMINISTERED IN DRINKING WATER TO RATS. AM MED ASSOC ARCH IND HEALTH. 18: 232-234.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXAVALENT CHROMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

CHRYSENE 000218-01-9

005885 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHRYSENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

COPPER 007440-50-8

005374 US EPA. 1987. DRINKING WATER CRITERIA DOCUMENT FOR COPPER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

175

COPPER CYANIDE **000544-92-3**

010262 US EPA. 1986. 90 DAY ORAL TOXICITY STUDY OF COPPER CYANIDE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WDRK GROUP.

CRESOL, M- / (3-METHYLPHENOL) **000108-39-4**

005380 US EPA. 1986. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC TOXICITY STUDIES IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC NEUROTOXICITY STUDY IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010888 US EPA. 1991. RfD/RfC WORK GROUP.

CRESOL, O- / (2-METHYLPHENOL) **000095-48-7**

005384 US EPA. 1986. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC TOXICITY STUDIES IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC NEUROTOXICITY STUDY IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010889 US EPA. 1991. RfD/RfC WORK GROUP.

CRESOL, P- / (4-METHYLPHENOL) **000106-44-5**

010516 CMA (CHEMICAL MANUFACTURERS' ASSOCIATION). 1988. DEVELOPMENTAL TOXICITY EVALUATION OF O-, M- OR P-CRESOL ADMINISTERED BY GAVAGE TO NEW ZEALAND WHITE RABBITS. FINAL PROJECT REPORT 51-508. FICHE NO. OTS0517695.

DEITZ D. AND LT MULLIGAN. 1988. SUBCHRONIC TOXICITY OF P-CRESOL IN SPRAGUE-DAWLEY RATS: MBA CHEMICAL NO 25. PREPARED BY RESEARCH TRIANGLE INSTITUTE, RESEARCH TRIANGLE PARK, NC. PREPARED FOR EPA, WASHINGTON, DC.

US EPA. 1993. RfD/RfC WORK GROUP.

010890 US EPA. 1991. RfD/RfC WORK GROUP.

176

CUMENE 000098-82-8

005392 WOLF MA, VK ROWE, DD MCCOLLISTER, RL HOLLINGSWORTH AND F OYEN. 1956. TOXICOLOGICAL STUDIES OF CERTAIN ALKYLATED BENZENE AND BENZENES. AMA ARCH IND HEALTH. 14: 387-398.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CUMENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

005908 MONSANTO COMPANY. 1986. ONE MONTH STUDY OF CUMENE VAPOR ADMINISTERED TO MALE AND FEMALE SPRAGUE-DAWLEY RATS BY INHALATION. US EPA/OTS PUBLIC FILES, 8D SUBMISSION. MICROFICHE# OTS 0513229.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CUMENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CYANAZINE 021725-46-2

010411 EI DU PONT DE NEMOURS AND COMPANY, INC. 1986. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 40081901 AND 40229001. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CYANAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR CYANAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

CYANIDE 000057-12-5

005396 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. J AGRIC FOOD CHEM. 3: 325-329.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR CYANIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR CYANIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

177

CYANOGEN 000460-19-5

010263 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

US EPA. 1985. RfD/RfC WORK GROUP.

CYANOGEN BROMIDE 000506-68-3

010264 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

US EPA. 1987. RfD/RfC WORK GROUP.

CYCLOATE 001134-23-2

005886 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CYCLOATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CYCLOHEXANOL 000108-93-0

005887 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CYCLOHEXANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CYCLOHEXYLAMINE 000108-91-8

005400 GAUNT IF, J HARDY, P GRASSO, SD GANGOLLI AND KR BUTTERWORTH. 1976. LONG-TERM TOXICITY OF CYCLOHEXYLAMINE HYDROCHLORIDE IN THE RAT. FOOD COSMET TOXICOL. 14(4): 255-268.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOHEXYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

005398 GAUNT IF, M SHARRATT, PG GRASSO, AB LANSDOWN AND SD GANGOLLI. 1974. SHORT-TERM TOXICITY OF CYCLOHEXYLAMINE HCL IN THE RAT. FOOD COSMET TOXICOL. 12: 609-624.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOHEXYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

178

CYCLOPENTADIENE 000542-92-7

010494 DOW. 1987. UNPUBLISHED DATA. DOW CHEMICAL. USA, MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DACTHAL 001861-32-1

005888 ISK BIOTECH CORPORATION. 1993. MRID NO. 42731001, 42998401. HED DOC NO 010513. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1994. RfD/RfC WORK GROUP.

DALAPON 000075-99-0

005889 PAYNTER OE, TW TUSING, DD MCCOLLISTER AND VK ROWE. 1960. TOXICOLOGY OF DALAPON SODIUM (2,2-DICHLOROPROPIONIC ACID, SODIUM SALT). J AGRIC FOOD CHEM. 8: 47-51.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DALAPON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DDT 000050-29-3

005408 LAUG, EP, AA NELSON, OG FITZHUGH AND FM KUNZE. 1950. LIVER CELL ALTERATION AND DDT STORAGE IN THE FAT OF THE RAT INDUCED BY DIETARY LEVELS OF 1-50 PPM DDT. J PHARMACOL EXP THERAP. 98: 268-273.

US EPA. 1985. RfD/RfC WORK GROUP.

179

DECABROMODIPHENYL ETHER **001163-19-5**

005891 KOCIBA RJ, LO FRAUSON, CG HUMISTON, ET AL. 1975. RESULTS OF A TWO-YEAR DIETARY FEEDING STUDY WITH DECABROMODIPHENYL OXIDE (DCDPO) IN RATS. COMBUST TOXICOL. 2(4): 267-285.

NORRIS JM, JW EHRMANTRAUT, CL GIBBONS, ET AL. 1975. TOXICOLOGY OF OCTABROMOBIPHENYL AND DECABROMODIPHENYL OXIDE. ENVIRON HEALTH PERSPECT. 11:153-161.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIPHENYL ETHER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

DI-N-OCTYL PHTHALATE **000117-84-0**

010275 PIEKACZ H. 1971. EFFECT OF DIOCTYL AND DIBUTYL PHTHALATES ON THE ORGANISM OF RATS AFTER ORAL ADMINISTRATION IN PROLONGED EXPERIMENT. II. SUBACUTE AND CHRONIC TOXICITY. ROCZ PANSTW ZAKL HIG. 22(3): 295-307.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACID, ALKYL, ARYL, AND ALKYL/ARYL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

DIAZINON **000333-41-5**

005892 DAVIES DB AND BJ HOLUB. 1979. COMPARATIVE SUSCEPTIBILITY OF MALE AND FEMALE RATS TO DIETARY DIAZINON TOXICITY. J NUTR. 109(6): XXVIII.

DAVIES DB AND BJ HOLUB. 1980. COMPARATIVE SUBACUTE TOXICITY OF DIETARY DIAZINON IN THE MALE AND FEMALE RAT. TOXICOL APPL PHARMACOL. 54(3): 359-367.

DAVIES DB AND BJ HOLUB. 1980. TOXICOLOGICAL EVALUATION OF DIETARY DIAZINON IN THE RAT. ARCH ENVIRON CONTAM TOXICOL. 9(6): 637-650.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIAZINON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

DIBENZOFURAN **000132-64-9**

005409 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIBENZOFURAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

081

DIBROMOBENZENE, 1,4- **000106-37-6**

005893 CARLSON GP AND RG TARDIFF. 1977. EFFECT OF 1,4-DIBROMOBENZENE AND 1,2,4-TRIBROMOBENZENE ON XENOBIOTIC METABOLISM. TOXICOL APPL PHARMACOL. 42(1): 189-196.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DIBROMOCHLOROMETHANE **000124-48-1**

005894 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHLORODIBROMOMETHANE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TR282. NTIS PB86-166675.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOCHLOROMETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DIBROMOCHLOROMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

DIBROMOETHANE, 1,2- **000106-93-4**

010854 RATCLIFFE JM, SM SCHRADER, K STEENLAND, DE CLAPP, T TURNER AND RW HORNUNG. 1987. SEMEN QUALITY IN PAPAYA WORKERS WITH LONG-TERM EXPOSURE TO ETHYLENE BROMIDE. BR J IND MED. 44: 317-326.

SCHRADER SM, TW TURNER AND JM RATCLIFFE. 1988. THE EFFECTS OF ETHYLENE BROMIDE ON SEMEN QUALITY: A COMPARISON OF SHORT-TERM AND CHRONIC EXPOSURE. REPROD TOXICOLOGY. 2: 191-198.

US EPA. 1992. RFD/RFC WORK GROUP.

181

DIBUTYL PHTHALATE 000084-74-2

005622 SMITH CC. 1953. TOXICITY OF BUTYL STEARATE, DIBUTYL SEBACATE, DIBUTYL PHTHALATE AND METHOXYETHYL OLEATE. ARCH HYG OCCUP MED. 7: 310-318.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH, FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

010892 US EPA. 1990. RfD/RfC WORK GROUP.

DICAMBA 001918-00-9

010945 GOLDENTHAL, EI, DC JESSUP AND DE RODWELL. 1978. TERATOLOGY STUDY IN RABBITS: IRDC NO. 163-436. (UNPUBLISHED STUDY RECEIVED MARCH 6, 1979 UNDER 876-36. PREPARED BY INTERNATIONAL RESEARCH AND DEVELOPMENT CORP., SUBMITTED BY VELSICOL CHEMICAL CORP., CHICAGO, IL. CDL:237995-E). CITED AS VELSICOL CHEMICAL CORPORATION (1978) IN U.S. EPA (1993). MRID 00028236. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR DICAMBA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DICHLOROBENZENE, 1,2- 000095-50-1

010864 US EPA. 1989. RfD/RfC WORK GROUP.

DICHLOROBENZENE, 1,3- 000541-73-1

005414 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DICHLOROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

182

DICHLOROBENZENE, 1,4- **000106-46-7**

010840 CHLOROBENZENE PRODUCERS ASSN. 1986. PARADICHLOROBENZENE: TWO-GENERATION REPRODUCTION STUDY IN SPRAGUE-DAWLEY RATS. STUDY ND86-81-90605. MRID NO 411088-1. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1987. TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,4-DICHLOROBENZENE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TR 319. NIH PUBL NO 87-2575.

US EPA. 1992. RfD/RfC WORK GROUP.

DICHLOROBUTENES

005415 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DICHLOROBUTENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DICHLORODIFLUOROMETHANE **000075-71-8**

005498 SHERMAN H. 1974. LONG-TERM FEEDING STUDIES IN RATS AND DOGS WITH DICHLORODIFLUOROMETHANE (FREON 12 FOOD FREEZANT). HASKELL LABORATORY REPORT NO 24-74. UNPUBLISHED. COURTESY DU PONT DE NEMOURS CO.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

005496 CLAYTON WJ. JR. 1967. FLUOROCARBON TOXICITY AND BIOLOGICAL ACTION. FLUORINE CHEM REV. 1(2): 197-252.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

DICHLOROETHANE, 1,1- **000075-34-3**

005790 HOFMANN HT. H BIRNSTIEL AND P JOBST. 1971. ON THE INHALATION TOXICITY OF 1,1- AND 1,2-DICHLOROETHANE. ARCH TOXIKOL. 27: 248-265.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

DICHLOROETHYLENE, 1,1- **000075-35-4**

005419 QUAST JF, CG HUMISTON, CE WADE, ET AL. 1983. A CHRONIC TOXICITY AND ONCOGENICITY STUDY IN RATS AND SUBCHRONIC TOXICITY STUDY IN DOGS ON INGESTED VINYLIDENE CHLORIDE. FUND APPL TOXICOL. 3(1): 55-62.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHYLENE (VINYLIDINE CHLORIDE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

DICHLOROETHYLENE, 1,2- (MIXED ISOMERS) **000540-59-0**

010509 QUAST, JF, CG HUMISTON, CE WADE, ET AL. 1983. A CHRONIC TOXICITY AND ONCOGENICITY STUDY IN RATS AND SUBCHRONIC TOXICITY STUDY IN DOGS ON INGESTED VINYLIDINE CHLORIDE. FUND APPL TOXICOL. 3: 55-62.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,2-DICHLOROETHYLENE (MIXED ISOMERS). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROETHYLENE, 1,2-C- **000156-59-2**

005420 MCCAULEY PT, M ROBINSON, LW CONDIE, ET AL. NO DATE. THE EFFECTS OF SUBACUTE AND SUBCHRONIC ORAL EXPOSURE TOCIS-1,2-DICHLOROETHYLENE IN RATS. HEALTH EFFECTS RESEARCH LABORATORY, US EPA, CINCINNATI, OH.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,2-C-DICHLOROETHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

DICHLOROETHYLENE, 1,2-T- **000156-60-5**

005895 BARNES DW, WM SANDERS, KL SHITE JR, ET AL. 1985. TOXICOLOGY OF TRANS-1,2-DICHLOROETHYLENE IN THE MOUSE. DRUG CHEM TOXICOL. 8: 373-392.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,2-T-DICHLOROETHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLOROPHENOL, 2,3- **000576-24-9**

005315 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

184

DICHLOROPHENOL, 2,4- **000120-83-2**

005314 EXON JH, AND LO KOLLER. 1985. TOXICITY OF 2-CHLOROPHENOL,2,4-DICHLOROPHENOL AND 2,4,6-TRICHLOROPHENOL. IN: WATER CHLORINATION: CHEM. ENVIRON IMPACT AND HEALTH EFF. JOLLEY ET AL., ED. VOL. 5.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2-CHLOROPHENOL AND 2,4-DICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DICHLOROPHENOL, 2,5- **000583-78-8**

005316 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPHENOL, 2,6- **000087-65-0**

005317 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DICHLOROPHENOL, 3,4- **000095-77-2**

005318 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPHENOL, 3,5- **000591-35-5**

005319 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPHENOXY ACETIC ACID, 2,4- **000094-75-7**

010265 DOW CHEMICAL CO. 1983. ACC NO. 251473.

US EPA. 1988. RfD/RfC WORK GROUP.

185

DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4- / (2,4-DB) 000094-82-6

005890 RHODIA INC. 1969. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 0092165. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-DB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DICHLOROPROPANE, 1,1- 000078-99-9

005897 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

DICHLOROPROPANE, 1,2- 000078-87-5

005898 NITSCHKE KD. KA JOHNSON. DL WACKERLE. JE PHILLIPS. DA DITTENBER. 1988. PROPYLENE DICHLORIDE: A 13 WEEK INHALATION TOXICITY STUDY WITH RATS. MICE AND RABBITS. DOW CHEMICAL CO. MAMMALIAN AND ENVIRONMENTAL TOXICOLOGY RESEARCH LABORATORY. MIDLAND. MI.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1991: RfD/RfC WORK GROUP.

DICHLOROPROPANE, 1,3- 000142-28-9

005899 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DICHLOROPROPANE, 2,2- 000594-20-7

005900 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

981

DICHLOROPROPENE, 1,3- / (TELONE II) **000542-75-6**

005901 DOW CHEMICAL CO. 1973. MRID NOS. 00067977, 0039684. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

010351 LOMAX, LG, WT STOTT, KA JOHNSON, ET AL. 1989. THE CHRONIC TOXICITY AND ONCOGENICITY OF INHALED TECHNICAL-GRADE 1,3-DICHLOROPROPENE IN RATS AND MICE. FUND APPL TOXICOL, 10: 214.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

DICHLORPROP **000120-36-5**

005896 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROP. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICYCLOPENTADIENE **000077-73-6**

005425 LITTON BIONETICS, INC. 1980. MAMMALIAN TOXICOLOGICAL EVALUATION OF DIMP AND DCPD, (PHASE 2). LITTON BIONETICS, INC., KENSINGTON, MD CONTRACT DAMB, 17-77-C-7003. NTIS AD-A082685.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIELDRIN **000060-57-1**

005429 WALKER AIT, DE STEVENSON, J ROBINSON, ET AL. 1969. THE TOXICOLOGY AND PHARMACODYNAMICS OF DIELDRIN (HEOD): TWO-YEAR ORAL EXPOSURE OF RATS AND DOGS. TOXICOL APPL PHARMACOL, 15: 345-373.

US EPA. 1987. RfD/RfC WORK GROUP.

187

DIETHYL PHTHALATE **000084-66-2**

005620 BROWN D, KR BUTTERWORTH, IF GAUNT ET AL. 197B. SHORT-TERMORAL TOXICITY STUDY OF DIETHYL PHTHALATE IN THE RAT. FOOD COSMET TOXICOL. 16: 415-422.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

U.S. EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH, FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

DIETHYL-P-NITROPHENYL PHOSPHATE **000311-45-5**

005922 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DIETHYL-P-NITROPHENYL PHOSPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIETHYLANILINE, N,N- **000091-66-7**

005903 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIETHYLANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIETHYLENE GLYCOL MONOBUTYL ETHER **000112-34-5**

005482 US EPA. 19B4. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-B6-052.

US EPA. 1992. RfD/RfC WORK GROUP.

DIETHYLENE GLYCOL MONOETHYL ETHER **000111-90-0**

005478 SMYTH HF, CP CARPENTER AND CB SHAFFER. 1964. A 2-YEAR STUDY OF DIETHYLENE GLYCOL MONOETHYL ETHER IN RATS. FOOD COSMET TOXICOL. 2: 641-642.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

005476 HALL DE, FS LEE, P AUSTIN AND FA FAIRWEATHER. 1966. SHORT-TERM FEEDING STUDY WITH DIETHYLENE GLYCOL MONOETHYL ETHER IN RATS. FOOD COSMET TOXICOL. 4: 263.

US EPA. 19B4. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

881

DIETHYLFORMAMIDE 000617-84-5

010437 ARGUS MF, JC ARCOS AND C HOCH-LIGETI. 1965. THE CARCINOGENIC ACTIVITY OF PROTEIN-DENATURING AGENTS: HEPATOCARCINOGENICITY OF DIOXANE. J. NATL CANCER INST. 35: 949-958.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIETHYLFORMAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIETHYLHYDRAZINE, 1,2- 001615-80-1

005921 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2-DIETHYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHOATE 000060-51-5

005923 AMERICAN CYANAMID COMPANY. 1986. MRID NO 00164177. AVAILABLE FROM EPA. WRITE TO FDI, EPA, WASHINGTON, DC 20460.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHOATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DIMETHYLANILINE, N,N- 000121-69-7

005924 ABDO K, M WOLFE AND R HILES. 1984. SUBCHRONIC TOXICITY OF N,N-DIMETHYLANILINE TO F-344 RATS AND B6C3F1 MICE. FED PROC. 43(3): 1698.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIMETHYLANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

1889

DIMETHYLFORMAMIDE, N,N- **000068-12-2**

005925 BECCI, PJ, KA VOSS, WD JOHNSON, ET AL. 1983. SUBCHRONIC FEEDING STUDY OF N,N-DIMETHYLFORMAMIDE IN RATS AND MICE. J AM COLL TOXICOL. 2(6): 371-378.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIMETHYLFORMAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010352 CIRLA, AM, G PISATI, E INVERNIZZI ET AL. 1984. EPIDEMIOLOGICAL STUDY ON WORKERS EXPOSED TO LOW DIMETHYLFORMAMIDE CONCENTRATIONS. G ITAL MED LAV. 6: 149-156.

CATENACCI, G, D GRAMPELLA, R TERZI, ET AL. 1984. HEPATIC FUNCTION IN SUBJECTS EXPOSED TO ENVIRONMENTAL CONCENTRATIONS OF DMF LOWER THAN THE ACTUALLY PROPOSED TLV. G ITAL MED LAV. 6: 157-158.

US EPA. 1990. RfD/RfC WORK GROUP.

DIMETHYLPHENOL, 2,3- **000526-75-0**

005926 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLPHENOL, 2,4- **000105-67-9**

010266 US EPA. 1989. NINETY-DAY GAVAGE STUDY IN ALBINO MICE USING 2,4-DIMETHYLPHENOL. STUDY 410-2831. PREPARED BY DYNAMAC CORPORATION, ROCKVILLE, MD, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

DIMETHYLPHENOL, 2,5- **000095-87-4**

005928 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

190

DIMETHYLPHENOL, 2,6- 000576-26-1

005431 VELDRE IA AND HJ JANES. 1979. TOXICOLOGICAL STUDIES OF SHALE OILS, SOME OF THEIR COMPONENTS AND COMMERCIAL PRODUCTS. ENVIRON HEALTH PERSPECT. 30: 141-146.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DIMETHYLPHENOL, 3,4- 000095-65-8

005437 VELDRE IA AND HJ JANES. 1979. TOXICOLOGICAL STUDIES OF SHALE OILS, SOME OF THEIR COMPONENTS AND COMMERCIAL PRODUCTS. ENVIRON HEALTH PERSPECT. 30: 141-146.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DIMETHYLPHTHALATE 000131-11-3

010267 US EPA. 1994. RfD/RfC WORK GROUP.

010894 US EPA. 1990. RfD/RfC WORK GROUP.

DIMETHYLTEREPHTHALATE 000120-61-6

005930 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF DIMETHYL TEREPHTHALATE FOR POSSIBLE CARCINOGENICITY. DHEW/PUB/NIH 79-1376. NCI-CG-TR121.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYL AND METHYL TEREPHTHALATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLUREA, N,N- 000598-94-7

005931 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIMETHYLUREA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITRO-O-CRESOL, 4,6- 000534-52-1

010470 US EPA. 1993. RfD/RfC WORK GROUP.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROCRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

191

DINITRO-P-CRESOL, 2,6- **000609-93-8**

005934 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,6-DINITRO-P-CRESOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROBENZENE, 1,2- **000528-29-0**

010201 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHRISTIAN. 1981. 1,3-DINITROBENZENE: TOXIC EFFECT IN VIVO AND IN VITRO. J TOXICOL ENVIRON HEALTH. 7(5): 829-847.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROBENZENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROBENZENE, 1,3- **000099-65-0**

010471 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHRISTIAN. 1981. 1,3-DINITROBENZENE. TOXIC EFFECT IN VIVO AND IN VITRO. J TOXICOL ENVIRON HEALTH. 7(5): 829-847.

US EPA. RfD/RfC WORK GROUP.

DINITROBENZENE, 1,4- **000100-25-4**

010202 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHRISTIAN. 1981. 1,3-DINITROBENZENE: TOXIC EFFECT IN VIVO AND IN VITRO. J TOXICOL ENVIRON HEALTH. 7(5): 829-847.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROBENZENES (D-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROPHENOL, 2,3- **000066-56-8**

005936 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

192

DINITROPHENOL, 2,4- 000051-28-5

010438 HORNER WD. 1942. DINITROPHENOL AND ITS RELATION TO FORMATION OF CATARACTS. ARCH OPHTHALMOL. 27: 1097-1121.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1991. RfD/RfC WORK GROUP.

010895 US EPA. 1991. RfD/RfC WORK GROUP.

DINITROPHENOL, 2,5- 000329-71-5

005937 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROPHENOL, 2,6- 000573-56-8

005938 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROPHENOL, 3,5- 000586-11-8

005939 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROTOLUENE, 2,3- 000602-01-7

005940 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROTOLUENE, 2,4 000121-14-2

005941 ELLIS HV, CB HONG, CC LEE, ET AL. 1985. SUBCHRONIC AND CHRONIC TOXICITY STUDIES OF 2,4-DINITROTOLUENE. PART I. BEAGLE DOGS. J AM COLLEGE TOXICDL. 4(4): 233-242.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

193

DINITROTOLUENE, 2,4- **000121-14-2**

010896 US EPA. 1990. RfC WORK GROUP.

DINITROTOLUENE, 2,5- **000619-15-8**

005942 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROTOLUENE, 2,6- **000606-20-2**

005943 LEE C-C ET AL. 1976. MAMMALIAN TOXICITY OF MUNITIONS COMPOUNDS. PHASE II: EFFECTS OF MULTIPLE DOSES. PART III: 2,6-DITINROTOLUENE. US ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND, FORT DETRICK, MD.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

DINITROTOLUENE, 3,4- **000610-39-9**

005944 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINOSEB **000088-85-7**

005945 DOW CHEMICAL COMPANY. 1981. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO 00152675. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINOSEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DIPHENYLAMINE, N,N- **000122-39-4**

005946 THOMAS JO, WE RIBELIN, JR WOODWARD AND F DEEDS. 1967. THE CHRONIC TOXICITY OF DIPHENYLAMINE FOR DOGS. TOXICOL APPL PHARMACOL. 11: 184-194.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIPHENYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

194

DIRECT LIGHTFAST BLUE 004399-55-7

005947 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT LIGHTFAST BLUE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DISULFOTON 000298-04-4

010412 MOBAY CHEMICAL COMPANY. 1985. MRID NO. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DISULFOTON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON DC.

US EPA. 1986. RfD/RfC WORK GROUP.

ENDOSULFAN 000115-29-7

010926 HOECHST CELANESE CORP. 1989. ENDDSULFAN: 2-YEAR FEEDING/ONCOGENICITY STUDY IN RATS. MRID NO. 40256502. 42099502. HED DDC. NO. 007937. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1993. RfD/RfC WORK GROUP.

010938 HOECHST CELANESE CORP. 1989. ENDOSULFAN: 1-YEAR FEEDING STUDY IN DOGS. MRID. NO 41099501. HED NO. 007937. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1993. RfD/RfC WORK GROUP.

ENDOTHALL 000145-73-3

005948 PENNWALT AGCHEM. ND MRID NO 00101735. AVAILABLE FROM US EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ENDOTHALL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

ENDRIN 000072-20-8

005445 VELSICOL CHEMICAL CORPORATION. 1969. MRID NO. 00030198. AVAILABLE FROM EPA. WRITE FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR ENDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ENDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

195

EPICHLOROHYDRIN 000106-89-8

010440 LASKIN S, AR SELLAKUMAR, M KUSCHNER, ET AL. 1980. INHALATION CARCINOGENICITY OF EPICHLOROHYDRIN IN NON-INBRED SPRAGUE-DAWLEY RATS. J NATL CANCER INST. 65(4): 751-757.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-83-032F. NTIS PB85-132363.

US EPA. 1991. RfD/RfC WORK GROUP.

010492 QUAST JF, JW HENCK, BJ POSTMA, DJ SCHUETZ AND MJ MCKENNA.1979. EPICHLOROHYDRIN - SUBCHRONIC STUDIES. I. A 90-DAY INHALATION STUDY IN LABORATORY RODENTS. (FISCHER 344 RATS, SPRAGUE-DAWLEY RATS AND B6C3F1 MICE). DOW CHEMICAL USA, MIDLAND, MI.

US EPA. 1991. RfD/RfC WORK GROUP.

EPTC 000759-94-4

005959 PPG INDUSTRIES, INC. 1986. CONFIDENTIAL BUSINESS INFORMATION: UNPUBLISHED STUDY. ACCESSION NO. 263695, 262696. MRID NO. 00161597. AVAILABLE FROM EPA. WRITE FOI. EPA, WASHINGTON,.DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR EPTC. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOPROP 013194-48-4

005951 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHOPROP. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL ACETATE, 2- 000111-15-9

010507 UNION CARBIDE. 1984. A TERATOGENIC EVALUATION OF CELLOSOLVE ACETATE IN FISHER 344 RATS AND NEW ZEALAND WHITE RABBITS FOLLOWING INHALATION EXPOSURE. BUSHY RUN RESEARCH CENTER, EXPORT, PA, OCTOBER 1984. FYI-AX-1184-0360.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL ACRYLATE, 2- 000106-74-1

005953 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

196

ETHOXYETHANOL DODECANOATE, 2- **000106-13-8**

005956 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL PHOSPHATE, 2- **068554-00-7**

005955 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL, 2- **000110-80-5**

005470 MELNICK RL. 1984. TOXICITIES OF ETHYLENE GLYCOL AND ETHYLENE GLYCOL MONOETHYL ETHER IN FISCHER 344/N RATS AND 86C3F1 MICE. ENVIRON HEALTH PERSPECT. 57: 147-155.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PRDFILE FOR 2-ETHOXY-ETHANOL. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005468 STENGER EG, A LISLOTT, D MUELLER ET AL. 1971. TOXICOLOGY OF ETHYLENE GLYCOL MONOETHYL ETHER. ARZNEIM-FORSCH. 21(6): 880-885.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

010441 BARBEE SJ, JB TERRILL, DJ DESOUSA AND CC CONAWAY. 1984. SUBCHRONIC INHALATION TOXICOLOGY OF ETHYLENE GLYCOL MONOETHYL ETHER IN THE RAT AND RA88IT. ENVIRON HEALTH PERSPECT. 57: 157-163.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

US EPA. 1990. RfD/RfC WORK GROUP.

ETHOXYETHYL METHACRYLATE, 2- **002370-63-0**

005954 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

ETHYL ACETATE 000141-78-6

005957 US EPA. 1986. RAT ORAL SUBCHRONIC STUDY WITH ETHYL ACETATE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

ETHYL BENZENE 000100-41-4

010867 WOLF MA. VK ROWE. DD MCCOLLISTER. RL HOLLINGSWORTH AND F OYEN. 1956. TOXICOLOGICAL STUDIES OF CERTAIN ALKYLATED BENZENE AND BENZENES. AMA ARCH IND HEALTH. 14: 387-398. CITED IN US EPA. 1985.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR ETHYLBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYLBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010866 ANDREW FD. RL BUSHCOHBOM. WC CANNON. ET AL. 1981. TERATOLOGIC ASSESSMENT OF ETHYLBENZENE AND 2-ETHOXYETHANOL. BATTELLE PACIFIC NORTHWEST LABORATORY. RICHLAND. WA. NTIS PB83-208074. P 108.

HARDIN BD. GP BOND. MR SIKOV. ET AL. 1981. TESTING OF SELECTED WORKPLACE CHEMICALS FOR TERATOGENIC POTENTIAL. SCANDJ WORK ENVIRON HEALTH. 7: 66-75.

US EPA. 1990. RfD/RfC WORK GROUP.

ETHYL CHLORIDE 000075-00-3

010371 SCORTICHINI BH. KA JOHNSON. JJ MDMANY-PFRUENDER ET AL. 1986. ETHYL CHLDRIDE: INHALATIDN TERATDLOGY STUDY IN CF-1 MICE. DOW CHEMICAL CO. EPA 86-870002248.

US EPA. 1990. RfD/RfC WORK GROUP.

ETHYL ETHER 000060-29-7

010396 AMERICAN BIOGENICS CORP. 1986. 90-DAY GAVAGE STUDY IN RATS USING ETHYL ETHER. STATUS REPORT FOR ABC STUDY NO. 410-23433/18/86.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ETHYL ETHER. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

ETHYL METHACRYLATE 000097-63-2

005961 BORZELLECA JF, PS LARSON, GR HENNIGAR, ET AL. 1964. STUDIES ON THE CHRONIC ORAL TOXICITY OF MONOMERIC ETHYL ACRYLATE AND METHYL METHACRYLATE. TOXICOL APPL PHARMACOL. 6: 29-36.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYL METHACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYL-O-XYLENE, 4- 000934-80-5

010472 US EPA. 1984. HEALTH AND ENVIRONMENTAL PROFILE FOR METHYLETHYL BENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

ETHYLANILINE, N- 000103-69-5

005958 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N-ETHYLANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLENE CYANOHYDRIN 000109-78-4

005780 SAUERHOFF MW, WH BRAUN, JC RAMSEY ET AL. 1976. TOXICOLOGICAL EVALUATION AND PHARMACOKINETIC PROFILE OF B-HYDROXYPROPIONITRILE IN RATS. J. TOXICOL. ENVIRON. HEALTH. 2(1): 31-44.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLENE DIAMINE 000107-15-3

005796 YANG RS, RH GARMAN, RR MARONPOT, ET AL. 1983. ACUTE AND SUBCHRONIC TOXICITY OF ETHYLENEDIAMINE IN LABORATORY ANIMALS. APPL TOXICOL. 3(6): 512-520.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ETHYLENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010898 US EPA. 1990. RfD/RfC WORK GROUP.

199

ETHYLENE GLYCOL 000107-21-1

005454 DEPASS LR, RH GARMAN, MD WOODSIDE ET AL. 1986. CHRONIC TOXICITY AND ONCOGENICITY STUDIES OF ETHYLENE GLYCOL IN RATS AND MICE. FUND APPL TOXICOL. 7: 547-565.

US EPA. 1987. RfD/RfC WORK GROUP.

005452 MARONPOT RR, JP ZELENAK, EV WEAVER AND NJ SMITH. 1983. TERATOGENICITY STUDY OF ETHYLENE GLYCOL IN RATS. DRUG CHEM TOXICOL. 6(6): 579-594.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ETHYLENE GLYCOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

ETHYLENE GLYCOL MONOBUTYL ETHER 000111-76-2

010353 DDDD DE, WM SNELLINGS, RR MAROMPOT, ET AL. 1983. ETHYLENE GLYCOL MONOBUTYL ETHER: ACUTE, 9-DAY AND 90-DAY VAPOR INHALATION STUDIES IN FISCHER 344 RATS. TOXICOL APPL PHARMACOL. 68: 405-414.

US EPA. 1991. RfD/RfC WORK GROUP.

ETHYLENE THIOUREA 000096-45-7

010397 GRAHAM SL, KJ DAVIS, WH HANSEN AND CH GRAHAM. 1975. EFFECTS OF PROLONGED ETHYLENE THIOUREA INGESTION ON THE THYROID OF THE RAT. FOOD COSMET TOXICOL. 13: 493-499.

US EPA. 1991. RfD/RfC WORK GROUP.

010899 US EPA. 1992. RfD/RfC WORK GROUP.

ETHYLTOLUENE, M- 000620-14-4

005963 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ETHYL BENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLTOLUENE, O- 000611-14-3

005962 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ETHYL BENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLTOLUENE, P- 000622-96-8

005964 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ETHYL BENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

200

FLUORANTHENE 000206-44-0

010168 US EPA. 1988. 13-WEEK MOUSE ORAL SUBCHRONIC TOXICITY STUDY. PREPARED BY TOXICITY RESEARCH LABORATORIES. LTD. MUSKEGON. MI FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010967 US EPA. 1994. RfD/RfC WORK GROUP.

FLUORENE 000086-73-7

010169 US EPA. 1989. MOUSE ORAL SUBCHRONIC STUDY. PREPARED BY TOXICITY RESEARCH LABORATORIES. LTD. MUSKEGON. MI. FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR FLUORENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

FLUORINE / (SOLUBLE FLUORIDE) 007782-41-4

005965 HODGE HC. 1950. THE CONCENTRATION OF FLUORIDES IN DRINKING WATER TO GIVE THE POINT OF MINIMUM CARIES WITH MAXIMUM SAFETY. J.AM. DENT. ASSOC. 40: 436.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR FLUORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

FLURIDONE 059756-60-4

005966 ELANCO PRODUCTS COMPANY. DIVISION OF ELI LILLY AND COMPANY. 1980. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NOS 070933. 070939. MRID NO. 00103251. 00103305. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FLURIDONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

201

FOLPET 000133-07-3

005967 CHEVRON CHEMICAL CORPORATION. 1986. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 263772. MRID NO. 00161315. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FOLPET. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC

US EPA. 1987. RFD/RFC WORK GROUP.

FORMALDEHYDE 000050-00-0

010398 TIL HP. RA WOUTERSEN. VJ FERON ET AL. 1989. TWO-YEAR DRINKING WATER STUDY OF FORMALDEHYDE IN RATS. FOOD CHEM TOXICOL. 27: 77-87.

US EPA. 1989. DRAFT DRINKING WATER HEALTH ADVISORY FOR FORMALDEHYDE. OFFICE OF DRINKING WATER. WASHINGTON. DC.

US EPA. 1990. RfD/RfC WORK GROUP.

FORMALDEHYDE CYANOHYDRIN 000107-16-4

005782 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

FORMIC ACID 000064-18-6

010268 MALORNY G. 1969. ACUTE AND CHRONIC TOXICITY OF FORMIC ACID AND FORMATE. Z ERNACHRUNGSWISS. 9: 332-339.

US EPA. 1990. RfD/RfC WORK GROUP.

FURAN 000110-00-9

005462 SRI (SOUTHERN RESEARCH INSTITUTE). 1982. SUBCHRONIC TOXICITY REPORT ON FURAN (C56202) IN B6C3F1 MICE. PREPARED FOR NATIONAL TOXICOLOGY PROGRAM UNDER CONTRACT NO. 1-CP-95641-01. BETHESDA. MD.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR FURAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

FURFURAL 000098-01-1

005466 SRI (SOUTHERN RESEARCH INSTITUTE). 1981. 90 DAY RAT REPORT. UNPUBLISHED STUDY PERFORMED FOR NTP.

US EPA. 1987. RfD/RfC WORK GROUP.

202

GLYCIDALDEHYDE 000765-34-4

005968 HINE CH, RJ GUZMAN, MK DUNLAP, R LIMA AND GS LOQUVAM. 1961. STUDIES ON THE TOXICITY OF GLYCIDALDEHYDE. ARCH ENVIRON HEALTH. 2: 23-30.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR GLYCIDALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

HEPTACHLOR 000076-44-8

005506 VELSICOL CHEMICAL CORP. 1955. MRID NO 00062599. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. RfD/RfC WORK GROUP.

HEPTACHLOR EPOXIDE 001024-57-3

010399 DOW CHEMICAL CO. 1958. MRIO NO 00061912. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

HEPTANE, N- 000142-82-5

005969 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N HEPTANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

HEXABROMOBENZENE 000087-82-1

005970 MENDOZA CE, HM VIJAY, JB SHIELDS AND GW LAVER. 1977. EFFECTS OF HEXABROMOBENZENE ON THE MALE RAT. TOXICOL APPL PHARMACOL. 41: 127-130.

US EPA. 1984. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR BROMOBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

203

HEXACHLOROBENZENE **000118-74-1**

010868 ARNOLD, DL, CA MOODIE, SM CHARBONNEAU ET AL. 1985. LONG-TERM TOXICITY OF HEXACHLOROBENZENE IN THE RAT AND THE EFFECT OF DIETARY VITAMIN A. FOOD CHEM TOXICOL. 23(9): 779-793.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROBENZENE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

010900 US EPA. 1990. RfD/RfC WORK GROUP.

HEXACHLOROBUTADIENE **000087-68-3**

010927 NTP (NATIONAL TOXICOLOGY PROGRAM). 1991. NTP REPORT ON THE TOXICITY STUDIES OF HEXACHLORO-1,3-BUTADIENE IN B6C3F1 MICE (FEED STUDIES).

YANG ET AL. 1989. HEXACHLOROBUTADIENE - SUBCHRONIC TOXICOLOGY STUDIES OF HEXACHLORO-1,3-BUTADIENE (HCBD) IN B6C3F1 MICE BY DIETARY INCORPORATION. J ENVIRON PATHOL TOXICOL ONCOL. P. 323-332.

KOCIBA RJ, DG KEYS, GC JERESEY, ET AL. 1977. RESULTS OF A 2-YEAR CHRONIC TOXICITY STUDY WITH HEXACHLOROBUTADIENE IN RATS. AM IND HYG ASSOC J. 38: 589-602.

US EPA. 1993. RfD/RfC WORK GROUP.

HEXACHLOROCYCLOHEXANE, DELTA- **000319-86-8**

010495 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXACHLOROCYCLOHEXANE, EPSILON- **006108-10-7**

010496 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXACHLOROCYCLOHEXANE, GAMMA- **000058-89-9**

005537 ZOECON CORPORATION. 1983. MRID NO 00128356. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

010903 US EPA. 1992. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

HEXACHLOROCYCLOPENTADIENE 000077-47-4

005299 ABDO, KM, CA MONTGOMERY, WM KLUWE ET AL. 1984. TOXICITY OF HEXACHLOROCYCLOPENTADIENE: SUBCHRONIC (13-WEEK) ADMINISTRATION BY GAVAGE TO F344 RATS AND B6C3F1 MICE. J APPL TOXICOL. 4: 75-81.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROCYCLOPENTANE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010445 ABDO, KM, CA MONTGOMERY, J ROYCROFT, HA RAGAN, RA RENNE, WE GIDDINS. 1986. SUBCHRONIC (13-WEEK) OINHALATION TOXCICITY OF HEXACHLOROCYCLOPENTADIENE (HCCPD) IN F344 RATS AND B6C3F1 MICE. ABSTRACT SUBMITTED TO THE SOCIETY OF TOXICOLOGY FROM THE 1986 MEETING.

BATTELLE NORTHWEST LABORATORIES. 1984. INHALATION CARCINOGENESIS BIOASSAY STUDY: SUBCHRONIC STUDY REPORT ON HEXACHLOROCYCLOPENTADIENE IN RATS. SUBMITTED TO THE NATIONAL TOXICOLOGY PROGRAM.

US EPA. 1988. HEALTH AND DNVIRONMENTAL EFFECTS DOCUMENT FOR HEXACHLOROCYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROCYCLOPENTADIENE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

HEXACHLOROETHANE 000067-72-1

005518 GORZINSKI, SJ, RJ NOLAN, SB MCCOLLISTER, ET AL. 1985. SU8CHRONIC ORAL TOXICITY, TISSUE DISTRIBUTION AND CLEARANCE OF HEXACHLOROETHANE IN THE RAT. DRUG CHEM TOXICOL. 8(3): 155-169.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HEXACHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FDR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010904 US EPA. 1992. RfD/RfC WORK GROUP.

205

HEXACHLOROPHENE 000070-30-4

005972 NATIONWIDE CHEMICAL CORPORATION. 1974. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00055365. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROPHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

HEXAMETHYLENE DIAMINE 000124-09-4

005973 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXAMETHYLENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXANE, N- 000110-54-3

005974 KRASAVAGE WJ, JL O'DONOGHUE, GD DIVINCENZO AND TERHAAR. 1980. RELATIVE NEUROTOXICITY OF METHYL-N-BUTYL KETONE, N-HEXANE AND THEIR METABOLITES. TOXICOL APPL PHARMACOL. 52(3): 433-441.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N-HEXANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010273 SANAGI S, Y SEKI, K SUGIMOTO AND M HIRATA. 1980. PERIPHERAL NERVOUS SYSTEM FUNCTIONS OF WORKERS EXPOSED TO N-HEXANE AT A LOW LEVEL. INT ARCH OCCUP ENVIRON HEALTH. 47: 69-79.

HEXANONE, 2- 000591-78-6

005976 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N-HEXANONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

206

HYDROGEN SULFIDE 007783-06-4

010269 WATTERAU H, W OECKERT ANO UG KNAPE. 1964. TESTS FOR THE APPLICATION OF DRIEO GREEN FODDER WITH HIGH H2S CDNTENT (EXPERIMENTS WITH POULTRY AND FATTENEO PIGS). LETTIN FEEDS TESTING CENTER AND FEEDING HALL. FEEDS SCIENCE. FETTERUNG. 5: 383-393.

US EPA. 1985. RfO/RfC WDRK GROUP.

010354 CIIT. 1983. 90 OAY VAPOR INHALATIDN TDXICITY STUDY OF HYDRDGEN SULFIDE IN B6C3F1 MICE. EPA OTS PUBLIC FILES. FICHE NO0000255-0. DOCUMENT NO FYI-OTS-0883-0255.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HYDROGEN SULFIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE. WASHINGTON. OC.

US EPA. 1995. RfD/RfC WDRK GROUP.

HYDROQUINONE 000123-31-9

005526 CARLSON. AJ ANO NR BREWER. 1953. TOXICITY STUDIES ON HYDROQUINONE. PROC SOC EXP BIOL MED. 84: 684-688.

US EPA. 1987. HEALTH ANO ENVIRDNMENTAL EFFECTS DOCUMENT FOR HYOROQUINONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. DH FOR THE OFFICE OF SDLID WASTE AND EMERGENCY RESPDNSE. WASHINGTON. OC.

010905 US EPA. 1990. RfO/RfC WDRK GROUP.

IRON 007439-89-6

005527 US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR IRON. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE DF EMERGENCY ANO REMEOIAL RESPONSE. WASHINGTON. OC.

ISOBUTYL ALCOHOL 000078-83-1

005977 US EPA. 1986. RAT ORAL SUBCHRONIC TOXICITY WITH ISOBUTYL ALCOHOL. OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ISOBUTANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE. CINCINNATI. OH FOR THE OFFICE DF SDLID WASTE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

207

ISOPHORONE 000078-59-1

005910 NOR-AM AGRICULTURAL PRODUCTS, INC. 1972. MRID NO 00123976. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF ISOPHORONE (CAS NO 78-59-1) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECH REPORT SER NO 291, NIH PUBL NO 86-2547.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR ISOPHORONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010906 US EPA. 1990. RfD/RfC WORK GROUP.

ISOPROPALIN 033820-53-0

005978 ELI LILY CO. 1985. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ISOPROPALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

LACTONITRILE 000078-97-7

005783 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

LEAD 007439-92-1

010447 REFER TO IRIS.

LEAD ALKYLS

010448 REFER TO IRIS.

LINURON 000330-55-2

005990 DU PONT DE NEMOURS AND COMPANY, INC. 1962. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00018374. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR LINURON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

MALATHION 000121-75-5

005991 MOELLER HC AND JA RIDER. 1962. PLASMA AND RED BLOOD CELL-CHOLINESTERASE ACTIVITY AS INDICATIONS OF THE THRESHOLD OF INCIPIENT TOXICITY OF ETHYL-P-NITROPHENOL THIONEBENZENEPHOSPHORATE (EPN) AND MALATHION IN HUMAN BEINGS. TOXICOL APPL PHARMACOL. 4: 123-130.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MALATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1987. RfD/RfC WORK GROUP.

MALEIC ANHYDRIDE 000108-31-6

005992 JESSUP DC, D ALDRIDGE, JL SCHARDEIN AND M BLAIR. 1982. THREE-GENERATION REPRODUCTION STUDY IN RATS (MODIFIED TO A2-GENERATION STUDY). MALEIC ANHYDRIDE IR-79-358. INTERNATIONAL RESEARCH AND DEVELOPMENT CORP. FOR MONSANTO CO., ST. LOUIS.MO. UNPUBLISHED 8D SUBMISSION. MICROFICHE NO OTS 0206655. DOCUMENT ID 878214777

PREACHE M. 1983. CHRONIC DIETARY ADMINISTRATION OF MALEIC ANHYDRIDE. VOL. 1: NARRATIVE. FYI-OTS SUBMISSION 1283-0277. PREPARED BY ITT RESEARCH INSTITUTE FOR CHEMICAL INDUSTRY INSTITUTE OF TECHNOLOGY. RESEARCH TRIANGLE PARK. NC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MALEIC ANHYDRIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

MALEIC HYDRAZIDE 000123-33-1

005993 UNIROYAL CHEMICAL CO. 1981. ACCESSION NO. 250523.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MALEIC ANHYDRIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

MALONONITRILE 000109-77-3

005994 PANOV I. M ZLATEVA AND G ANTOV. 1972. TOXICOLOGICAL CHARACTERISTICS OF DICYANOMETHANE. CHRONIC EFFECTS IN WHITE RATS. KHIG. ZDRAVEOPAZVANE. 15(6): 553-562.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MALONONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

209

MANCOZEB 008018-01-7

005995 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MANCOZEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

MANEB 012427-38-2

005996 MANEB DATA TASK FORCE. 1986. MRID NO 00161552. (CITED IN US EPA 1987.) AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

RDHM AND HAAS CO. 1977. MRID ND 00129980. (CITED IN US EPA 1987.) AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MANEB. PREPARED BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

MANGANESE 007439-96-5

010B51 WHO (WORLD HEALTH ORGANIZATION). 1973. TRACE ELEMENTS IN HUMAN NUTRITION: MANGANESE. REPORT OF A WHO EXPERT COMMITTEE. TECHNICAL REPORT SERVICE, 532, WHO, GENEVA, SWITZERLAND. PP 34-36.

SCHROEDER HA, JJ BALASSA, IH TIPTON. 1966. ESSENTIAL TRACE METALS IN MAN: MANGANESE, A STUDY IN HOMEOSTASIS. J CHRON DIS. 19: 545-571.

NRC (NATIONAL RESEARCH COUNCIL). 1989. RECOMMENDED DIETARY ALLOWANCES, 10TH ED. FOOD AND NUTRITION BOARD, NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY PRESS, WASHINGTON, DC. PP 230-235.

US EPA. 1992. RfD/RfC WORK GROUP.

010959 ROELS HA, P GHYSELEN, JP BUCHET, E CEULEMANS, RR LAUWERYS. 1992. ASSESSMENT OF THE PERMISSIBLE EXPOSURE LEVEL TO MANGANESE IN WORKERS EXPDSED TO MANGANESE DIOXIDE DUST. BR J IND MED. 49: 25-34.

ROELS H, R LAUWERYS, JP BUCHET ET AL. 1987. EPIDEMIOLOGICAL SURVEY AMONG WORKERS EXPOSED TO MANGANESE: EFFECTS ON LUNG, CENTRAL NERVDUS SYSTEM, AND SOME BIOLOGICAL INDICES. AM J IND MED. 11: 307-327.

US EPA. 1993. RfD/RfC WORK GROUP.

MEPHOSFOLAN 000950-10-7

005997 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MEPHDSFOLAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

210

MERCURIC CHLORIDE 007487-94-7

005800 ANDRES P. 1984. IGA-AGG DISEASE IN THE INTESTINE DF BROWN-NORWAY RATS INGESTING MERCURIC CHLORIDE. CLIN IMMUNOL IMMUNDPATHOL 20: 488-494.

BERNAUDIN JF, E DRUET, P DRUET, R MASSE. 1981. INHALATION OR INGESTION OF ORGANIC OR INORGANIC MERCURIALS PRODUCES AUTO-IMMUNE DISEASE IN RATS. CLIN IMMUNOL IMMUNOPATHOL 20: 129-135.

DRUET P, E DRUET, F PDTDEVIN C SAPIN. 1978. IMMUNE-TYPE GLOMERULONEPHRITIS INDUCED BY HG CL2 IN THE BROWN NORWAY RAT. ANN IMMUNOL 129C: 777-702.

US EPA. 1987. PEER REVIEW WORKSHOP ON MERCURY ISSUES. OCTOBER 26-27, 1987. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, DH.

US EPA. 1988. RfD/RfC WORK GRDUP.

US EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELDPMENT. WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002AB.

MERCURY ELEMENTAL 007439-97-6

010270 FAWER RF, V DERIBAUPIERRE; MP GUILLEMIN ET AL. 1983. MEASUREMENT OF HAND TREMOR INDUCED BY INDUSTRIAL EXPOSURE TO METALLIC MERCURY. J IND MED. 40: 204-208.

PIIKIVI L. 1989. CARDIOVASCULAR REFLEXES AND LONG-TERM EXPOSURE TO MERCURY VAPOR. INT ARCH OCCUP ENVIRON HEALTH. 61: 391-395.

PIIKIVI L AND H HANNINEN. 1989. SUBJECTIVE SYMPTOMS AND PSYCHOLOGICAL PERFORMANCE OF CHLORINE-ALKALI WORKERS. SCANDJ WORK ENVIRON HEALTH. 15: 69-74.

PIIKIVI L AND V TOLONEN. 1989. EEG FINDINGS IN CHLOR-ALKALI WORKERS SUBJECTED TO LONG-TERM EXPOSURE TO MERCURY VAPOR. BR J IND MED. 46: 370-375.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR MERCURY. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

211

MERPHOS 000150-50-5

005998 ABOU-DONIA MB, DG GRAHAM PR TIMMONS AND BL REICHERT. 1980. LATE ACUTE, DELAYED NEUROTOXIC AND CHOLINERGIC EFFECTS OF S,S,S-TRIBUTYLPHOSPHOROTRITHIOITE (MERPHOS) IN HENS. TOXICOL APPL PHARMACOL. 53: 439-457.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MERPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010907 US EPA. 1992. RfD/RfC WORK GROUP.

MERPHOS OXIDE 000078-48-8

005999 ABOU-DONIA MB, DG GRAHAM, KM ABOO AND AA KOMEIL. 1979. DELAYED NEUROTOXIC, LATE ACUTE AND CHOLINERGIC EFFECTS OF S,S,S-TRIBUTYLPHOSPHOROTRITHIOATE (DEF): SUBCHRONIC (90 DAYS) ADMINISTRATION IN HENS. TOXICOLDGY. 14: 229-243.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MERPHOS OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010908 US EPA. 1992. RfD/RfC WORK GROUP.

METHACRYLONITRILE 000126-98-7

005812 POZZANI, UC, CR KINKEAD AND JM KING. 1968. THE MAMMALIAN TOXICITY OF METHACRYLONITRILE. AM IND HYG ASSOC J. 29(3): 202-210.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES, PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

US EPA. 1987. RfD/RfC WORK GROUP.

METHANOL 000067-56-1

010271 US EPA. 1986. RAT ORAL SUBCHRONIC TOXICITY STUDY WITH METHANOL. OFFICE OF SOLID WASTE. WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

212

METHOMYL 016752-77-5

005802 E.I. DU PONT DE NEMOURS AND COMPANY, INC. 1968. MRID 0007091, 00009012. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHOMYL. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1986. RFD/RFC WORK GROUP.

METHOXYCHLOR 000072-43-5

010357 KINCAID ENTERPRISES, INC. 1989. MRID NO 0015992. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1990. RfD/RfC WORK GROUP.

010909 US EPA. 1991. RfD/RfC WORK GROUP.

METHOXYETHANOL ACETATE, 2- 000110-49-6

010497 MILLER RR, LL CALHOUN AND BL YANO. 1982. ETHYLENE GLYCOL MONOMETHYL ETHER: 13-WEEK VAPOR INHALATION STUDY IN MALE RABBITS. REPORT PREPARED FOR THE CHEMICAL MANUFACTURERS ASSOCIATION, MARCH 25, 1982.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHOXYETHANOL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHOXYETHANOL, 2- 000109-86-4

010372 MILLER RR, JA AYRES, JL YOUNG ET AL. 1983. ETHYLENE GLYCOL MONOMETHYL ETHER. I. SUBCHRONIC VAPOR INHALATION STUDY WITH RATS AND RABBITS. FUND APPL TOXICOL. 3(1): 49-54.

US EPA. 1990. RfD/RfC WORK GROUP.

METHYL ACETATE 000079-20-9

010002 TOXICITY RESEARCH LABORATORY. 1986. RAT ORAL SUBCHRONIC TOXICITY STUDY WITH METHANOL. SPONSORED BY OFFICE OF SOLID WASTE, US EPA, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

213

METHYL ACRYLATE 000096-33-3

010498 KLIMISCH HJ AND W REININGHAUS. 1984. CARCINOGENICITY OF ACRYLATES: LONG-TERM INHALATION STUDIES ON METHYL ACRYLATE (MA) AND N-BUTYL ACRYLATE (BA) IN RATS. TOXICOLOGIST. 4(1): 53.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL ETHYL KETONE 000078-93-3

010853 COX, GE. 1975. TOXICITY STUDIES IN RATS WITH 2-BUTANOL: INCLUDING GROWTH, REPRODUCTION, AND TERATOGENIC OBSERVATIONS. FOOD AND DRUG RESEARCH LABORATORIES, INC. (91MR R 1673)

US EPA. 1992. RfD/RfC WORK GROUP.

010845 SCHWETZ BA, TJ MAST, RJ WEIGEL, ET AL. 1991. DEVELOPMENTAL TOXICITY OF INHALED METHYL ETHYL KETONE IN MICE. FUND APPL TOXICOL. 16: 742-748.

MAST, TJ, JA DILL, JJ EVANOFF, ET AL. 1989. INHALATION DEVELOPMENTAL TOXICOLOGY STUDIES: TERATOLOGY STUDY OF METHYLETHYL KETONE IN MICE. FINAL REPORT. PREPARED BY PACIFIC NORTHWEST LABORATORY, BATELLE MEMORIAL INSTITUTE, FOR THE NATIONAL TOXICOLOGY PROGRAM, WASHINGTON, DC. PNL-6833 UC-408.

US EPA. 1991. RfD/RfC WORK GROUP.

METHYL ETHYL KETONE PEROXIDE 001338-23-4

010948 US EPA. 1993. RfD/RfC WORK GROUP.

METHYL ISOBUTYL KETONE 000108-10-1

010949 MICROBIOLOGICAL ASSOCIATES. 1986. SUBCHRONIC TOXICITY OF METHYL ISOBUTYL KETONE IN SPRAGUE-DAWLEY RATS. PERFORMED FOR RESEARCH TRIANGLE INSTITUTE, PO BOX 12194, RESEARCH TRIANGLE PARK, NC, 27709. FINAL REPORT. STUDY NO 522104.

US EPA. 1993. RfD/RfC WORK GROUP.

METHYL ISOCYANATE 000624-83-9

010013 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ISOCYANATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

214

METHYLMERCURY 022967-92-6

010970 MARSH, D.O., T.W. CLARKSON, C. COX ET AL. 1987. FETAL METHYLMERCURY POISONING: RELATIONSHIP BETWEEN CONCENTRATION IN SINGLE STRANOS OF MATERNAL HAIR AND CHILD EFFECTS. ARCH. NEUROL. 44: 1017-1022.

SEAFOOO SAFETY. 1991. COMMITTEE ON EVALUATION OF THE SAFETY OF FISHERY PROOUCTS, CHAPTER ON METHYLMERCURY: FOA RISK ASSESSMENT ANO CURRENT REGULATIONS, NATIONAL ACADEMY PRESS, WASHINGTON, OC. P. 196-221.

U.S. EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR MERCURY. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATION ANO STANOAROS, WASHINGTON, OC. EPA/440/5-80/058. NTIS PB 81-117699.

U.S. EPA. 1995. MERCURY STUOY REPORT TO CONGRESS. OFFICE OF RESEARCH AND OEVELOPMENT, WASHINGTON, OC. EXTERNAL REVIEW ORAFT. EPA/600/P-94/002Ab.

U.S. EPA. 1994. RfO/RfC WORK GROUP.

METHYL METHACRYLATE 000080-62-6

010014 BORZELLECA JF, PS LARSON, GR HENNIGAR, ET AL. 1964. STUOIES ON THE CHRONIC ORAL TOXICITY OF MONOMERIC ETHYL ACRYLATE ANO METHYL METHACRYLATE. TOXICOL APPL PHARMACOL. 6: 29-36.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL METHACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

METHYL PARATHION 000298-00-0

010015 MONSANTO CO. 19B3. ACCESSION NO 252501-252503, 253346, 253372-253374. MRIO NO. 000139023, 00143965, 00145507. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, OC 20460.

US EPA. 1984. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR METHYL PARATHION. PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE, WASHINGTON, OC.

US EPA. 1986. RfO/RfC WORK GROUP.

010846 OALY, IW ANO WE RINEHART. 1980. A THREE-MONTH FEEOING STUOY OF METHYL PARATHION IN RATS: PROJECT 77-2054. MRIO NO. 74299. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, OC 20460.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS OOCUMENT FOR METHYL PARATHION. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, OC.

STYRENE (MIXED ISOMERS) 025013-15-4

010500 FINAL CHRONIC REPORT PERFORMED FOR THE NTP UNDER CONTRACT NO N01-ES-38042.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL STYRENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2- 000094-81-5

010008 RHDDIA, INC. 1970. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00116345. AVAILABLE FROM EPA. WRITE TO FOI. EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MCPA AND MCPB. PREPARED BY THE DFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1990. INTEGRATED RISK INFORMATION SYSTEM (IRIS). ONLINE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1987. RfD/RfC WORK GROUP.

METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2- 000093-65-2

010009 BASF AKTIEGERELLSCHAFT. 1985. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00158359. AVAILABLE FROM EPA. WRITE TO FOI. EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MCPP. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

METHYL-4-CHLOROPHENOXYACETIC ACID, 2- 000094-74-6

010007 INDUSTRY TASK FORCE ON MCPA RESEARCH DATA. 1986. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00164352. AVAILABLE FROM EPA. WRITE TO FOI. EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MCPA AND MCPB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

216

METHYLCYCLOHEXANE 000108-87-2

010431 KINKEAD ER, CC HAUN MG SCHNEIDER, ET AL. 1985. CHRONIC INHALATION EXPOSURE OF EXPERIMENTAL ANIMALS TO METHYLCYCLOHEXANE. GOVT REPORTS ANNOUNCEMENTS AND INDEX, ISSUE 21. 29 P.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYLCYCLOHEXANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE BROMIDE 000074-95-3

010501 KEYES DG, JW HENCK, GC JERSEY, RJ KOCIBA, OJ SCHWETZ AND TD LANDRY. 1982. METHYLENE BROMIDE: A 90-DAY REPEATED INHALATION TOXICITY STUDY IN RATS AND DOGS WITH A SUBSEQUENT TWO-YEAR HOLDING PERIOD FOR RATS. TOXICOLOGY RESEARCH LAB, HEALTH AND ENVIRONMENTAL SCIENCES, DOW CHEMICAL CO., MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYLENE BROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE CHLORIDE / (DICHLOROMETHANE) 000075-09-2

005553 NATIONAL COFFEE ASSOCIATION. 1982. 24-MONTH CHRONIC TOXICITY AND ONCOGENICITY STUDY OF METHYLENE CHLORIDE IN RATS FINAL REPORT. PREPARED BY HAZLETON LABORATORIES AMERICA, INC., VIENNA, VA. UNPUBLISHED

US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT FOR METHYLENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

005552 NITSCHKE KD, JD BUREK, TJ BELL, RJ KOCIBA, LW RAMPEY AND MJ MCKENNA. 1988. METHYLENE CHLORIDE: A 2-YEAR INHALATION TOXICITY AND ONCOGENICITY STUDY IN RATS. FUND APPL TOXICOL. 10: 1-12.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR METHYLENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4

010413 STULA EF, JR BARNES, H SHERMAN, CF REINHARDY AND JA ZAPP.1977. URINARY BLADDER TUMORS IN DOGS FROM 4,4'-METHYLENE-BIS(2-CHLOROANILINE) (MOCA). J ENVIRON PATHOL TOXICOL. 1(1): 31-50.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4,4'-METHYLENE-BIS(2-CHLOROANILINE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

010933 US EPA. 1993. RfD/RfC WORK GROUP.

217

METHYLENEDIPHENYL ISOCYANATE, 4,4- / (DIPHENYLMETHANE DIISOCYANATE) 000101-68-8

010449 REUZEL PGJ, JHG ARTS, MHM KUYPERS, ET AL. 1990. CHRONIC TOXICITY/CARCINOGENICITY INHALATION STUDY OF POLYMERIC METHYLENEDIPHENYL DIISOCYANATE AEROSOL IN RATS. FINAL REPORT. PREPARED BY CIVO INSTITUTE FOR THE INTERNATIONAL ISOCYANATE INSTITUTE.

REUZEL PGJ, JHG ARTS, LG LOMAX, ET AL. 1998. CHRDNIC INHALATION AND CARCINOGENICITY STUDY OF RESPIRABLE POLYMERIC METHYLENE DIPHENYL DIISOCYANATE (POLYMERIC MDI) AEROSOL IN RATS. FUND APPL TOXICOL. 22: 195-210.

US EPA. 1993. RfD/RfC WORK GROUP.

METOLACHLOR 051218-45-2

010950 TISDEL M, T JACKSON, P MACWILLIAMS ET AL. 1983. TWO-YEAR CHRONIC ORAL TOXICITY AND ONCOGENICITY STUDY WITH METOLACHLOR IN ALBINO RATS: STUDY NO. 80030. FINAL REPORT. (UNPUBLISHED STUDY RECEIVED MAY 24, 1983 UNDER 100-587. PREPARED BY HAZLETON RALTECH, INC., SUBMITTED BY CIBA-GEIGY CORP., GREENSBORO, NC: CDL:250369-A, 250370, 250371, 250272, 259373, 259374, 259375.) REFERRED TO AS CIBA-GEIGY, 1983 IN U.S. EPA (1993). MRID 00129377. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

SMITH SH, CK O'LOUGHLIN, CM SALAMON ET AL. 1981. TWO-GENERATION REPRODUCTION STUDY IN ALBINO RATS WITH METOLACHLOR TECHNICAL: STUDY NO. 450-0272. FINAL REPORT. (UNPUBLISHED STUDY RECEIVED SEPTEMBER 30, 1981 UNDER 100-597. PREPARED BY WHITTAKER CORP., SUBMITTED BY CIBA-GEIGY CORP., GREENSBORO, NC. CDL:245959-A, 245960, 245961.) REFERRED TO AS CIBA-GEIGY (1981) IN U.S. EPA (1993). MRID 00080897. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR METOLACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

METRIBUZIN 021087-64-9

010928 MOBAY CHEMICAL CORPORATION. 1974. MRID 000061260. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR METRIBUZIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL EFFECTS, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

MIREX 002385-85-5

010841 NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. TDXICOLOGY AND CARCINOGENESIS STUDIES OF MIREX (CAS NO 2385-85-5) IN F344/N RATS. (FEED STUDIES). NTP TR 313.

US EPA. 1992. RFD/RFC WORK GROUP.

218

MOLINATE 002212-67-1

010017 STAUFFER CHEMICAL COMPANY. 19B1. MRID ND 00079209. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 19B4. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MOLINATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

MOLYBDENUM 007439-98-7

010489 KOLVAL'SKIY VV, GA YAROVAYA AND DM SHMAVONYAN. 1961. CHANGES OF PURINE METABOLISM IN MAN AND ANIMALS UNDER CONDITIONS DF MOLYBDENUM BIOGEOCHEMICAL PROVINCES. ZH OBSHCH BIOL. 22: 179-191. (IN RUSSIAN, TRANSLATION)

US EPA. 1991. RfD/RfC WORK GROUP.

MONOCHLORAMINE 010599-90-3

010517 NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHLORINATED AND CHLORAMINATED WATER IN F344/N RATS AND B6C3F1 MICE (DRINKING WATER STUDIES). NTP TR 392. NATIONAL INSTITUTES OF HEALTH.

US EPA. 1992. DRINKING WATER CRITERIA DOCUMENT FOR CHLORAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE HEALTH AND ECOLOGICAL CRITERIA DIVISION, OFFICE OF SCIENCE AND TECHNOLOGY, OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

NAPHTHOQUINONE, 1,4- 000130-15-4

010020 US EPA. 19B6. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,4-NAPHTHOQUINONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTDN, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

NICKEL CYANIDE 000557-19-7

010953 US EPA. 1993. RfD/RfC WORK GROUP.

219

NICKEL, SOLUBLE SALTS **VARIOUS**

005579 AMBROSE, AM, DS LARSON, JR BORZELLECA AND GR HENNIGAR, JR. 1976. LONG-TERM TOXICOLOGIC ASSESSMENT OF NICKEL IN RATS AND DOGS. J GOOD SCI TECHNOL. 13: 181-187.

US EPA. 1991. DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR NICKEL. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

NICOTINONITRILE **000100-54-9**

005584 US EPA. 19B7. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

NITRIC OXIDE **010102-43-9**

010451 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

US EPA. 1994. RfD/RfC WORK GROUP.

NITRITE **014797-65-0**

010021 WALTON G. 1951. SURVEY OF LITERATURE RELATING TO INFANT METHEMOGLOBINEMIA DUE TO NITRATE-CONTAMINATED WATER. AM J PUB HEALTH. 41: 986-996.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR NITRITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1992. RfD/RfC WORK GROUP.

220

NITROANILINE, 2- 000088-74-4

010936 US EPA. 1992. RfD/RfC WDRK GROUP.

010935 BIO/DYNAMICS. 1983. PROJECT NO. (BD-82-270). A FOUR WEEK INHALATION STUDY OF ORTHO-NITROANILINE IN MALE RATS. FINAL REPORT. SUBMITTED TO DR. RASHMI NAIR, MONSANTO CO., AUGUST 16, 1983. EPA 87821478. #OTS0206486. P. 1A-17. 32-42. 46-48. 55-58. 62-67.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROANILINE (0-. M-. P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

NITROANILINE, M- 000099-09-2

010400 US EPA. 1991. HEALTH ANO ENVIRONMENTAL EFFECTS DOCUMENT FOR 3-NITROANILINE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

NITROANILINE, P- 000100-01-6

010024 US EPA. 1985. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR NITROANILINE (0-. M-. P-). PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE. WASHINGTON. DC.

NITROBENZENE 000098-95-3

005589 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1984. NINETY-DAY INHALATION STUDY OF NITROBENZENE IN F-344 RATS. CO RATS AND B6C3F1 MICE WITH COVER LETTER DATEO 6/24/84 AND EPA RESPONSE DATEO 8/06/84. UNPUBLISHEO STUDY. FYI-OTS-0784-0333 ANO COMPUTER PRINT-OUT OF PATHOLOGY FINDING.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR NITROBENZENE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

NITROFURANTOIN 000067-20-9

005593 SRI (SOUTHERN RESEARCH INSTITUTE). 1980. SUBCHRONIC TOXICITY REPORT ON NITROFURANTOIN (C55196) IN FISCHER-344 RATS AND B6C3F1 MICE. TRACOR JIT CO. INC. ROCKVILLE. MD. CONTRACT NOS N01-CP-43350 AND 78-65-106002 US EPA.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

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NITROGEN DIOXIDE 010102-44-0

010402 US EPA. 1994. RfD/RfC WORK GROUP.

010912 REFER TO APPENDIX A: TECHNICAL INFORMATION. SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

NITROGEN OXIDES

010170 US EPA. 1982. AIR QUALITY CRITERIA FOR OXIDES OF NITROGEN. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. RESEARCH TRIANGLE PARK. NC. EPA 600/8-82-026F. NTIS PB83-163337.

NITROMETHANE 000075-52-5

010026 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

NITROPHENOLS

005594 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR NITROPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

NITROPROPANE, 2- 000079-46-9

010374 ANGUS CHEMICAL CO. 1985. FINAL REPORT: CHRONIC INHALATION EXPOSURE TO RATS TO VAPORS OF 2-NITROPROPANE AT 100 PPM. PREPARED BY COULSTON INTERNATIONAL CORP FOR ANGUS CHEMICAL CO. OTS NO 204292. DOC NO 8EHQ-0985-0170. FICHE NO 0200504.

ANGUS CHEMICAL CO. 1985. CHRONIC INHALATION OF 200 PPM OF2-NITROPROPANE IN RATS. PREPARED BY COULSTON INTERNATIONAL CORP (MAY 1978) FOR ANGUS CHEMICAL CO. OTS NO 204292. DOC NO 8EHQ-0985-0170. FICHE NO 0200504

GRIFFIN TB. F COULSTON AND AA STEIN. 1980. CHRONIC INHALATION EXPOSURE OF RATS TO VAPORS OF 2-NITROPROPANE AT 25 PPM. ECOTOXICOL ENVIRON SAF. 4(3): 267-281.

GRIFFIN TB. AA STEIN. F COULSTON. 1981. HISTOLOGICAL STUDY OF TISSUES AND ORGANS FROM RATS EXPOSED TO VAPORS OF 2-NITROPROPANE AT 25 PPM. ECOTOXOCOL ENVIRON SAF. 5(2): 194-201.

US EPA. 1990. RfD/RfC WORK GROUP.

NITROSODIPHENYLAMINE, P- 000156-10-5

010027 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. OC.

222

NITROTOLUENE, M- 000099-08-1

010029 CISS M, N HUYEN, H DUTERTRE, N PHU-LICH AND R TRUHAUT. 1980. TOXICOLOGICAL STUDY OF NITROTOLUENES: LONG-TERM TOXICITY. DAKAR MEDICAL. 25: 293-302.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROTOLUENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROTOLUENE, O- 000088-72-2

010028 CISS M, N HUYEN, H DUTERTRE, N PHU-LICH AND R TRUHAUT. 1980. TOXICOLOGICAL STUDY OF NITROTOLUENES: LONG-TERM TOXICITY. DAKAR MEDICAL. 25: 293-302.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROTOLUENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROTOLUENE, P- 000099-99-0

010030 CISS M, N HUYEN, H DUTERTRE, N PHU-LICH AND R TRUHAUT. 1980. TOXICOLOGICAL STUDY OF NITROTOLUENES: LONG-TERM TOXICITY. DAKAR MEDICAL. 25: 293-302.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROTOLUENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

OCTABROMODIPHENYL ETHER 032536-52-0

010032 CARLSON GP. 1980. INDUCTION OF XENOBIOTIC METABOLISM IN RATS BY BROMINATED DIPHENYL ETHERS ADMINISTERED FOR 90 DAYS. TOXICOL LETT. 6: 207-212.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIPHENYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

OCTAMETHYLPYROPHOSPHORAMIDE 000152-16-9

010031 RIDER JA, HC MOELLER, EJ PULETTI AND JI SWADER. 1969. TOXICITY OF PARATHION, SYSTOX, OCTAMETHYLPYROPHOSPHORAMINE AND METHYL PARATHION IN MAN. TOXICOL APPL PHARMACOL. 14(3): 603-611.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR OCTAMETHYLPYROPHOSPHORAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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OSMIUM TETROXIDE 020816-12-0

010954 US EPA. 1993. RfD/RfC WORK GROUP.

OZONE 010028-15-6

010171 US EPA. 1986. AIR QUALITY CRITERIA FOR OZONE AND OTHER PHOTOCHEMICAL OXIDANTS. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. RESEARCH TRIANGLE PARK, NC. EPA 600/8-84-020F. NTIS P887-142949.

PARALDEHYDE 000123-63-7

010033 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PARALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

PARATHION 000056-38-2

005598 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR PARATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

PARTICULATE MATTER

010034 US EPA. 1987. AIR QUALITY CRITERIA FOR PARTICULATE MATTER AND SULFUR OXIDES. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. RESEARCH TRIANGLE PARK, NC. EPA 600/8-82-029F.NTIS PB84-156777.

PEBULATE 001114-71-2

010036 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PEBULATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE DFFICE OF SOLID WASTE. WASHINGTON. DC.

PENDIMETHALIN 040487-42-1

010037 AMERICAN CYANAMID COMPANY. 1979. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 0058657. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENDIMETHALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE. WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

PENTABROMODIPHENYL ETHER 032534-81-9

010038 CARLSON GP. 1980. INDUCTION OF XENOBIOTIC METABOLISM IN RATS BY BROMINATED DIPHENYL ETHERS ADMINISTERED FOR 90 DAYS. TOXICOL LETT. 6: 207-212.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED OIPHENYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

224

PENTACHLOROBENZENE 000608-93-5

010039 LINDER R, T SCOTTI J GOLDSTEIN AND K MCELROY. 1980. ACUTE AND SUBCHRONIC TOXICITY OF PENTACHLOROBENZENE. J ENVIRON PATHOL TOXICOL. 4(5-6): 183-196.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PENTACHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SDLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

PENTACHLOROCYCLOPENTADIENE 025329-35-5

005302 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PENTACHLORONITROBENZENE 000082-68-8

010040 OLIN CORPORATION. 1968. MRID NO. 000114201. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PRDFILE FOR PENTACHLORONITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

PENTACHLOROPHENOL 000087-86-5

005600 SCHWETZ, BA, JF QUAST, PA KEELER ET AL. 1978. RESULTS OF TWO-YEAR TOXICITY AND REPRODUCTION STUDIES ON PENTACHLOROPHENOL IN RATS. IN: PENTACHLOROPHENOL: CHEMISTRY, PHARMACOLOGY AND ENVIRONMENTAL TOXICOLOGY. KR RAO, ED. PLENUM PRESS, NEW YORK, P301. CITED IN US EPA, 1985.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENTACHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR PENTACHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

PENTACHLOROPROPENE, 1,1,2,3,3,- 001600-37-9

010041 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

225

PENTANE, N- 000109-66-0

005603 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FDR N-PENTANE. ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPDNSE, WASHINGTDN, DC.

PHENANTHRENE 000085-01-8

005604 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENANTHRENE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTDN, DC.

US EPA. 1994. RfD/RfC WORK GROUP.

PHENOL 000108-95-2

005824 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. TERATOLOGIC EVALUATION OF PHENOL IN CD RATS. REPORT PREPARED BY THE RESEARCH TRIANGLE INSTITUTE, RESEARCH TRIANGLE PARK, NC. NTIS PB83-247726. GOVT REP ANNOUNCE INDEX. 83(25): 6247.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR PHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010913 US EPA. 1990. RfD/RfC WORK GROUP.

PHENYLENEDIAMINE, M- 000108-45-2

010044 HOFER H AND R HRUBY. 1982. NINETY-DAY TOXICITY STUDY WITH M-PHENYLENEDIAMINE ON RATS. OESTERR FORSCHUNGS ZENT SEIBERSDORF (BER.) OEFZS BER. NO. 4155. P 50.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENYLENEDIAMINES (0-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

PHENYLENEDIAMINE, O- 000095-54-5

010042 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENYLENEDIAMINES (0-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHENYLENEDIAMINE, P- 000106-50-3

010043 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENYLENEDIAMINES (0-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FDR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

226

PHENYLMERCURIC ACETATE 000062-38-4

010277 FITZHUGH OG, AA NELSON, EP LAUG AND IM KUNZE. 1950. CHRONIC ORAL TOXICITIES OF MERCURIC PHENYL AND MERCURIC SALTS. ARCH IND HYG OCCUP MED. 2: 433-442.

US EPA. 1986. RfD/RfC WDRK GRDUP..

PHORATE 000298-02-2

010403 TUSING TW. 1956. 13-WEEK SUBACUTE THIMET FEEDING STUDY IN MALE AND FEMALE RATS. UNPUBLISHED REPORT OF THE AMERICAN CYANAMID CO. INITIAL SCIENTIFIC AND MINI-ECONOMIC REVIEW OF PHORATE (THIMET). OFFICE OF PESTICIDE PROGRAMS, US EPA, WASHINGTON, DC.

US EPA. 1985. SUMMARY OF ACCEPTABLE DAILY INTAKES (ADIS) FOR ORAL EXPOSURE. PREPARED BY ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. INTERNAL REVIEW DRAFT, MAY, 1985. ECAO-CIN-432.

NAS (NATIDNAL ACADEMY OF SCIENCES). 1977. DRINKING WATER AND HEALTH. SAFE DRINKING WATER COMMITTEE, NATIONAL RESEARCH COUNCIL. NAS, WASHINGTON, DC. P 613-620.

PHOSGENE 000075-44-5

010045 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHOSGENE. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

PHOSPHINE 007803-51-2

010174 HACKENBERG, J. 1972. CHRONIC INGESTION BY RATS OF STANDARD DIET TREATED WITH ALUMINUM PHOSPHIDE. TOXICOL APPL PHARMACOL. 23: 147-158.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PHOSPHINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010976 BARBDSA A, E ROSINOVA, J DEMPSEY AND AM BONIN. 1994. DETERMINATION OF GENOTOXIC AND OTHER EFFECTS IN MICE FOLLOWING SHORT-TERM, REPEATED DOSE, AND SUBCHRONIC INHALATION EXPOSURE TO PHOSPHINE. ENVIRON MOLEC MUTAGENESIS 24: 81-88.

US EPA. 1995. RfD/RfC WORK GROUP.

227

PHOSPHORUS, WHITE 007723-14-0

010452 CONDRAY JR. 1985. ELEMENTAL YELLOW PHOSPHORUS ONE-GENERATION REPRODUCTION STUDY IN RATS. IR-82-215 MRID NO. 401-189. MONSANTO CO. ST. LOUIS, MO. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1990. RfD/RfC WORK GROUP.

PHOTOCHEMICAL OXIDANTS

010172 US EPA. 1986. AIR QUALITY CRITERIA FOR OZONE AND OTHER PHOTOCHEMICAL OXIDANTS. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84-020F. NTIS PB87-142949.

PHTHALIC ACID, M- 000121-91-5

010047 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACIDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHTHALIC ACID, O- 000088-99-3

010046 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACIDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHTHALIC ACID, P- 000100-21-0

010048 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TECHNOLOGY). 1982. A NINETY-DAY STUDY OF TEREPHTHALIC ACID-INDUCED UROLITHIASIS AND REPRODUCTIVE PERFORMANCE IN WISTAR AND CD RATS. CIIT, RESEARCH TRIANGLE PARK, NC

GROSS, J. 1974. THE EFFECTS OF PROLONGED FEEDING OF TEREPHTHALIC ACID (TPA) TO RATS. PROJECT FG-IS-175. AGRICULTURAL RESEARCH SERVICE, US DEPARTMENT OF AGRICULTURE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACIDS (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

228

PHTHALIC ANHYDRIDE **000085-44-9**

010049 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF PHTHALIC ANHYDRIDE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO. 159. NTIS PB293594.

US EPA. 1988. RfD/RfC WORK GROUP.

010847 NIELSEN. J. H WELINDER. A SCHUTZ AND S SKERFVING. 1988.SPECIFIC SERUM ANTIBODIES AGAINST PHTHALIC ANHYDRIDE IN OCCUPATIONALLY EXPOSED SUBJECTS. J ALLERGY CLIN IMMUNOL. 82: 126-33.

US EPA. 1992. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PHTHALIC ANHYDRIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

POLYBROMINATED BIPHENYLS

010050 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF PDLYBROMINATED BIPHENYL MIXTURE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). FIREMASTER FF-1. CASE NO 67774-32-7. NTP. RESEARCH TRIANGLE PARK. NC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR POLYBROMINATED BIPHENYLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

POTASSIUM CYANIDE **000151-50-8**

010278 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS DF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FODD CHEM. 3: 325-329.

PHILBRICK DJ. JB HOPKINS. DC HILL. JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIDCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

POTASSIUM SILVER CYANIDE **000506-61-6**

010279 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ. JB HOPKINS. DC HILL. JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

PROFLURALIN **026399-36-0**

010051 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

229

PRONAMIDE 023950-58-5

010280 ROHM & HAAS. CO. 1970. ACC NOS 000967. 004417.

US EPA. 1986. RfD/RfC WORK GROUP.

PROPACHLOR 001918-16-7

010175 MONSANTO COMPANY. 1964. CONFIDENTIAL BUSINESS INFORMATION UNPUBLISHED STUDY. MRID NO 0093270. AVAILABLE FROM EPA. WRITE TO FDI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

PROPAZINE 000139-40-2

010052 GEIGY COMPANY. 1980. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 243353.

US EPA. 1987. RfD/RfC WORK GROUP.

PROPIONITRILE 000107-12-0

010053 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPIONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

PROPYL ALCOHOL, N- 000071-23-8

005627 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N-PROPYL ALCOHOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

230

PROPYLENE GLYCOL 000057-55-6

005631 GAUNT, IF, RMB CARPANINI, P GRASSO AND ABG LANSDOWN. 1972. LONG-TERM TOXICITY OF PROPYLENE GLYCOL IN RATS. FDOO COSMET TOXICOL 10: 151-162.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PROPYLENE GLYCOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005629 GUERRANT, NB, GP WHITLOCK, ML WOLFF AND RA DUTCHER. 1947.RESPONSE OF RATS TO DIETS CONTAINING VARYING AMOUNTS OF GLYCEROL AND PRDPYLENE GLYCOL. BULL NATL FORMULARY COMM. 15: 204-229. CITED IN INFORMATICS, INC. 1973.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PROPYLENE GLYCOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010914 US EPA. 1991. RfD/RfC WORK GROUP.

PROPYLENE GLYCOL MONOETHYL ETHER 001569-02-4

005488 SMYTH, HF, JR AND CP CARPENTER. 1948. FURTHER EXPERIENCE WITH THE RANGE FINDING TEST IN THE INDUSTRIAL TOXICOLOGY LABORATORY. J IND HYG TOXICOL. 30: 63-68.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010915 US EPA. 1991. RfD/RfC WORK GROUP.

PROPYLENE GLYCOL MONOMETHYL ETHER 000107-98-2

005486 ROWE, VK. DD MCCOLLISTER. HC SPENCER ET AL. 1954. TOXICOLOGY OF MONO-, OI-, AND TRI-PROPYLENE GLYCOL METHYL ETHERS.ARCH INO HYG OCCUP MEO. 9: 509-525.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. OC. EPA 540/1-86-052.

US EPA. 1991. RfO/RfC WORK GROUP.

010276 LANORY TO. TS GUNSHOW ANO BL YANO. 1983. PROPYLENE GLYCOL MONOMETHYL ETHER: A 13-WEEK INHALATION STUOY IN RATS ANO RABBITS. FUNO APPL TOXICOL. 3: 627-630.

MILLER RR. EA HERMAN. JT YOUNG ET AL. 1984. ETHYLENE GLYCOL MONOMETHYL ETHER: METABOLISM. OISPOSITION. ANO SUBCHRONIC INHALATION TOXICITY STUOIES. ENVIRON HEALTH PERSPECT. 57: 233-239.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH..FOR THE OFFICE OF EMERGENCY ANO REMEOIAL RESPONSE. WASHINGTON. OC. EPA 540/I-86-052.

PROPYLENE OXIDE 000075-56-9

010375 KUPER CF. PGJ REUZEL. VJ FERON. ET AL. 1988. CHRONIC INHALATION TOXICITY ANO CARCINOGENICITY OF PROPYLENE OXIOE IN WISTAR RATS. FOOO CHEM TOXICOL. 26(2): I59-167.

US EPA. 1985. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR PROPYLENE OXIDE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. I990. RfO/RfC WORK GROUP.

PYRENE 000129-00-0

010176 US EPA. 1989. MOUSE ORAL SUBCHRONIC TOXICITY STUDY OF PYRENE. STUDY CONDUCTED BY TOXICITY RESEARCH LABORATORIES. MUSKEGON. 3MI FOR THE OFFICE OF SOLIO WASTE. WASHINGTON. OC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR PYRENE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY ANO REMEOIAL RESPONSE. WASHINGTON. OC.

US EPA. I991. ORINKING WATER CRITERIA OOCUMENT FOR PYRENE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. OC.

US EPA. 1989. RfO/RfC WORK GROUP.

010968 US EPA. I994. RfO/RfC WORK GROUP.

232

PYRIDINE 000110-86-1

010055 US EPA. 1986. PYRIDINE. 90-DAY SUBCHRONIC ORAL TOXICITY IN RATS. SPONSORED BY OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PYRIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1987. RfD/RfC WORK GROUP.

RDX / (CYCLONITE) 000121-82-4

010056 LEVINE BS. EM FUREDI. VS RAE. DE GORDON AND DM LISH. 1984. DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL EFFECTS OF RDX: TWENTY-FOUR MONTH CHRONIC TOXICITY/CARCINOGENICITY STUDY OF HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE (RDX) IN THE FISCHER 344 RAT. NTIS AD-A160774. VOL 1. 347 P.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR RDX (CYCLONITE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

RONNEL 000299-84-3

010057 MCCOLLISTER DD. F OYEN AND VK ROWE. 1959. TOXICOLOGICAL STUDIES OF 0,0-DIMETHYL-0-(2,4,5-TRICHLOROPHENYL)PHOSPHOTHIOATE (RONNEL) IN LABORATORY ANIMALS. J AGRIC FOOD CHEM. 7: 689.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR RONNEL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

SELENIOUS ACID 007783-00-8

010504 YANG G. S YIN. L ZHOU. ET AL. 1989. STUDIES OF SAFE MAXIMAL DAILY DIETARY SE-INTAKE IN A SELENIFEROUS AREA IN CHINA. II. RELATION BETWEEN SE-INTAKE AND THE MANIFESTATION OF CLINICAL SIGNS AND CERTAIN BIOCHEMICAL ALTERATIONS IN BLOOD AND URINE. J TRACE ELEM. ELECTROLYTES HEALTH DIS. 3: 123-130.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELENIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1991. RfD/RfC WORK GROUP.

SELENIUM 007782-49-2

010404 YANG G, S YIN, L ZHOU, ET AL. 1989. STUDIES OF SAFE MAXIMAL DAILY DIETARY SE-INTAKE IN A SELENIFEROUS AREA IN CHINA. II. RELATION BETWEEN SE-INTAKE AND THE MANIFESTATION OF CLINICAL SIGNS AND CERTAIN BIOCHEMICAL ALTERATIONS IN BLOOD AND URINE. J TRACE ELEM ELECTROLYTES HEALTH DIS. 3: 123-130.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELENIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

SELENOUREA 000630-10-4

010473 YANG C, S WANG, R ZHDU, AND S SUN. 1983. ENDEMIC SELENIUM INTOXICATION OF HUMANS IN CHINA. AM J CLIN NUTR. 37: 872-888.

SILVER 007440-22-4

010453 GAUL LE AND AN STAUD. 1935. CLINICAL SPECTROSCOPY. SEVENTY CASES OF GENERALIZED ARGYRIA FOLLOWING ORGANIC AND COLLOIDAL SILVER MEDICATION. J AM MED ASSOC. 104: 1387-1390.

BLUMBERG H AND TN CAREY. 1934. ARGYREMIA: DETECTION OF UNSUSPECTED AND OBSCURE ARGYRIA BY THE SPECTROGRAPHIC DEMONSTRATION OF HIGH BLOOD SILVER. J AM MED ASSOC. 103: 1521-1524.

EAST BW, K BODDY, ED WILLIAMS, D MACINTYRE AND ALC MCLAY.1980. SILVER RETENTION, TOTAL BODY SILVER AND TISSUE SILVER CONCENTRATIONS IN ARGYRIA ASSOCIATED WITH EXPOSURE TO AN ANTI-SMOKING REMEDY CONTAINING SILVER ACETATE. CLIN EXP DERMATOL. 5: 305-311.

SILVER CYANIOE 000506-64-9

010283 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR SODIUM CYANIDE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

SIMAZINE 000122-34-9

010955 CIBA-GEIGY CORP. 1988. MRID NO 40614405. HED DOCUMENT NO 007240, 007449. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1991. RfD/RfC WORK GROUP.

234

SODIUM CYANIDE **000143-33-9**

005640 HOWARD, JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATEO WITH HYDROGEN CYANIDE. J AGRIC FOOD CHEM. 3: 325-329.CITED IN US EPA, 1985.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR SODIUM CYANIDE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. INTEGRATED RISK INFORMATION SYSTEM (IRIS): REFERENCE DOSE (RFD) FOR ORAL EXPOSURE FOR SDDIUM CYANIDE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1985. RfD/RfC WORK GROUP.

SODIUM DIETHYLDITHIOCARBAMATE **000148-18-5**

005644 SUNDERMAN, FW, OE PAYNTER AND RB GEORGE. 1967. THE EFFECTS OF THE PROTRACTED ADMINISTRATION OF THE CHELATING AGENT, SODIUM DIETHYLDITHIOCARBAMATE (DITHIDCARB). AM J MED SCI. 254: 46-56.

US EPA. 1988. HEALTH AND ENVIRDNMENTAL EFFECTS DOCUMENT FOR SODIUM DIETHYLDITHIOCARBAMATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

SODIUM METAVANADATE **013718-26-8**

005735 DOMINGO, JL, JL LLOBET, JM TOMAS AND J CORBELLA. 1985. SHORT-TERM TOXICITY STUDIES OF VANADIUM IN RATS. J APPL TOXICOL. 5(6): 418-421.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

STRONTIUM, STABLE **007440-24-6**

010842 STOREY E. 1961. STRONTIUM 'RICKETS' BONE CALCIUM AND STRONTIUM CHANGES. AUSTRAL ANN MEO. 10: 2132-222.

SKORYNA SC. 1981. EFFECTS OF ORAL SUPPLEMENTATION WITH STABLE STRONTIUM. CAN MED ASSOC J. 125: 703-712.

MARIE PJ, MT GARBA, M HOTT AND L MIRAVET. 1985. EFFECT OF LDW DOSES OF STABLE STRONTIUM ON BONE METABOLISM IN RATS. MINER ELECTROLYTE METAB. 11: 5-13.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR STABLE STRONTIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

235

STRYCHNINE 000057-24-9

010285 SEIDL I AND G ZBINDEN. 1982. SUBCHRONIC ORAL TOXICITY OF STRYCHNINE IN RATS. ARCH TOXICOL. 51(3): 267-271.

US EPA. 1985. RfD/RfC WORK GROUP.

STYRENE 000100-42-5

010059 QUAST JF, CG HUMISTON, RT KALNINS, ET AL. 1979. RESULTS OF A TOXICITY STUDY OF MONOMERIC STYRENE ADMINISTERED TO BEAGLE DOGS BY ORAL INTUBATION FOR 19 MONTHS. TOXICOLOGY RESEARCH LABORATORY, HEALTH AND ENVIRONMENTAL SCIENCES, DOW CHEMICAL CO., MIDLAND, MI. FINAL REPORT.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR STYRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010511 MUTTI A, A MAZZUCCHI, P RUSTICHELLI, G FRIZERI, G ARFINI, I FRANCHINI. 1984. EXPOSURE EFFECT AND EXPOSURE RESPONSE. THE RELATIONSHIP BETWEEN OCCUPATIONAL EXPOSURE TO STYRENE AND NEUROPSYCHOLOGICAL FUNCTION. AMER J IND MED. 5: 275-286.

US EPA. 1992. RfD/RfC WORK GROUP.

SUCCINONITRILE 000110-61-2

005585 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

SULFUR DIOXIDE 007446-09-5

010505 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

SULFUR OXIDES

010035 US EPA. 1987. AIR QUALITY CRITERIA FOR PARTICULATE MATTER AND SULFUR OXIDES. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-82-029F.NTIS PB84-156777.

SULFURIC ACID 007664-93-9

005647 CARSON, BL, BL HERNDON, HV ELLIS III, ET AL. 1981. SULFURIC ACID HEALTH EFFECTS. PREPARED UNDER CONTRACT 68-03-2928 BY MIDWEST RESEARCH INSTITUTE, KANSAS CITY, MO. PREPARED FOR EMISSION CONTROL TECHNOLOGY DIVISION, OFFICE OF MOBILE SOURCE AIR POLLUTION CONTROL. US EPA, ANN ARBOR, MI. EPA 460/3-81-025. NTIS PB82-113135.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR SULFURIC ACID. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

236

TEMEPHOS 003383-96-8

010060 GAINES TB, RD KIMBROUGH AND ER LAW, JR. 1967. TOXICOLOGY OF ABATE IN LABORATORY ANIMALS. ARCH ENVIRON HEALTH. 14: 283-288.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TEMEPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TERBUFOS 013071-79-9

010408 MORGAREIDGE K, S SISTNER, M DANIELS ET AL. 1973. FINAL REPORT: SIX-MONTH FEEDING STUDY IN OOGS ON AC-92,100. LABORATORY NO. 1193. FEBRUARY 14. UNPUBLISHED STUDY. FOOD AND DRUG LABORATORIES, INC. MRID NO. 41139. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. HEALTH ASSESSMENT DOCUMENT FOR TERBUFOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TEREPHTHALIC ACID 000100-21-0

010474 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TEREPHTHALIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, OC.

TETRACHLOROAZOXYBENZENE 021232-47-3

010064 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TCAB, TCAOB AND TCHB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TETRACHLOROBENZENE, 1,2,4,5- 000095-94-3

010286 CHU I, DC VILLENEUVE, VE VALLI AND VE SECOURS. 1984. TOXICITY OF 1,2,3,4-, 1,2,3,5- AND 1,2,4,5-TETRACHLOROBENZENE IN THE RAT: RESULTS OF A 90-DAY FEEDING STUDY. DRUG CHEM TOXICOL. 7: 113-127.

US EPA. 1985. RfD/RfC WORK GROUP.

TETRACHLOROCYCLOPENTADIENE 000695-77-2

005303 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

237

TETRACHLOROETHANE, 1,1,1,2- **000630-20-6**

010407 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF 1,1,1,2-TETRACHLOROETHANE IN F344/N RATS AND 86C3F1MICE. NTP. WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR TETRACHLOROETHANE, 1,1,1,2-. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

TETRACHLOROETHYLENE **000127-18-4**

005650 BUBEN, JA AND EJ O'FLAHERTY. 1985. DELINEATION OF THE ROLE OF METABOLISM IN THE HEPATOXICITY OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE: A DOSE-EFFECT STUDY. TOXICOL APPL PHARMACOL. 78: 105-122.

US EPA. 1987. RfD/RfC WORK GROUP.

TETRACHLOROHYDRAZOBENZENE **071753-42-9**

010065 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TCAB, TCAOB AND TCHB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TETRACHLOROPHENOL, 2,3,4,5- **004901-51-3**

005324 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

TETRACHLOROPHENOL, 2,3,4,6- **000058-90-2**

005323 US EPA. 1986. 2,3,4,6-TETRACHLOROPHENOL. 90-DAY SUBCHRONIC ORAL TOXICITY STUDY IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

TETRACHLOROPHENOL, 2,3,5,6- **000935-95-5**

005325 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1987. RfD/RfC WORK GROUP.

TETRACHLOROPROPENE, 1,1,2,3- **010436-39-2**

010066 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

238

TETRACHLOROVINPHOS / (STIROPHOS) 000961-11-5

010067 SHELL CHEMICAL COMPANY. 1968. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 115684.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR STIROFOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

TETRAETHYL DITHIOPYROPHOSPHATE 003689-24-5

010287 KIMMERLE G AND OR KLIMMER. 1974. ACUTE AND SUBCHRONIC TOXICITY OF SULFOTEP. ARCH TOXICOL. 33(1): 1-16.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIC OXIDE 001314-32-5

010956 US EPA. 1993. RfD/RfC WORK GROUP.

THALLIUM (I) ACETATE 000563-68-8

005664 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS..FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (I) CARBONATE 006533-73-9

005668 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. DH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

239

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

THALLIUM (I) CHLORIDE 007791-12-0

005672 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (I) NITRATE 010102-45-1

005676 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (I) SULFATE 007446-18-6

005682 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (IN SOLUBLE SALTS)

010458 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

THALLIUM SELENITE 012039-52-0

010957 US EPA. 1993. RfD/RfC WORK GROUP.

240

THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(021564-17-0

010068 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TCMTB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

THIOFANOX 013196-18-4

010069 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THIOFANOX. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

THIRAM 000137-26-8

010459 E.I. DU PONT DE NEMOURS AND COMPANY, INC. 1954. MRID NO. 0045162. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. RfD/RfC WORK GROUP.

010070 HORNSHAW TC, RJ AULERICH AND RK RINGER. 1987. TOXICITY OF THIRAM (TETRAMETHYLTHINORAM DISULFIDE) TO MINK AND EUROPEAN FERRETS. BULL ENVIRON CONTAM TOXICOL. 38(4): 618-626.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THIRAM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TIN AND COMPOUNDS

005688 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF STANNOUS CHLORIDE (CAS NO 7772-99-8) IN F344/N RATS AND B6C3FI/N MICE (FEED STUDY). NCI/NTP TECH REP SER NO 231. ALSO PUBL AS DHHS (NIH) PUBL ISS NIH 82-1787 AND NTIS PB 82-242-553.

US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CAS NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TIN. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOLUENE 000108-88-3

010469 NTP (NATIONAL TOXICOLOGY PROGRAM). 1989. TOXICOLOGY AND CARCINOGENESIS STUDIES OF TOLUENE IN F344 RATS AND B6C3F1 MICE. TECHNICAL REPORT SERIES NO 371.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR TOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

010844 FOO S, J JEYARATHAM AND D KOH. 1990. CHRONIC NEUROBEHAVIORAL EFFECTS OF TOLUENE. BR J IND MED. 47(7): 480-484.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. TOXICOLOGY AND CARCINOGENESIS STUDIES OF TOLUENE IN F344/N RATS AND B6C3F1 MICE (INHALATIDN STUDIES). NTP TR 371. 253 P.

US EPA. 1991. RfD/RfC WORK GROUP.

TOLUENE-2,5-DIAMINE 000095-70-5

010073 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TOLUENE-2,5-DIAMINE SULFATE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 126.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TOLUENE-2,6-DIAMINE 000823-40-5

010074 NCI (NATIONAL CANCER INSTITUTE). 1980. BIOASSAY OF 2,6-TOLUENEDIAMINE DIHYDROCHLORIDE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 200.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TOLUENEDIAMINE, 2,3- 002687-25-4

010071 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TOLUENEDIAMINE, 3,4- 000496-72-0

010072 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

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TOLUIDINE, M- 000108-44-1

010075 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TOLUIDINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TRIALLATE 002303-17-5

010076 MONSANTO COMPANY. 1979. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NO 242057.

US EPA. 1986. RfD/RfC WORK GROUP.

TRIBROMOBENZENE, 1,2,4- 000615-54-3

010077 CARLSON GP AND RG TARDIFF. 1977. EFFECT OF 1,4-DIBROMODIBENZENE AND 1,2,4-TRIBROMOBENZENE ON XENOBIOTIC METABOLISM. TOXICOL APPL PHARMACOL. 42: 189-196.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WDRK GROUP.

TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2- 000076-13-1

010460 INBUS HR AND C ATKINS. 1972. PHYSICAL EXAMINATION OF WORKERS EXPOSED TO TRICHLOROTRIFLUOROETHANE. ARCH ENVIRON HEALTH. 24(4): 257-261

010376 TRACHIMOWICZ HJ, GM RUSCH, T CHIU, ET AL. 1988. CHRONIC INHALATION TOXICITY/CARCINOGENICITY STUDY IN RATS EXPOSED TO FLUOROCARBON 113 (FC-113). FUND APPL TOXICOL. 11(1): 68-75.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'- 003380-34-5

005492 LYMAN, FL AND T FURIA. 1969. TDXICOLOGY OF 2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER. IND MED. 38: 45-52.

US EPA. 1987. HEALTH EFFECTS AND ENVIRONMENTAL DOCUMENT FOR HALOETHERS. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

243

TRICHLOROBENZENE, 1,2,4- **000120-82-1**

010506 ROBINSON, KS, RJ KAVLOCK, N CHERNOFF AND E GRAY. 1981. MULTIGENERATION STUDY OF TRICHLOROBENZENE IN RATS. J. TOXICOL. ENVIRON. HEALTH. 8: 489-500.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR 1,2,4-TRICHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

010958 KOCIBA RJ, BKL LEONG, RE HEFNER, JR. 1981. SUBCHRONIC TOXICITY STUDY OF 1,2,4-TRICHLOROBENZENE IN THE RAT, RABBIT AND BEAGLE DOG. DRUG AND CHEMICAL TOXICOLOGY. 4(3): 229-249.

COATE WB, TR LEWIS, WM BUSEY. 1977. CHRONIC INHALATION EXPOSURE OF RATS, RABBITS AND MONKEYS TO 1,2,4-TRICHLOROBENZENE. ARCHIVES OF ENVIRONMENTAL HEALTH. 32(6): 249-255.

COTE M, I CHU, DC VELLENEUVE, VE SECOURS, VE VALLI. 1988. TRICHLOROBENZENES: RESULTS OF A THIRTEEN WEEK FEEDING STUDY IN THE RAT. DRUG AND CHEMICAL TOXICOLOGY. 11(1): 11-28.

US EPA. 1993. RfD/RfC WORK GROUP.

TRICHLOROCYCLOPENTADIENE **077323-84-3**

005304 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROETHANE, 1,1,2- **000079-00-5**

005702 WHITE, KL JR, VM SANDERS, VW BARNES, GM SHOPP AND AE MUNSON. 1985. TOXICOLOGY OF 1,1,2 TRICHLOROETHANE IN THE MOUSE. DRUG CHEM TOXICOL. 8(5): 333-355.

SANDERS, VM, KL WHITE JR, GM SHOPP JR AND AE MUNSON. 1985. HUMORAL AND CELL MEDIATED IMMUNE STATUS OF MICE EXPOSED TO 1,1,2 TRICHLOROETHANE. DRUG CHEM TOXICOL. 8(5): 357-372.

US EPA. 1990. RfD/RfC WORK GROUP.

TRICHLOROFLUOROMETHANE 000075-69-4

005502 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TRICHLOROFLUOROMETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 106. ALSO PUBL AS DHEW (NIH) 78-1356.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

005500 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TRICHLOROFLUOROMETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 106. ALSO PUBL AS DHEW (NIH) 78-1356.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,3,4- 015950-66-0

005330 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,3,5- 000933-78-8

005331 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,3,6- 000933-75-5

005332 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

245

TRICHLOROPHENOL, 2,4,5- **000095-95-4**

005329 MCCOLLISTER, OO, OT LOCKWOOO ANO VK ROWE. 1961. TOXICOLOGIC INFORMATION ON 2,4,5-TRICHLOROPHENOL. TOXICOL APPL PHARMACOL. 3: 63-70.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 2,4,5-TRICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY ANO REMEOIAL RESPONSE, WASHINGTON, OC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATEO PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, OC.

US EPA. 1985. RfO/RfC WORK GROUP.

010919 US EPA. 1991. RfO/RfC WORK GROUP.

TRICHLOROPHENOL, 2,4,6- **000088-06-2**

010461 US EPA. 1987. HEALTH ANO ENVIRONMENTAL EFFECTS OOCUMENT FOR CHLORINATEO PHENOLS. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

US EPA. I99I. RfO/RfC WORK GROUP.

TRICHLOROPHENOL, 3,4,5- **000609-19-8**

005333 US EPA. 1987. HEALTH ANO ENVIRONMENTAL EFFECTS OOCUMENT FOR CHLORINATEO PHENOLS. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5- **000093-72-1**

010284 GEHRING PJ ANO JE BETSO. 1978. PHENOXY ACIDS: EFFECTS AND FATE IN MAMMALS. IN: CHLORINATEO PHENOXY ACIOS AND THEIR OIOXINS,VOL 27. C RAMEL EO. ECOL BULL, STOCKHOLM. P. I22-133.

MULLISON WR. 1966. SOME TOXICOLOGICAL ASPECTS OF SILVEX. IN: PROC 19TH ANN MEET SOUTHERN WEEO CONFERENCE, JACKSONVILLE, FL. P. 420-435.

US EPA. 1988. RfD/RfC WORK GROUP.

246

TRICHLOROPHENOXYACETIC ACID, 2,4,5- **000093-76-5**

010178 KOCIBA, RS, DG KEYES, RW LISOWE, ET AL. 1979. RESULTS OF 2-YEAR CHRONIC TOXICITY AND ONCOGENICITY STUDY OF RATS INGESTING DIETS CONTAINING 2,4,5-T. FOOD COSMET TOXICOL. 17: 205 -222.

SMITH FA, FJ MURRAY, JA JOHN, ET AL. 1981. THREE-GENERATION REPRODUCTION STUDY OF RATS INGESTING 2,4,5-TRICHLOROPHENOXYACETIC ACID IN THE DIET. TOXICO RES LAB., DOW CHEMICAL, MIDLAND, MI.

US EPA. 1989. HEALTH EFFECTS ASSESSMENT FOR 2,4,5-TRICHLOROPHENOXY ACETIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

010179 GEHRING, PJ. AND JE BETSO. 1978. PHENOXY ACIDS: EFFECTS AND FATE IN MAMMALS. ECO BULL. 27: 122-123.

US EPA. 1989. HEALTH EFFECTS ASSESSMENT FOR 2,4,5-TRICHLOROPHENOXY ACETIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TRICHLOROPROPANE, 1,1,1- **007789-89-1**

005705 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS OOCUMENT FOR TRICHLOROPROPANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPROPANE, 1,1,2- **000598-77-6**

005708 VILLANEUVE, DC, I CHU, VE SECOURS, MG COTIE, GL PLAA AND VE VALLI. 1985. RESULTS OF A 90-DAY TOXICITY STUDY ON 1,2,3- AND 1,1,2-TRICHLOROPRDPANE ADMINISTERED VIA THE DRINKING WATER. SCI TOTAL ENVIRDN. 47: 421-426.

US EPA. 1987. RfD/RfC WORK GROUP.

TRICHLOROPROPANE, 1,2,2- **003175-23-3**

005706 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROPROPANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SDLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

247

TRICHLOROPROPANE, 1,2,3- **000096-18-4**

005714 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. FINAL REPORT 120-DAY TOXICITY GAVAGE STUDY OF 1.2.3-TRICHLOROPROPANE IN FISCHER 344 RATS. PERFORMED BY HAZELTON LABORATORIES.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROPROPANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

TRICHLOROPROPENE, 1,2,3- **000096-19-5**

010078 MCKENNA MJ. JF QUAST AND GA STEVENS. 1978. RESULTS OF A90-DAY INHALATION TOXICITY STUDY OF 1.2.3-TRICHLOROPRDPENE IN LABORATORY ANIMALS. TOXICOL APPL PHARMACOL. 45: 249.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

TRICHLOROTOLUENE, 2,3,6- **002077-46-5**

005335 CHU I. SY SHEN. DC VILLENEUVE. VE SECOURS AND VE VALLI. 1984. TOXICITY OF TRICHLOROTOLUENE ISOMERS: A 28-DAY FEEDING STUDY IN THE RAT. J ENVIRON SCI HEALTH PART B PESTIC FOOD CONTAM AGRIC WASTES. 19(2): 183-192.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED TOLUENES. ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

TRICHLOROTOLUENE, ALPHA,2,6- **002014-83-7**

005339 CHU I. SY SHEN. DC VILLENEUVE. VE SECOURS AND VE VALLI. 1984. TOXICITY OF TRICHLOROTOLUENE ISOMERS: A 28-DAY FEEDING STUDY IN THE RAT. J ENVIRON SCI HEALTH PART B PESTIC FOOD CONTAM AGRIC WASTES. 19(2): 183-192.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED TOLUENES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

248

TRIFLURALIN 001582-09-8

010080 HOECHST AKTIENGESELLSCHAFT. 1984. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00151908. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRIFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR TRIFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

TRIMETHYLBENZENES

005727 US EPA. 1987. HEALTH AND ENVIRONMENTAL ASSESSMENT FOR TRIMETHYLBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TRINITROBENZENE, 1,3,5- 000099-35-4

010081 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHUSTION. 1981. 1,3-DINITROBENZENE: TOXIC EFFECTS IN VITRO. J TOXICOL ENVIRON HEALTH. 7: 829-847.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3,5-TRINITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

TRINITROPHENOLS

010082 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRINITROPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TRINITROPHENYLMETHYLNITRAMINE 000479-45-8

010377 FATI S, E DANIELE. 1965. HISTOPATHOLOGICAL CHANGES IN EXPERIMENTAL CHRONIC TETRYL POISONING. FOLIA MED. 48(4): 260-276.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRINITROPHENYLMETHYLNITRAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

249

TRINITROTOLUENE, 2,4,6- **000118-96-7**

010416 US DOD (DEPARTMENT OF DEFENSE). 1983. AD-A157-002. DEFENSE TECHNICAL CENTER, CAMERON STATION, ALEXANDRIA, VA.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2,4,6-TRINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1988. RfD/RfC WORK GROUP.

VANADIUM **007440-62-2**

005739 SCHROEDER, HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

VANADIUM PENTOXIDE **001314-62-1**

005743 STOKINGER, HE, WD WAGNER, JT MOUNTAIN ET AL. 1953. UNPUBLISHED RESULTS. DIV OCCUP HEALTH, CINCINNATI, OH. CITED IN STOKINGER, 1981.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

VANADIUM SULFATE **036907-42-3**

005747 SCHROEDER, HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

VERNAM / (VERNOLATE) **001929-77-7**

010083 STAUFFER CHEMICAL COMPANY. 1983. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NOS 249703-249704.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR VERNOLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GRDUP.

250

VINYL ACETATE 000108-05-4

010417 SHAW DC. 1988. VINYL ACETATE: 104-WEEK ORAL (DRINKING WATER) COMBINED CHRONIC TOXICITY AND CARCINOGENICITY STUDY IN THE RAT FOLLOWING IN VITRO EXPOSURE. VOLUME I. HAZELETON LABORATORIES, UK. REPORT NO. 5531-5/16. EPA DOC. NO. 86-0000265. FICHE NO OTS0514156.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR VINYL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

010418 OWEN, PE. 1988. VINYL ACETATE: 104 WEEK INHALATION CDMBINED CHRONIC TOXICITY AND CARCINOGENICITY STUDY IN THE RAT AND MDUSE. REPORT PREPARED BY HAZELTON LABORATORIES EUROPE, LTD., HARROGATE, ENGLAND FDR THE SOCIETY OF THE PLASTICS INDUSTRY, INC., NEW YORK. REPORT NO. 5547-51/15. NOVEMBER, 1988.

BEEMS, RB. 1988. REPORT NO V88-133: HISTOPATHOLOGY OF THE RESPIRATORY TRACT OF MICE USEO IN A 104-WEEK INHALATION STUDY (OWEN, 1988) WITH VINYL ACETATE. (TNO-CIVO INSTITUTES, APRIL, 1988).

DREEF, VAN DER MEULEN, HC. 1988. REPORT NO. V88, 033/270836: HISTOPATHOLOGY OF THE RESPIRATORY TRACT OF RATS USED IN A 104 WEEK INHALATION STUDY (OWEN, 1988) WITH VINYL ACETATE: REVISEO VERSION (TNO-CIVO INSTITUTES, OCTOBER, 1988).

US EPA. 1990. RfD/RfC WORK GROUP.

VINYL-1-CYCLOHEXENE, 4- 000100-40-3

010084 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-VINYL-1-CYCLOHEXENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

WARFARIN 000081-81-2

010409 HUFF, BB, ED. 1985. PHYSICIANS DESK REFERENCE, 39TH ED. MEDICAL ECONOMICS CO., INC., ORADELL, NJ.

US EPA: 1986. RfD/RfC WORK GROUP.

XYLENE, M- 000108-38-3

005755 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE TOXICOLOGY ANO CARCINOGENESIS OF XYLENES (MIXED) (60.2%M-XYLENE, 13.6% P-XYLENE, 17.0% ETHYLBENZENE AND 9.1% O-XYLENE) (CAS NO. 1330-20-7) IN F344/N RATS AND B6C3FI MICE (GAVAGE STUDIES). US DHHS, PHS, NIH, NTP, RESEARCH TRIANGLE PARK, NC. NTP TR 327, NIH PUBL NO 86-2583.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR XYLENES (O-, M-, P-). ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, DH. DFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010920 US EPA. 1991. RfD/RfC WORK GROUP.

251

XYLENE, MIXTURE **001330-20-7**

010872 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS OF XYLENES (MIXED) (60.2%M-XYLENE, 13.6% P-XYLENE, 17.0% ETHYLBENZENE AND 9.1% O-XYLENE) (CAS NO. 1330-20-7) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). US DHHS, PHS, NIH, NTP, RESEARCH TRIANGLE PARK, NC, NTP TR 327, NIH PUBL NO 86-2583.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR XYLENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, OH, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD WORK GROUP.

010921 US EPA. 1991. RfD/RfC WORK GROUP.

XYLENE, O- **000095-47-6**

005751 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE TDXICOLOGY AND CARCINOGENESIS OF XYLENES (MIXED) (60.2% M-XYLENE, 13.6% P-XYLENE, 17.0% ETHYLBENZENE AND 9.1% O-XYLENE) (CAS NO. 1330-20-7) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). US DHHS, PHS, NIH, NTP, RESEARCH TRIANGLE PARK, NC, NTP TR 327, NIH PUBL NO 86-2583.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR XYLENES (O-, M-, P-). ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010922 US EPA. 1991. RfD/RfC WORK GROUP.

XYLENE, P- **000106-42-3**

010923 US EPA. 1991. RfD/RfC WORK GROUP.

ZINC (METALLIC) **007440-66-6**

010937 YADRICK, MF, MA KENNEY AND EA WINTERFELDT. 1989. IRON, COPPER AND ZINC STATUS: RESPONSE TD SUPPLEMENTATION WITH ZINC OR ZINC AND IRON IN ADULT FEMALES. AM J CLIN NUTR. 49: 145-150.

US EPA. 1991. RfD/RfC WORK GROUP.

ZINC CYANIDE **000557-21-1**

010289 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS DF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

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ZINC PHOSPHIDE 001314-84-7

010290 BAI KM, MK KRISHNAKUMARI, JP RAMESH, T SHIVANANDAPPA AND SK MAJUNDER. 1980. SHORT-TERM TOXICITY STUDY OF ZINC PHOSPHIDE IN ALBINO RATS. INDIAN J EXPTL BIOL. 18: 854-857.

US EPA. 1986. RfD/RfC WORK GROUP.

ZINEB 012122-67-7

010085 BLACKWELL-SMITH RJ JR, JK FINNEGAN, PS LARSON, ET AL. 1953. TOXICOLOGIC STUDIES ON ZINC AND DISODIUM ETHYLENE BISDITHIOCARBAMATES. J PHARMACOL EXP THER. 109: 159-166.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ZINEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACETONE CYANOHYDRIN		**000075-86-5**							
NOEL	4.0 MG/KG/DAY	RAT							
	INHALATION:	14 WEEKS	CENTRAL NERVOUS	EFFECTS	1E-1		1E-2		010432
	INTERMITTENT		SYSTEM		100		1000		

SUBCHRONIC [RfC] COMMENT: 4E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST). AN ERROR IN THE UNCERTAINTY FACTOR THAT WAS REPORTED IN HEED (1988) WAS CORRECTED.
CHRONIC [RfC] COMMENT: 4E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE I: SUBCHRONIC AND CHRONIC TOXICITY.

ACETONITRILE		**000075-05-8**							
NOAEL	100 PPM	MOUSE							
	INHALATION:	92 DAYS	LIVER	INCREASED RELATIVE WEIGHT	5E-1		5E-2		00520B
	INTERMITTENT				300		3000		

SUBCHRONIC [RfC] COMMENT: 1E-1 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY. (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

BARIUM		**007440-39-3**							
NOEL	0.8 MG/CU M	RAT							
	INHALATION:	4 MONTHS	FETUS	FETOTOXICITY	5E-3		5E-4		005249
	INTERMITTENT				100		1000		

SUBCHRONIC [RfC] COMMENT: 1E-3 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST). BASED ON A REPRODUCTION STUDY.
CHRONIC [RfC] COMMENT: 1E-4 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST). BASED ON A REPRODUCTION STUDY.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLORO-1,3-BUTADIENE / (CHLOROPRENE) 000126-99-8									
NOAEL 10 PPM		RAT							
	INHALATION:	2 YEARS	HAIR	ALOPECIA		2E-2		2E-2	005878
	INTERMITTENT		WHOLE BODY	DECREASED WEIGHT GAIN		100		100	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION ASSUMING AN INHALATION ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION ASSUMING AN INHALATION ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: SEE ALSO HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHLOROBENZENE 000108-90-7									
LOAEL 75 PPM		RAT							
	INHALATION:	120 DAYS	LIVER	EFFECTS			2E-2		005353
	INTERMITTENT		KIDNEY	EFFECTS			10000		

CHRONIC [RfC] COMMENT: 5E-3 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). UNDER REVIEW, CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

CYCLOPENTADIENE 000542-92-7									
NOEL 87.3 MG/KG/DAY		RAT							
	INHALATION:	194 DAYS	LIVER	LESIONS	3E+0				005401
	INTERMITTENT		KIDNEY	LESIONS	100				

SUBCHRONIC [RfC] COMMENT: 9E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC INHALATION [RfC] VALUE WAS DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP.

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROBENZENE, 1,2-		**000095-50-1**								
NOEL 49 PPM	INHALATION: INTERMITTENT	RAT	UP TO 7 MONTHS	WHOLE BODY	DECREASED WEIGHT GAIN	2E+0 100		2E-1 1000		005412

CHRONIC [RfC] COMMENT: 4E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

DICHLORODIFLUOROMETHANE		**000075-71-8**								
LOAEL 482.3 MG/KG/DAY	INHALATION: INTERMITTENT	GUINEA PIG	6 WEEKS	LIVER	LESIONS	2E+0 1000		2E-1 10000		005497

SUBCHRONIC [RfC] COMMENT: 5E-1 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 5E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODDLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

DICHLOROETHANE, 1,1-		**000075-34-3**								
NOEL 138 MG/KG/DAY	INHALATION: INTERMITTENT	CAT	13 WEEKS	KIDNEY	DAMAGE	5E+0 100		5E-1 1000		005789

SUBCHRONIC [RfC] COMMENT: 1E+0 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS DN HEAST).
CHRONIC [RfC] COMMENT: 1E-1 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE HEAST TABLE 1: CHRONIC AND SUBCHRONIC TOXICITY AND

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICYCLOPENTADIENE		**000077-73-6**							
LOAEL 1 PPM	INHALATION: INTERMITTENT	RAT 90 DAYS	KIDNEY	DYSFUNCTION	2E-3 1000		2E-4 10000		005424

SUBCHRONIC [RfC] COMMENT: 6E-4 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 6E-5 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

ETHOXYETHANOL ACETATE, 2-		**000111-15-9**							
NOEL 30.1 MG/KG/DAY	INHALATION: INTERMITTENT	RAT DAY 6-18 OF GESTATION	FETUS	DECREASED OSSIFICATION		3E-1 100		3E-1 100	005952

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. THE SUBCHRONIC ORAL [RfD]WAS BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 6-18 OF GESTATION.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. THE CHRONIC ORAL [RfD] WAS BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 6-18 OF GESTATION.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY VALUES.

FURFURAL		**000098-01-1**							
NOAEL 20 PPM	INHALATION: INTERMITTENT	HAMSTER 13 WEEKS	NASAL CAVITY	OLFACTORY DEGENERATION	5E-1 100		5E-2 1000		005465

SUBCHRONIC [RfC] COMMENT: 1E-1 MG/KG/DAY (SEE APPENDIX A-11. DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY (SEE APPENDIX A-11. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHACRYLONITRILE		**000126-98-7**							
NOEL 3.2 PPM		DOG							
	INHALATION:	90 DAYS	LIVER	INCREASED SGOT	7E-3		7E-4		005811
	INTERMITTENT		LIVER	INCREASED SGPT	300		3000		

SUBCHRONIC [RfC] COMMENT: 2E-3 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). THESE VALUES DIFFER FROM THOSE IN THE 1987 HEED.

CHRONIC [RfC] COMMENT: 2E-4 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). THESE VALUES DIFFER FROM THOSE IN THE 1987 HEED.

GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

METHOXYETHANOL ACETATE, 2-		**000110-49-6**							
NOAEL 10 PPM		RABBIT							
	INHALATION:	13 WEEKS	TESTIS	DEGENERATION		2E-2		2E-3	010001
	INTERMITTENT					100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR DF 0.5. CALCULATED FROM DATA OBTAINED WITH METHOXYETHANOL CONVERTED BY MULTIPLYING BY THE MOLECULAR WEIGHT RATIO (118.13/76.09).

CHRONIC [RfD] COMMENT: BASED ON ROUTE TO RDUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. CALCULATED FROM DATA OBTAINED WITH METHOXYETHANOL CONVERTED BY MULTIPLYING BY THE MOLECULAR WEIGHT RATIO (118.13/76.09).

GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

METHOXYETHANOL, 2-		**000109-86-4**							
NOAEL 31 MG/CU M		RABBIT							
	INHALATION:	13 WEEKS	TESTICLE	EFFECTS		1E-2		1E-3	010910
	INTERMITTENT					100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TD ROUTE EXTRAPOLATION.

CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.

GENERAL CDMMENT: ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL ACRYLATE		**000096-33-3**								
NOEL 15 PPM		RAT								
	INHALATION:		2 YEARS		NONE OBSERVED		3E-2		3E-2	010003
	INTERMITTENT						100		100	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

METHYL ISOBUTYL KETONE		**000108-10-1**								
NOEL 50 PPM		RAT								
	INHALATION:		90 DAYS	LIVER	INCREASED WEIGHT	8E-1		8E-2		005562
	INTERMITTENT			KIDNEY	EFFECTS	100		1000		

SUBCHRONIC [RfC] COMMENT: 2E-1 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSION ON HEAST).
CHRONIC [RfC] COMMENT: 2E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSION ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODDLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL STYRENE (MIXED ISOMERS) 025013-15-4									
LOAEL 5.6 MG/KG/DAY	INHALATION:	MOUSE 103 WEEKS	NASAL CAVITY	LESIONS		6E-3		6E-3	005567
	INTERMITTENT					1000		1000	
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION WITH AN ABSORPTION FACTOR OF 0.5.									
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION WITH AN ABSORPTION FACTOR OF 0.5.									
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.									
LOAEL 11.2 MG/KG/DAY	INHALATION:	MOUSE 103 WEEKS	NASAL CAVITY	LESIONS	4E-2		4E-2		005566
	INTERMITTENT				1000		1000		
SUBCHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).									
CHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).									
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP.									
METHYL STYRENE, ALPHA 000098-83-9									
NOEL 970 MG/CU M	INHALATION:	RAT 197 DAYS	LIVER	INCREASED WEIGHT		7E-1		7E-2	010016
	INTERMITTENT		KIDNEY	INCREASED WEIGHT		100		1000	
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.									
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.									
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.									

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYLENE BROMIDE			**000074-95-3**							
NOAEL 11 MG/KG/DAY		RAT								
	INHALATION:		90 DAYS	BLOOD	INCREASED CARBOXYHEMOGLOBIN		1E-1		1E-2	010011
	INTERMITTENT						100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. INCLUDING AN ABSDRPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. INCLUDING AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

NITROBENZENE			**000098-95-3**							
LOAEL 25 MG/CU M		MOUSE								
	INHALATION:		90 DAYS	BLOOD	HEMATOLOGICAL EFFECTS	2E-2		2E-3		010518
	INTERMITTENT			ADRENAL	LESIONS	1000		10000		
				KIDNEY	LESIONS					
				LIVER	LESIONS					
		RAT								
	INHALATION:		90 DAYS	BLOOD	HEMATOLOGICAL EFFECTS					
	INTERMITTENT			ADRENAL	LESIONS					
				KIDNEY	LESIONS					
				LIVER	LESIONS					

SUBCHRONIC [RfC] COMMENT: 6E-3 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 6E-4 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSD SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

TRICHLOROBENZENE, 1,2,4- **000120-82-1**

GENERAL COMMENT: INFORMATION REMOVED FROM THIS TABLE. SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROFLUOROMETHANE		**000075-69-4**							
LOAEL 1940 MG/KG/DAY		DOG							
	INHALATION:	90 DAYS	KIDNEY	INCREASED BUN	7E+0		7E-1		005501
	CONTINUOUS		LUNG	INFLAMMATION	1000		10000		

SUBCHRONIC [RfC] COMMENT: 2E+0 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 2E-1 MG/KG/DAY (SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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REFERENCES FOR HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

July 1997

ACETONE CYANOHYDRIN 000075-86-5

010432 BLANK TL AND DC THAKE. 1984. THREE-MONTH INHALATION TOXICITY OF ACETONE CYANOHYDRIN IN MALE AND FEMALE SPRAGUE-DAWLEY RATS. MONSANTO REPORT NOP. MSL-4423. TSCA 8(D) SUBMISSION 878216397 (OTS 0510325).

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ACETONITRILE 000075-05-8

005208 COATE WB. 1983. 90-DAY SUBCHRONIC TOXICITY STUDY OF ACETONITRILE IN B6C3F1 MICE. FINAL REPORT (REVISED).

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACETONITRILE.PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

BARIUM 007440-39-3

005249 TARASENKO M, O PROMIN AND A SILAYEV. 1977. BARIUM COMPOUNDS AS INDUSTRIAL POISONS (AN EXPERIMENTAL STUDY). J HYG EPIDEM MICROBIOL IMMUNOL. 21: 361.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR BARIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CHLORO-1,3-BUTADIENE / (CHLOROPRENE) 000126-99-8

005B78 DU PONT DE NEMOURS AND COMPANY, INC. 1985. 2-YEAR INHALATION CARCINOGENICITY STUDY OF CHLOROPRENE IN RATS. EI DU PONT DE NEMOURS AND CO., INC., WILMINGTON, DE.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-CHLORO-1,3-BUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBENZENE 000108-90-7

005353 DILLEY, JV. 1977. TOXIC EVALUATION OF INHALED CHLOROBENZENE. NIOSH, DHEW, CINCINNATI, OH, CONTRACT 210-76-0126. CITED IN US EPA, 1985.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CYCLOPENTADIENE 000542-92-7

005401 DOW. 1987. UNPUBLISHED DATA. DOW CHEMICAL, USA, MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROBENZENE, 1,2- **000095-50-1**

005412 HOLLINGSWORTH RL, VK ROWE, F OYEN, TR TORKELSON AND EM ADAMS. 1958. TOXICITY OF O-DICHLOROBENZENE. AM MED ASSOC ARCH IND HEALTH. 17(1): 180-187.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DICHLOROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLORODIFLUOROMETHANE **000075-71-8**

005497 PRENDERGAST JA, RA JONES, LJ JENKINS AND J SIEGAL. 1967. EFFECTS ON EXPERIMENTAL ANIMALS OF LONG-TERM INHALATION OF TRICHLOROETHYLENE, CARBON TETRACHLORIDE, 1,1,1-TRICHLOROETHANE, DICHLORODIFLUOROMETHANE AND 1,1-DICHLOROETHYLENE. TOXICOL APPL PHARMACOL. 10: 270-289.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLOROETHANE, 1,1- **000075-34-3**

005789 HOFMANN HT, H BIRNSTIEL ANO P JOBST. 1971. ON THE INHALATION TOXICITY OF 1,1- ANO 1,2-DICHLOROETHANE. ARCH TOXIKOL. 27: 248-265.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHANE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICYCLOPENTADIENE **000077-73-6**

005424 DODD DE, LC LONGO AND DL EISLER. 1982. DICYCLOPENTADIENE VAPOR NINETY-DAY INHALATION STUDY ON RATS AND MICE. BUSHY RUN RESEARCH CENTER, EXPORT, PA. TSCA 8E SUBMISSION BY EXXON CHEM AMER DOC ID 88-8300464, ODD DOC ID 8EHQ-0283-0364,MICROFICHE NO. OTS 204864.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL ACETATE, 2- **000111-15-9**

005952 UNION CARBIDE. 1984. A TERATOGENIC EVALUATION OF CELLOSOLVE ACETATE IN FISHER 344 RATS AND NEW ZEALANO WHITE RABBITS FOLLOWING INHALATION EXPOSURE. BUSHY RUN RESEARCH CENTER, EXPORT, PA, OCTOBER 1984. FYI-AX-1184-0360.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2- ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

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FURFURAL 000098-01-1

005465 FERON VJ, A KRUYSSE AND HC DREEF VANDER MEULEN. 1979. REPEATED EXPOSURE TO FURFURAL VAPOR: 13 WEEK STUDY IN SYRIAN GOLDEN HAMSTERS. ZENTRASE. BAKTEVIOL PAVASITEN KD INFECTION SKV HYG ABT 1 ORIG REIHE B. I6B(5-6): 442-451.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR FURFURAL. PREPARED BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SDLID WASTE AND EMERGENCY RESPONSE, WASHINGTON,DC.

METHACRYLONITRILE 000126-98-7

005B11 POZZANI, UC, CR KINKEAD AND JM KING. 1968. THE MAMMALIAN TOXICITY OF METHACRYLONITRILE. AM IND HYG ASSOC J. 29(3): 202-210.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHOXYETHANOL ACETATE, 2- 000110-49-6

010001 MILLER RR, LL CALHOUN AND BL YANO. 1982. ETHYLENE GLYCOL MONOMETHYL ETHER: 13-WEEK VAPOR INHALATION STUDY IN MALE RABBITS. REPORT PREPARED FOR THE CHEMICAL MANUFACTURERS ASSOCIATION, MARCH 25, 1982.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2- METHOXYETHANOL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE DF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHOXYETHANOL, 2- 000109-86-4

010910 MILLER RR, LL CALHOUN, BL YANO. 1982. ETHYLENE GLYCOL MONOETHYL ETHER: 13 WEEK VAPOR INHALATION STUDY IN MALE RABBITS. REPORT PREPARED FOR THE CMA MARCH 25, 1982.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHOXYETHANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL ACRYLATE 000096-33-3

010003 KLIMISCH HJ AND W REININGHAUS. 1984. CARCINOGENICITY OF ACRYLATES: LONG-TERM INHALATION STUDIES ON METHYL ACRYLATE (MA) AND N-BUTYL ACRYLATE (BA) IN RATS. TOXICOLOGIST. 4(1): 53.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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METHYL ISOBUTYL KETONE **000108-10-1**

005562 UNION CARBIDE CORP. 1983. NINETY-DAY INHALATION STUDY IN RATS AND MICE SPONSORED BY CMA. US EPA/OTS PUBLIC FILES 0750507469.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR METHYL ETHYL KETONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

METHYL STYRENE (MIXED ISOMERS) **025013-15-4**

005567 MRI (MIDWEST RESEARCH INSTITUTE). 1984. STUDY OF THE INHALATION CARCINOGENICITY (BIOASSAY) OF VINYL TOLUENE IN B6C3F1 MICE.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL STYRENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005566 FINAL CHRONIC REPORT PERFORMED FOR THE NTP UNDER CONTRACT NO N01-ES-38042.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL STYRENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL STYRENE, ALPHA **000098-83-9**

010016 WOLF MA, VK ROWE, DD MCCOLLISTER, ET AL. 1956. TOXICOLOGICAL STUDIES OF CERTAIN ALKYLATED BENZENES AND BENZENE. ARCH IND HEALTH, 14: 387-398.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALPHA- METHYL STYRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE BROMIDE **000074-95-3**

010011 KEYES DG, JW HENCK, GC JERSEY, RJ KOCIBA, DJ SCHWETZ AND TD LANDRY. 1982. METHYLENE BROMIDE: A 90-DAY REPEATED INHALATION TOXICITY STUDY IN RATS AND DOGS WITH A SUBSEQUENT TWO-YEAR HOLDING PERIOD FOR RATS. TOXICOLOGY RESEARCH LAB, HEALTH AND ENVIRONMENTAL SCIENCES, DOW CHEMICAL CO., MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYLENE BROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

July 1997

NITROBENZENE 000098-95-3

01051B CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1984. NINETY- DAY INHALATION STUDY OF NITROBENZENE IN F-344 RATS,CD RATS AND B6C3F1 MICE WITH COVER LETTER DATED 6/24/84 AND EPA RESPONSE DATED 8/06/84. UNPUBLISHED STUDY. FYI-OTS-0784-0333 AND COMPUTER PRINT-OUT OF PATHOLOGY FINDING.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR NITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

TRICHLOROFLUOROMETHANE 000075-69-4

005501 JENKINS, LJ, RA JONES, RA COON AND J SIEGAL. 1970. REPEATED AND CONTINUOUS EXPOSURES OF LABORATORY ANIMALS TO TRICHLOROFLUORMETHANE. TOXICOL APPL PHARMACOL. 16: 133-142.

US EPA. 19B7. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCFR	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
ACEPHATE		**030560-19-1**								
					IRIS	IRIS		IRIS		010086
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ACROLEIN		**000107-02-8**								
					IRIS					005001
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ACRYLAMIDE		**000079-06-1**								
	ORAL: DRINKING WATER	2 YEARS RAT	MAMMARY	TUMORS	IRIS	IRIS	4.5E+0	IRIS	IRIS	010087
			THYROID	TUMORS						
			UTERUS	TUMORS						
			ORAL CAVITY	TUMORS						
			CENTRAL NERVOUS SYSTEM	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ACRYLONITRILE		**000107-13-1**								
					IRIS	IRIS		IRIS		005004
	INHALATION: OCCUPATIONAL	HUMAN	LUNG	TUMORS	IRIS		2.4E-1		IRIS	005003
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									

CHEMICAL	RDUTE	EXPERIMENT LENGTH SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)[1]	[SLOPE FACTOR] INHALATION (mg/kg/day)[1]	[UNIT RISK] ORAL (ug/L)[1]	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
ALACHLOR		**015972-60-8**								
	DRAL: DIET	MULTIPLE SITES	TUMORS		B2	8E-2		2.3E-6		010180
	DRAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ALDRIN		**000309-00-2**								
	ORAL: DIET	MOUSE	LIVER	CARCINOMA	IRIS	IRIS	1.7E+1	IRIS	IRIS	005006
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ALLYL CHLORIDE		**000107-05-1**								
					IRIS					010181
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
ANILINE		**000062-53-3**								
					IRIS	IRIS		IRIS		010088
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ARAMITE		**000140-57-8**								
	ORAL: DIET	104 WKS RAT	LIVER	TUMORS	IRIS	IRIS	2.5E-2	IRIS	IRIS	010206
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
ARSENIC, INORGANIC		**007440-38-2**								
						IRIS		IRIS		010925
	INHALATION: OCCUPATIONAL	HUMAN	RESPIRATORY SYSTEM	TUMORS	IRIS		IRIS		IRIS	005007
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ASBESTOS		**001332-21-4**								
					IRIS					005010
					IRIS				IRIS	005919
ATRAZINE		**001912-24-9**								
	ORAL: DIET	2 YEARS RAT	MAMMARY GLAND	ADENOMA	C	2.22E-1		6.3E-6		0103B0
			MAMMARY GLAND	FIBROADENOMA						
			MAMMARY GLAND	ADENOCARCINOMA						
			MAMMARY GLAND	CARCINOSARCOMA						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
AZOBENZENE		**000103-33-3**								
	ORAL: DIET	2 YEARS RAT	ABDOMINAL CAVITY	SARCOMA	IRIS	IRIS	1.1E-1	IRIS	IRIS	0100B9
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-11. DOSE CONVERSIONS ON HEAST.									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
BENZENE		**000071-43-2**								
	INHALATION: OCCUPATIONAL	HUMAN	BLOOD	LEUKEMIA	IRIS	IRIS	2.9E-2	IRIS	IRIS	005011
	ORAL [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
BENZIDINE		**000092-87-5**								
					IRIS	IRIS	IRIS	IRIS	IRIS	005014
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BENZOTRICHLORIDE		**000098-07-7**								
					IRIS	IRIS		IRIS		010092
BENZO[A]ANTHRACENE		**000056-55-3**								
					IRIS					010182
BENZO[A]PYRENE		**000050-32-8**								
					IRIS	IRIS		IRIS		010508
BENZO[B]FLUORANTHENE		**000205-99-2**								
					IRIS					010183
BENZO[K]FLUORANTHENE		**000207-08-9**								
					IRIS					010090
BENZYL CHLORIDE		**000100-44-7**								
					IRIS	IRIS		IRIS		010093

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
BERYLLIUM		**007440-41-7**								
					IRIS	IRIS		IRIS		005018
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
	INHALATION:				IRIS		8.4E+0		IRIS	005017
	OCCUPATIONAL	HUMAN	LUNG	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
BIS(2-CHLOROETHYL) ETHER		**000111-44-4**								
	ORAL	560 DAYS			IRIS	IRIS	1.1E+0	IRIS	IRIS	005076
		MOUSE	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO RDUTE EXTRAPDLATION. SEE APPENDIX A-II. DOSE CDNVERSIONS ON HEAST.									
BIS(2-CHLORO-1-METHYLETHYL) ETHER		**000108-60-1**								
	ORAL: GAVAGE	2 YEARS			C	7E-2	3.5E-2	2E-6	1E-5	005079
		MOUSE	LIVER	TUMORS						
			LUNG	TUMORS						
	INHALATION [SLDPE] COMMENT: BASED ON RDUTE TO ROUTE EXTRAPOLATIDN (50% RESPIRATORY ABSORPTION). SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: CDMPOUND TESTED CONTAINED 70% BIS(2-CHLORO-1-METHYLETHYL)ETHER AND 30% BIS(2-CHLORDISOPROPYL)ETHER. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP)		**000117-81-7**								
					IRIS	IRIS		IRIS		005120
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (DTHER THAN CARCINOGENICITY).									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
BIS(CHLOROMETHYL) ETHER		**000542-88-1**								
	INHALATION: INTERMITTENT	10-100 DAYS RAT	RESPIRATORY SYSTEM	TUMORS	IRIS	IRIS	2.2E+2	IRIS	IRIS	005077
	ORAL [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
BROMODICHLOROMETHANE		**000075-27-4**								
					IRIS	IRIS		IRIS		005148
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BROMOETHENE / (VINYL BROMIDE)		**000593-60-2**								
	INHALATION: INTERMITTENT	2 YEARS RAT	LIVER	TUMORS	B2		1.1E-1		3.2E-5	010094
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
BROMOFORM		**000075-25-2**								
	ORAL: GAVAGE	2 YEARS RAT	INTESTINE, LARGE	ADENOMATOUS POLYP ADENOCARCINOMA	IRIS	IRIS	3.9E-3	IRIS	IRIS	005150
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BUTADIENE, 1,3-		**000106-99-0**								
	INHALATION: INTERMITTENT	MOUSE	MULTIPLE SITES	TUMORS	IRIS		1.8E+0		IRIS	010477
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
BUTYL BENZYL PHTHALATE, N-		**000085-68-7**								
					IRIS					005122
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CADMIUM		**007440-43-9**								
					IRIS				IRIS	005019
	ORAL [SLOPE] COMMENT: THERE IS INADEQUATE EVIDENCE FOR THE CARCINOGENICITY OF THIS COMPOUND BY THE ORAL ROUTE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CAPTAFOL		**002425-06-1**								
	ORAL: DIET				C	8.6E-3		2.4E-7		010095
		MOUSE	LYMPHATIC SYSTEM	LYMPHOSARCOMA						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CAPTAN		**000133-06-2**								
					B2	3.5E-3		1.0E-7		010184
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CARBAZOLE		**000086-74-8**								
	ORAL: DIET	96 WEEKS			B2	2E-2		5.7E-7		010096
		MOUSE	LIVER	TUMORS						
CARBON TETRACHLORIDE		**000056-23-5**								
	ORAL: DIET		LIVER	TUMORS	IRIS	IRIS	5.3E-2	IRIS	IRIS	005022
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. INCORPORATES AN ABSORPTION FACTOR OF 0.4.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CHLORANIL		**000118-75-2**								
	ORAL: DIET	82 WEEKS			C	4.03E-1		1.2E-5		010097
		MOUSE	LIVER	TUMORS						
			LUNG	TUMORS						
CHLORDANE		**000057-74-9**								
	ORAL: DIET				IRIS	IRIS	1.3E+0	IRIS	IRIS	005024
		MOUSE	LIVER	CARCINOMA						

INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4-		**003165-93-3**								
	ORAL: DIET	18 MONTHS			B2	4.6E-1		1.3E-5		010419
		MOUSE	CARDIOVASCULAR SYSTEM	HEMANGIOMA						
			CARDIOVASCULAR SYSTEM	HEMANGIOSARCOMA						
CHLORO-2-METHYLANILINE, 4-		**000095-69-2**								
	ORAL: DIET	18 MONTHS			B2	5.8E-1		1.6E-5		010098
		MOUSE	CARDIOVASCULAR SYSTEM	HEMANGIOMA						
			CARDIOVASCULAR SYSTEM	HEMANGIOSARCOMA						

ORAL [SLOPE] COMMENT: BASED ON VASCULAR TUMORS IN MICE TREATED WITH 4-CHLORO-2-METHYLANILINE HYDROCHLORIDE.

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CHLOROBENZILATE		**000510-15-6**								
	ORAL: GAVAGE, DIET	82 WEEKS MOUSE	LIVER	HEPATOMA	B2	2.7E-I	2.7E-1	7.8E-6	7.8E-5	010848

INHALATION [SLOPE] COMMENT: ABSORBANCE BY THE INHALATION ROUTE WAS ASSUMED TO EQUAL ORAL ABSORPTION SINCE THERE WERE NO PHARMACOKINETIC DATA TO THE CONTRARY. SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.
INHALATION [UNIT RISK] COMMENT: ABSORBANCE BY THE INHALATION ROUTE WAS ASSUMED TO EQUAL ORAL ABSORPTION SINCE THERE WERE NO PHARMACOKINETIC DATA TO THE CONTRARY.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHLOROFORM		**000067-66-3**								
					IRIS	IRIS		IRIS		005036
	ORAL: GAVAGE	78 WEEKS MOUSE	LIVER	CARCINOMA	IRIS		8.1E-2		IRIS	005035

INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHLOROMETHANE		**000074-87-3**								
	INHALATION: INTERMITTENT	24 MONTHS MOUSE	KIDNEY	TUMORS	C	1.3E-2	6.3E-3	3.7E-7	1.8E-6	005038

ORAL [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENCIITY).

CHLOROMETHYL METHYL ETHER		**000107-30-2**								
					IRIS					005081
CHLORONITROBENZENE, O-		**000088-73-3**								
	ORAL: DIET	18 MONTHS MOUSE	LIVER	TUMORS	B2	2.5E-2		7.1E-7		010099

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CHEMICAL	RDUTE	EXPERIMENT LENGTH SPECIES	TARGET	CANCER	[EPA GRDUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CHLORONITROBENZENE, P-		**000100-00-5**								
	DRAL: DIET	18 MDNTHS MOUSE	CARDIOVASCULAR SYSTEM	TUMORS	B2	1.8E-2		5.1E-7		010100
CHLOROTHALONIL		**001897-45-6**								
	ORAL: DIET	27-32 MONTHS RAT	KIDNEY	TUMOR	B2	1.1E-2		3.1E-7		010384
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRDNIC AND CHRDNIC TOXICITY (DTHER THAN CARCINOGENICITY).									
CHROMIUM(VI)		**018540-29-9**								
	INHALATION: OCCUPATIDNAL	HUMAN	LUNG	TUMORS	IRIS		4.1E+1		IRIS	005091
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (DTHER THAN CARCINOGENICITY).									
CHRYSENE		**000218-01-9**								
					IRIS					010185
	GENERAL COMMENT: SEE HEAST TABLE 1: SUBCHRDNIC AND CHRDNIC TDXICITY (OTHER THAN CARCINOGENICITY).									
COKE OVEN EMISSIONS		**008007-45-2**								
	INHALATION: OCCUPATIONAL	HUMAN	LUNG	TUMORS	IRIS		2.2E+0		IRIS	005039
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: FORMERLY LISTED UNDER COAL TARS.									
CREOSOTE, COAL TAR		**008001-58-9**								
					IRIS					005042

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CRESOL, M- / (3-METHYLPHENOL) 000108-39-4										
					IRIS					010187
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CRESOL, O- / (2-METHYLPHENOL) 000095-48-7										
					IRIS					010186
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CRESOL, P- / (4-METHYLPHENOL) 000106-44-5										
					IRIS					010188
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CROTONALDEHYDE 000123-73-9										
	ORAL: ORINKING WATER	113 WKS RAT	LIVER	TUMOR	IRIS	1.9E+0		5.4E-5		010190
	ORAL [SLOPE] COMMENT: UNOER REVIEW. NUMBER SUBJECT TO CHANGE.									
CYANAZINE 021725-46-2										
	ORAL: OIET	2 YEARS RAT	MAMMARY GLANO	AOENOMA/ CARCINOMA. COMBINEO	C	8.4E-1		2.4E-5		010944
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DDD 000072-54-8										
					IRIS	IRIS		IRIS		010291

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DDE		**000072-55-9**								
					IRIS	IRIS		IRIS		010292
DDT		**000050-29-3**								
	ORAL: DIET				IRIS	IRIS	3.4E-1	IRIS	IRIS	005044
		MOUSE, RAT	LIVER	TUMORS						

INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

DECABROMODIPHENYL ETHER		**001163-19-5**								
					IRIS					010102

GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

DIALLATE		**002303-16-4**								
	ORAL	19 MONTHS			B2	6.1E-2		1.7E-6		010103
		MOUSE	LIVER	TUMORS						

DIBENZO[A,H]ANTHRACENE		**000053-70-3**								
					IRIS					010191

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DIBROMO-3-CHLOROPROPANE, 1,2 000096-12-8										
	ORAL: DIET		STOMACH	TUMORS	B2	1.4E+0		4E-5		010484
			KIDNEY	TUMORS						
			LIVER	TUMORS						
	[EPA GROUP] COMMENT: UNDER REVIEW. CLASSIFICATION SUBJECT TO CHANGE.									
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	INHALATION: INTERMITTENT	RAT, MOUSE	NASAL CAVITY	TUMORS	B2		2.4E-3		6.9E-7	010519
DIBROMOCHLOROMETHANE 000124-48-1										
					IRIS	IRIS		IRIS		010891
	GENERAL COMMENT: FORMERLY LISTED AS CHLORODIBROMOMETHANE. ALSO SEE HEAST TABLE I: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DIBROMOETHANE, 1,2- 000106-93-4										
					IRIS	IRIS		IRIS		005818
	GENERAL COMMENT: FORMERLY LISTED UNDER ETHYLENE DIBROMIDE									
	INHALATION: INTERMITTENT	88-103 WEEKS RAT	NASAL CAVITY	TUMORS	IRIS		7.6E-1		IRIS	005071
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DICHLORO-2-BUTENE, 1,4-		**000764-41-0**								
	INHALATION: INTERMITTENT	90 DAYS RAT	NASAL PASSAGES	TUMORS	B2		9.3E+0		2.6E-3	005053
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: FORMERLY LISTED UNDER DICHLOROBUTENES									
DICHLOROBENZENE, 1,4-		**000106-46-7**								
	ORAL: GAVAGE	103 WEEKS MOUSE	LIVER	TUMORS	C	2.4E-2		6.8E-7		005050
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DICHLOROBENZIDINE, 3,3'-		**000091-94-1**			IRIS	IRIS		IRIS		005815
DICHLOROETHANE, 1,1-		**000075-34-3**			IRIS					005055
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DICHLOROETHANE, 1,2-		**000107-06-2**								
	ORAL: GAVAGE	78 WEEKS RAT	CIRCULATORY SYSTEM	SARCOMA	IRIS	IRIS		IRIS	IRIS	005058
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)[1]	[SLOPE FACTOR] INHALATION (mg/kg/day)[1]	[UNIT RISK] ORAL (ug/L)[1]	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DICHLOROETHYLENE, 1,1-		**000075-35-4**								
					IRIS	IRIS		IRIS		005060
	INHALATION	12 MONTHS			IRIS		I.2E+0		IRIS	005059
		MOUSE	KIDNEY	ADENOCARCINOMA						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DICHLOROPROPANE, 1,2-		**000078-87-5**								
	ORAL: GAVAGE				B2	6.8E-2		I.9E-6		005062
		MOUSE	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DICHLOROPROPENE, 1,3- / (TELONE II) 000542-75-6										
	ORAL: GAVAGE	104 WEEKS MOUSE	BLADDER	CARCINOMA	IRIS	1.8E-1		5E-6		010946
			RESPIRATORY SYSTEM	ALVEOLAR/ BRONCHIOLAR ADENOMA						
			FORESTOMACH	PAPILLOMA/ CARCINOMA						
	ORAL: GAVAGE	104 WEEKS RAT	LIVER	NEOPLASTIC NODULE/CARCINOMA						
			FORESTOMACH	PAPILLOMA/ CARCINOMA						
	ORAL [SLOPE] COMMENT: THE [SLOPE] IS THE GEOMETRIC MEAN OF SLOPE FACTORS OF COMBINED TUMORS LISTEO.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
	INHALATION: INTERMITTENT	2 YEARS MOUSE	LUNG	ADENOMA	IRIS		1.3E-1		3.7E-5	010104
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE I: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DIELDRIN 000060-57-1										
	ORAL: DIET	MOUSE	LIVER	CARCINOMA	IRIS	IRIS	1.6E+1	IRIS	IRIS	005B16
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE-TO-ROUTE EXTRAPOLATION.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DIETHYLSTILBESTROL		**000056-53-1**								
	ORAL: DIET	MOUSE	MAMMARY GLAND	CARCINOMA	A	4.7E+3		1.3E-1		010485
DIMETHOXYBENZIDINE, 3,3'-		**000119-90-4**								
	ORAL: DIET	LIFETIME HAMSTER	FORESTOMACH	PAPILLOMA	B2	1.4E-2		4E-7		010106
DIMETHYLANILINE HYDROCHLORIDE, 2,4-		**021436-96-4**								
	ORAL: DIET	18 MONTHS MOUSE	LUNG	TUMORS	C	5.8E-1		1.7E-5		010108
DIMETHYLANILINE, 2,4-		**000095-68-1**								
	ORAL: DIET	18 MONTHS MOUSE	LUNG	TUMORS	C	7.5E-I		2.1E-5		010107
DIMETHYLBENZIDINE, 3,3'-		**000119-93-7**								
	ORAL: GAVAGE	30 DAYS RAT	MAMMARY	TUMORS	B2	9.2E+0		2.6E-4		010109
DIMETHYLHYDRAZINE, 1,1-		**000057-14-7**								
	GENERAL COMMENT: NO EPA GROUP CLASSIFICATION WAS PROVIDED IN THE REFERENCE OOCUMENT, THEREFORE THIS COMPOUND WAS REMOVED FROM TABLE 3.									
DIMETHYLHYDRAZINE, 1,2-		**000540-73-8**			B2					010962
DIMETHYLSULFATE		**000077-78-1**			IRIS					010112

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-I	REFERENCE
DINITROTOLUENE, 2,4-		**000121-14-2**								
					IRIS	IRIS		IRIS		005066
GENERAL COMMENT: LISTED AS "DINITROTOLUENE MIXTURE, 2,4-/2,6-" ON IRIS. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
DINITROTOLUENE, 2,6-		**000606-20-2**								
					IRIS	IRIS		IRIS		005068
GENERAL COMMENT: LISTED AS "DINITROTOLUENE MIXTURE, 2,4-/2,6-" ON IRIS. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
DIOXANE, 1,4-		**000123-91-1**								
					IRIS	IRIS		IRIS		010298
DIPHENYLHYDRAZINE, 1,2-		**000122-66-7**								
	ORAL: DIET	2 YEARS RAT	LIVER	TUMORS	IRIS	IRIS	8.0E-1	IRIS	IRIS	005070
INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.										
DIRECT BLACK 38		**001937-37-7**								
	ORAL: DIET	93 DAYS RAT	LIVER	TUMORS	A	8.6E+0		2.4E-4		010113
ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.										
DIRECT BLUE 6		**002602-46-2**								
	ORAL: DIET	91 DAYS RAT	LIVER	TUMORS	A	8.1E+0		2.3E-4		010114
ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.										

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
DIRECT BROWN 95		**016071-86-6**								
	ORAL: DIET	91 DAYS			A	9.3E+0		2.6E-4		010115
		RAT	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
DIRECT SKY BLUE 6B		**002610-05-1**								
					B2					010116
	[EPA GROUP] COMMENT: BASED ON THE FACT THAT 3,3-DIMETHOXYBENZIDINE, A KNOWN EPA GROUP B2 CARCINOGEN, IS A METABOLITE OF DIRECT SKY BLUE 6B.									
EPICHLOROHYDRIN		**000106-89-8**								
					IRIS	IRIS		IRIS		010198
	INHALATION: INTERMITTENT	30 DAYS, OBSERVED LIFETIME			IRIS		4.2E-3		IRIS	010117
		RAT	NASAL CAVITY	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE I: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ETHYL ACRYLATE		**000140-88-5**								
	ORAL: GAVAGE	104 WEEKS			B2	4.8E-2		1.4E-6		010118
		RAT	FORESTOMACH	TUMORS						

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
ETHYLENE OXIDE		**000075-21-8**								
	ORAL: GAVAGE	LIFETIME, TWICE WEEKLY RAT	STOMACH	TUMORS	B1	1.02E+0		2.9E-5		010421
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	INHALATION: INTERMITTENT	2 YEARS RAT	BLOOD BRAIN	LEUKEMIA GLIOMA	B1		3.5E-1		1E-4	010422
	INHALATION [UNIT RISK] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
ETHYLENE THIOUREA		**000096-45-7**								
	ORAL: GAVAGE	2 YEARS MOUSE	LIVER	ADENOMA/ CARCINOMA, COMBINED	B2	1.1E-1		3.4E-6		010947
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
FOLPET		**000133-07-3**								
					IRIS	IRIS		IRIS		010120
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
FORMALDEHYDE		**000050-00-0**								
	INHALATION	24 MONTHS RAT	NASAL CAVITY	TUMORS	IRIS		4.5E-2		IRIS	010121
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
FURAZOLIDONE		**000067-45-8**								
	ORAL: DIET	45 WEEKS			B2	3.8E+0		1E-4		005106
		RAT	MAMMARY	TUMORS						
	GENERAL COMMENT: FORMERLY LISTED UNDER NITROFURANS									
FURIUM		**000531-82-8**								
	ORAL: DIET	28 WEEKS			B2	5.0E+1		1 4E-3		005108
		MOUSE	BLOOD	LEUKEMIA						
	GENERAL COMMENT: FORMERLY LISTED UNDER NITROFURANS									
GLYCIDALDEHYDE		**000765-34-4**								
					IRIS					010122
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEPTACHLOR		**000076-44-8**								
	ORAL: DIET				IRIS	IRIS	4.5E+0	IRIS	IRIS	005820
		MOUSE	LIVER	CARCINOMA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEPTACHLOR EPOXIDE		**001024-57-3**								
	ORAL: DIET	18-24 MONTHS			IRIS	IRIS	9.1E+0	IRIS	IRIS	010424
		MOUSE	LIVER	CARCINOMA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
HEXACHLOROBENZENE	**000118-74-1**									
	ORAL: DIET				IRIS	IRIS	1.6E+0	IRIS	IRIS	010365
		RAT	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENOIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROBUTADIENE	**000087-68-3**									
	ORAL: DIET	22-24 MONTHS			IRIS	IRIS	7.8E-2	IRIS	IRIS	005088
		RAT	KIDNEY	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROCYCLOHEXANE, ALPHA-	**000319-84-6**									
	ORAL: DIET	24 WEEKS			IRIS	IRIS	6.3E+0	IRIS	IRIS	010123
		MOUSE	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
HEXACHLOROCYCLOHEXANE, BETA-	**000319-85-7**									
	ORAL: DIET	110 WEEKS			IRIS	IRIS	1.8E+0	IRIS	IRIS	010I24
		MOUSE	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED DN ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
HEXACHLOROCYCLOHEXANE, DELTA-	**000319-86-8**									
					IRIS					010125
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROCYCLOHEXANE, EPSILON-	**006108-10-7**									
					IRIS					010I26
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
HEXACHLOROCYCLOHEXANE, GAMMA- 000058-89-9										
	ORAL: DIET	110 WEEKS MOUSE	LIVER	TUMORS	B2-C	1.3E+0		3.7E-5		005098
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROCYCLOHEXANE-TECHNICAL 000608-73-1										
	ORAL: DIET	6-20 MONTHS MOUSE	LIVER	TUMORS	IRIS	IRIS	1.8E+0	IRIS	IRIS	010127
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
HEXACHLOROETHANE 000067-72-1										
	ORAL: GAVAGE	78 WEEKS MOUSE	LIVER	CARCINOMA	IRIS	IRIS	1.4E-2	IRIS	IRIS	005090
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HYDRAZINE 000302-01-2										
					IRIS	IRIS		IRIS		010129
	INHALATION: INTERMITTENT	1 YEAR RAT	NASAL CAVITY	TUMORS	IRIS		1.7E+1		IRIS	010128
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
HYDRAZINE SULFATE		**010034-93-2**								
					IRIS	IRIS		IRIS		010131
	INHALATION: INTERMITTENT	1 YEAR RAT	NASAL CAVITY	TUMORS	IRIS		1.7E+1		IRIS	010130
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: LISTEO UNOER "HYDRAZINE" ON IRIS.									
INDENO[1,2,3-CD]PYRENE		**000193-39-5**								
					IRIS					010192
ISOPHORONE		**000078-59-1**								
					IRIS	IRIS		IRIS		005094
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
LEAD		**007439-92-1**								
					IRIS					005096
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
LINURON		**000330-55-2**								
					IRIS					010383
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
MERCURIC CHLORIDE		**007487-94-7**								
					IRIS					01097I
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)[1]	[SLOPE FACTOR] INHALATION (mg/kg/day)[1]	[UNIT RISK] ORAL (ug/L)[1]	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
MERCURY, ELEMENTAL		**007439-97-6**								
					IRIS					010973
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METHOXY-5-NITROANILINE, 2-		**000099-59-2**								
	ORAL: OIET	104 WEEKS			B2	4.6E-2		1.3E-6		010132
		RAT	SKIN	CARCINOMA						
METHYLHYDRAZINE		**000060-34-4**								
GENERAL COMMENT: NO EPA GROUP CLASSIFICATION WAS PROVIDED IN THE REFERENCE DOCUMENT, THEREFORE THIS COMPOUND WAS REMOVED FROM TABLE 3.										
METHYL-5-NITROANILINE, 2-		**000099-55-8**								
	ORAL: OIET	98 WEEKS			C	3.3E-2		9.4E-7		010140
		MOUSE	LIVER	CARCINOMA						
METHYLANILINE HYDROCHLORIDE, 2-		**000636-21-5**								
	ORAL: OIET	93 WEEKS			B2	1.8E-1		5.1E-6		010134
		RAT	SKIN	FIBROMA						
METHYLANILINE, 2-		**000095-53-4**								
	ORAL: OIET	93 WEEKS			B2	2.4E-1		6.9E-6		010133
		RAT	SKIN	FIBROMA						
GENERAL COMMENT: THE 1984 HEEP CALLED THIS COMPOUND O-TOLUIDINE, THE 1987 HEEP CALLED IT 2-METHYLANILINE.										
METHYLENE CHLORIDE / (DICHLOROMETHANE)		**000075-09-2**								
					IRIS	IRIS		IRIS		005100
					IRIS				IRIS	005904
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL	ROUTE	EXPERIMENT LENGTH SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
METHYLENE-BIS(BENZENEAMINE), 4,4- / (4,4'-METHYLENEDIANILINE) 000101-77-9										
GENERAL COMMENT: NO EPA GROUP CLASSIFICATION WAS PROVIDED IN THE REFERENCE DOCUMENT. THEREFORE THIS COMPOUND WAS REMOVED FROM TABLE 3.										
METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4										
	ORAL: DIET	2 YEARS RAT	LUNG	TUMORS	B2	1.3E-1	1.3E-1	3.7E-6	3.7E-5	010425
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST. BASED ON ROUTE TO ROUTE EXTRAPOLATION.										
METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'- 000101-61-1										
					IRIS	IRIS		IRIS		010137
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METHYLMERCURY 0022967-92-6										
					IRIS					010972
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METOLACHLOR 051218-45-2										
					IRIS					010951
MIREX 002385-85-5										
	ORAL: DIET	2 YEARS RAT	LIVER	ADENOMA	B2					010952
			LIVER	CARCINOMA						
[EPA GROUP] COMMENT: UNDER REVIEW. CLASSIFICATION SUBJECT TO CHANGE.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
NIAGARA BLUE 4B 002429-74-5										
					B2					010141
[EPA GROUP] COMMENT: BASED ON THE FACT THAT 3,3-DIMETHOXYBENZIDINE, A KNOWN EPA GROUP B2 CARCINOGEN, IS A METABOLITE OF NIAGARA BLUE 4B.										

CHEMICAL	ROUTE	EXPERIMENT LENGTH SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NICKEL REFINERY DUST										
	INHALATION:				IRIS		8.4E-1		IRIS	005103
	OCCUPATIONAL	HUMAN	RESPIRATORY SYSTEM	TUMORS						

INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: FORMERLY LISTED AS NICKEL. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (UNDER NICKEL, SOLUBLE SALTS).

NICKEL SUBSULFIDE		012035-72-2								
	INHALATION:				IRIS		1.7E+0		IRIS	005768
	OCCUPATIONAL	HUMAN	RESPIRATORY SYSTEM	TUMORS						

INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: FORMERLY LISTED AS NICKEL. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (UNDER NICKEL).

NITROBENZENE		000098-95-3								
	INHALATION	2 YEAR MICE			B2					010969
			LUNG	ADENOMA						
			LUNG	CARCINOMA						
			THYROID	ADENOMA						
			MAMMARY	ADENOCARCINOMA						
	INHALATION	2 YEAR RAT								
			LIVER	ADENOMA						
			LIVER	CARCINOMA						
			KIDNEY	ADENOMA						
			KIDNEY	ADENOCARCINOMA						
			UTERUS	ENDIOMETRIAL POLYPS						

GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NITROFURAZONE		**000059-87-0**								
	ORAL: DIET	46 WEEKS RAT	MAMMARY	TUMORS	B2	1.5E+0		4.3E-5		005110
NITROPROPANE, 2-		**000079-46-9**								
	INHALATION: INTERMITTENT	22 MONTHS RAT	LIVER	TUMORS	B2		9.4E+0		2.7E-3	010142
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
NITROSO-DI-N-BUTYLAMINE, N-		**000924-16-3**								
	ORAL: DRINKING WATER	LIFETIME MOUSE	BLADDER	TUMORS	IRIS	IRIS	5.4E+0	IRIS	IRIS	010143
			ESOPHAGUS	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
NITROSO-DI-N-PROPYLAMINE, N-		**000621-64-7**								
					IRIS	IRIS		IRIS		010147
NITROSO-N-ETHYLUREA, N-		**000759-73-9**								
	ORAL: DRINKING WATER	203 DAYS RAT	INTESTINE	GASTROINTESTINAL TUMORS	B2	1.4E+2				010426
	[EPA GROUP] COMMENT: UNDER REVIEW. CLASSIFICATION SUBJECT TO CHANGE.									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NITROSO-N-METHYLUREA, N- 000684-93-5										
	ORAL: GAVAGE	308 DAYS GUINEA PIG	PANCREAS	ADENOCARCINOMA	B2					010427
[EPA GROUP] COMMENT: UNDER REVIEW, CLASSIFICATION SUBJECT TO CHANGE.										
GENERAL COMMENT: THE CRAVE WORK GROUP (04/01/92) STATES THERE IS NO ACCEPTABLE QUANTITATION FOR NITROSO-N-METHYLUREA, N-.										
NITROSODIETHANOLAMINE, N- 001116-54-7										
					IRIS	IRIS		IRIS		010144
NITROSODIETHYLAMINE, N- 000055-18-5										
	ORAL: DRINKING WATER	6 OR 12 MONTHS RAT	LIVER	TUMORS	IRIS	IRIS	1.5E+2	IRIS	IRIS	010145
INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.										
NITROSODIMETHYLAMINE, N- 000062-75-9										
	ORAL: DRINKING WATER	RAT	LIVER	TUMORS	IRIS	IRIS	5.1E+1	IRIS	IRIS	010146
INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.										
NITROSODIPHENYLAMINE, N- 000086-30-6										
					IRIS	IRIS		IRIS		005112
NITROSOMETHYLETHYLAMINE, N- 010595-95-6										
					IRIS	IRIS		IRIS		010148

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NITROSOMETHYLVINYLAMINE, N	**004549-40-0**									
	INHALATION	RAT	UPPER RESPIRATORY TRACT	CARCINOMAS	B2					010149
	ORAL: DRINKING WATER		UPPER DIGESTIVE TRACT	CARCINOMAS						
NITROSOPYRROLIDINE, N-	**000930-55-2**									
	ORAL: DIET	LIFETIME RAT	LIVER	TUMORS	IRIS	IRIS	2.1E+0	IRIS	IRIS	010300
	INHALATION [SLOPE] COMMENT: BASEO ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DDSE CONVERSIONS ON HEAST.									
PARATHION	**000056-38-2**									
					IRIS					005116
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5-	**000087-84-3**									
	ORAL: DIET	2 YEARS RAT	INTESTINE, LARGE	TUMORS	C	2.3E-2		6.6E-7		010150
	ORAL [SLOPE] COMMENT: BASED ON RESULTS WITH THE ALPHA ISOMER.									
PENTACHLORONITROBENZENE	**000082-68-8**									
	ORAL	72 WEEKS MOUSE	LIVER	TUMORS	C	2.6E-1		7.4E-6		010151
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)[1]	[SLOPE FACTOR] INHALATION (mg/kg/day)[1]	[UNIT RISK] ORAL (ug/L)[1]	[UNIT RISK] INHALATION (ug/cu m)-I	REFERENCE
PENTACHLOROPHENOL		**000087-86-5**								
					IRIS	IRIS		IRIS		010381
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
PHENYLENEDIAMINE, O-		**000095-54-5**								
	ORAL: OIET	548 OAYS			B2	4.7E-2		1.3E-6		010152
		RAT	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: BASEO ON LIVER TUMORS IN RATS TREATEO WITH O-PHENYLENEOIAMINE OIHYOROCHLORIOE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY.									
PHENYLPHENOL, 2-		**000090-43-7**								
	ORAL: OIET	637 OAYS			C	1.94E-3		5.5E-8		010153
		RAT	URINARY BLAOOER	TUMORS						
POLYBROMINATED BIPHENYLS										
	ORAL: GAVAGE	25 WEEKS			B2	8.9E+0		2.5E-4		010154
		RAT	LIVER	CARCINOMA						
			LIVER	NEOPLASTIC NOOULE						
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
POLYCHLORINATED BIPHENYLS		**001336-36-3**								
					IRIS	IRIS		IRIS		005118
	GENERAL COMMENT: CARCINOGENICITY INFORMATION WAS CHANGEO ON IRIS.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
PROPYLENE OXIDE		**000075-56-9**								
					IRIS	IRIS		IRIS		010156
	INHALATION: INTERMITTENT	2 YEARS MOUSE	NASAL CAVITY	TUMORS	IRIS		1.3E-2		IRIS	010155
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
QUINOLINE		**000091-22-5**								
	ORAL: DIET	20-40 WEEKS RAT	LIVER	TUMORS	C	1.2E+1		3.5E-4		010158
RDX / (CYCLONITE)		**000121-82-4**								
					IRIS	IRIS		IRIS		010157
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
SELENIUM SULFIDE		**007446-34-6**								
					IRIS					010194
	ORAL [SLOPE] COMMENT: STUDY RESULTS WERE CONSIDERED INCONCLUSIVE FOR QUANTITATIVE RISK ASSESSMENT.									
SIMAZINE		**000122-34-9**								
	ORAL: DIET	2 YEARS RAT	MAMMARY	CARCINOMA	C	1.2E-1		3.4E-6		010195
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
SODIUM DIETHYLDITHIOCARBAMATE 000148-18-5										
	ORAL: DIET	77 WEEKS			C	2.7E-1		7.7E-6		005126
		MOUSE	LIVER	TUMORS						
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
STYRENE 000100-42-5										010480
	GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TCDD, 2,3,7,8- 001746-01-6										
	ORAL: DIET	720 DAYS			B2	1.5E+5	1.5E+5	4.5E+0	3.3E-5 (PG/CU M)-1	005128
		RAT	RESPIRATORY SYSTEM	TUMORS						
			LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE. INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST. INHALATION [UNIT RISK] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE. BASED ON ROUTE TO ROUTE EXTRAPOLATION. AN ABSORPTION FACTOR OF 75% IS USED TO CALCULATE THE UNIT RISK FROM THE SLOPE FACTOR.									
TETRACHLOROETHANE, 1,1,1,2- 000630-20-6										
	ORAL: GAVAGE	103 WEEKS			IRIS	IRIS	2.6E-2	IRIS	IRIS	010302
			LIVER	TUMOR						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
TETRACHLOROETHANE, 1.1,2,2- 000079-34-5										
	ORAL: GAVAGE	75 WEEKS MOUSE	LIVER	CARCINOMA	IRIS	IRIS	2.0E-1	IRIS	IRIS	005130
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
TETRACHLOROETHYLENE 000127-18-4										010482
	GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA- 005216-25-1										
	ORAL: GAVAGE	17.5 WEEKS MOUSE	LUNG	ADENOCARCINOMA	B2	2.0E+1		5.7E-4		005028
TETRACHLOROVINPHOS / (STIROFOS) 000961-11-5										
	ORAL: DIET	560 DAYS MOUSE	LIVER	TUMORS	C	2.4E-2		6.9E-7		010159
	[EPA GROUP] COMMENT: UNDER REVIEW, CLASSIFICATION SUBJECT TO CHANGE. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TOLUENE-2,4-DIAMINE 000095-80-7										
	ORAL: DIET	84-103 WEEKS RAT	MAMMARY	TUMORS	B2	3.2E+0		9.1E-5		010160
TOLUIDINE, P- 000106-49-0										
	ORAL: DIET	18 MONTHS MOUSE	LIVER	TUMORS	C	1.9E-1		5.4E-6		010162

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
TOXAPHENE		**008001-35-2**								
	ORAL: DIET	18 MONTHS MOUSE	LIVER	TUMORS	IRIS	IRIS	1.1E+0	IRIS	IRIS	005134
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE TO RDUTE EXTRAPOLATION.									
TRICHLOROANILINE HYDROCHLORIDE, 2,4,6-				**033663-50-2**						
	ORAL: DIET	18 MONTHS MOUSE	VASCULAR SYSTEM	TUMORS	C	2.9E-2		8.2E-7		005142
TRICHLOROANILINE, 2,4,6-		**000634-93-5**								
	ORAL: DIET	18 MONTHS MOUSE	VASCULAR SYSTEM	TUMORS	C	3.4E-2		1E-6		010487
TRICHLOROETHANE, 1,1,2-		**000079-00-5**								
	ORAL: GAVAGE	78 WEEKS MOUSE	LIVER	CARCINOMA	IRIS	IRIS	5.7E-2	IRIS	IRIS	005144
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TRICHLOROETHYLENE		**000079-01-6**								010483
	GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
TRICHLOROPHENOL, 2,4,6-		**000088-06-2**								
	ORAL: DIET	107 WEEKS			IRIS	IRIS	1E-2	IRIS	IRIS	01042B
		RAT	BLOOD	LEUKEMIA						

INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

TRICHLOROPROPANE, 1,2,3-		**000096-18-4**								
	ORAL: GAVAGE				B2	7E+0		2E-4		010B49
		RAT	MULTIPLE SITES	TUMORS, BENIGN/MALIGNANT, COMBINED						

[EPA GROUP] COMMENT: UNDER REVIEW. CLASSIFICATION SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

TRIFLURALIN		**001582-09-8**								
					IRIS	IRIS		IRIS		010163

GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

TRIMETHYL PHOSPHATE		**000512-56-1**								
	ORAL: GAVAGE	103 WEEKS			B2	3.7E-2		I.1E-6		010I64
		MOUSE	UTERUS	TUMORS						

TRINITROTOLUENE, 2,4,6-		**000118-96-7**								
					IRIS	IRIS		IRIS		010476

GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)[1]	[SLOPE FACTOR] INHALATION (mg/kg/day)[1]	[UNIT RISK] ORAL (ug/L)[1]	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
VINYL CHLORIDE		**000075-01-4**								
	ORAL: DIET	1001 DAYS			A	1.9E+0		5.4E-5		010368
		RAT	LUNG	TUMORS						
			LIVER	TUMORS						
	INHALATION: INTERMITTENT	1 YEAR			A		3.0E-1		8.4E-5	010367
		RAT	LIVER	TUMORS						

ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.

INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.
INHALATION [UNIT RISK] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: THE MOST RECENTLY REVIEWED QUANTITATIVE TOXICITY VALUES LISTED HERE APPEAR IN EPA DOCUMENTS PUBLISHED IN 1984 AND 1985. USE OF THESE VALUES ON AN INTERIM BASIS WAS VALIDATED BY CRAVE (04/05/90). THE AGENCY IS AWARE THAT THESE VALUES DO NOT INCORPORATE CONSIDERABLE INFORMATION THAT IS NOW AVAILABLE. THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT'S POSITION IS THAT THESE TOXICITY VALUES DO NOT REFLECT STATE-OF-THE-ART SCIENCE FOR VINYL CHLORIDE. EPA NOW HAS INDIVIDUAL ANIMAL DATA, NOT AVAILABLE WHEN THE ORAL UNIT RISK WAS CALCULATED, THAT MAY INFLUENCE THIS VALUE. ADDITIONAL INFORMATION THAT MAY BE FACTORED INTO A REVISED QUANTITATIVE TOXICITY VALUE INCLUDES DATA ON INCREASED SENSITIVITY OBSERVED IN YOUNG ANIMALS AND DATA ON METABOLISM/PHARMACOKINETICS. A UNIT RISK FOR AIR THAT CONSIDERS INFORMATION ON YOUNG AGE EXPOSURE INCREASES THE RISK (I.E., LOWERS THE RISK SPECIFIC DOSE) BY AT LEAST 3-FOLD. THE CONSIDERATION OF METABOLISM PHARMACOKINETICS WILL FURTHER INCREASE THE RISK. ONE UNPUBLISHED PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL PREDICTION RESULTS IN A 100-FOLD INCREASED RISK.

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ACEPHATE 030560-19-1

010086 CHEVRON CHEMICAL COMPANY. 1982. MRID NO 00105197. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACEPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ACROLEIN 000107-02-8

005001 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACROLEIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGION DC.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ACRYLAMIDE 000079-06-1

010087 JOHNSON K. S GORZINSKI. KM BODNER. ET AL. 1986. CHRONIC TOXICITY AND ONCOGENICITY STUDY ON ACRYLAMIDE INCORPORATED IN THE DRINKING WATER OF FISCHER 344 RATS. DOW CHEMICAL. USA. MIDLAND. MI.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACRYLAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ACRYLONITRILE 000107-13-1

005004 BIO/DYNAMICS, INC. 1980. A 24-MONTH ORAL TOXICITY/CARCINOGENICITY STUDY OF ACRYLONITRILE ADMINISTERED IN DRINKING WATER TO FISCHER 344 RATS, FINAL REPORT, VOL 1-4. PREPARED BY BIO/DYNAMICS, INC., DIVISION OF BIOLOGY AND SAFETY EVALUATION, EAST MILLSTONE, NJ, UNDER PROJECT NO 77-1744 (BDN-77-27) FOR MONSANTO COMPANY, ST LOUIS, MO.

BIO/DYNAMICS, INC. 1980. A 24-MONTH ORAL TOXICITY/CARCINOGENICITY STUDY OF ACRYLONITRILE ADMINISTERED TO SPARTAN RATS IN THE DRINKING WATER, FINAL REPORT, VOL 1 AND 2. PREPARED BY BIO/DYNAMICS, INC., DIVISION OF BIOLOGY AND SAFETY EVALUATION, EAST MILLSTONE, NJ, UNDER PROJECT NO 77-1745 FOR MONSANTO COMPANY, ST LOUIS, MO.

QUAST, JF, CE WADE, CG HUMISTON ET AL. 1980. A 2-YEAR TOXICITY AND ONCOGENICITY STUDY WITH ACRYLONITRILE INCORPORATED IN THE DRINKING WATER OF RATS. PREPARED BY THE TOXICOLOGY RESEARCH LABORATORY, HEALTH AND ENVIRONMENTAL RESEARCH, DOW CHEMICAL USA, MIDLAND, MI FOR THE CHEMICAL MANUFACTURERS ASSOCIATION, WASHINGTON, DC.

US EPA. 1983. HEALTH ASSESSMENT DOCUMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005003 O'BERG, M. 1980. EPIDEMIOLOGIC STUDY OF WORKERS EXPOSED TO ACRYLONITRILE. J OCCUP MED. 22: 245-252.

US EPA. 1983. HEALTH ASSESSMENT DOCUMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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ALACHLOR 015972-60-8

010180 STOUT, LO, ET AL. 1983. A CHRONIC STUOY OF ALACHLOR AOMINISTEREO IN FEEO TO LONG-EVANS RATS. EHL #800218, PROJECT NO. ML-80-186, REPORT MSL-3282/3284. VOL. I ANO II. UNPUBLISHEO STUOY RECEIVEO FEB. 28, 1984 UNOER U.S. EPA REG. NO. 524-316, PREPAREO BY MONSANTO ENVIRONMENTAL HEALTH LABORATORY (EHL), SUBMITTEO BY MONSANTO CO., WASHINGTON, OC. COL:252496-7.

US EPA. 1984. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR ALACHLOR. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

US EPA. 1992. HEALTH ANO ENVIRONMENTAL EFFECTS OOCUMENT FOR ALACHLOR. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

ALDRIN 000309-00-2

005006 EPSTEIN, SS. 1975. THE CARCINOGENICITY OF OIELORIN, PART I. SCI TOTAL ENVIRON. 4: 1-52.

NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAYS OF ALORIN ANO OIELORIN FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 21. NCI-C6-TR-66 OHEW PUBLICATION NO. (NIH) 78-821.

OAVIS, KJ, ANO OG FITZHUGH. 1962. TUMORIGENIC POTENTIAL OF ALORIN ANO OIELORIN FOR MICE. TOXICOL APPL PHARMACOL. 4: 187-189.

OAVIS, KJ. 1965. PATHOLOGY REPORT ON MICE FOR ALORIN, OIELORIN, HEPTACHLOR, OR HEPTACHLOR EPOXIOE FOR TWO YEARS. INT FOOO ORUG AOMIN.

US EPA. 1986. CARCINOGENICITY ASSESSMENT OF ALORIN ANO OIELDRIN. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, OC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

ALLYL CHLORIDE 000107-05-1

010181 US EPA. 1983. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

ANILINE 000062-53-3

010088 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1982. 104-WEEK CHRONIC TOXICITY STUDY IN RATS: ANILINE HYDROCHLORIDE. FINAL REPORT.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ARAMITE 000140-57-8

010206 OSER BL, AND M OSER. 1962. 2-(P-TERT-BUTYLPHENOXY)ISOPROPYL 2-CHLOROETHYL SULFITE (ARAMITE). II. CARCINOGENICITY. TOXICOL APPL PHARMACOL. 4: 70-88.

POPPER H, SS STEINBERG, BL OSER, AND M OSER. 1960. THE CARCINOGENIC EFFECT OF ARAMITE IN RATS. CANCER. 13(5): 1035-1046.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ARAMITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ARSENIC, INORGANIC 007440-38-2

005007 BROWN, CC AND KC CHU. 1983. APPROACHES TO EPIDEMIDLOGIC ANALYSIS OF PROSPECTIVE AND RETRDSPECTIVE STUDIES: EXAMPLE DF LUNG CANCER AND EXPDSURE TO ARSENIC. IN: RISK ASSESSMENT: PROC SIMS CONFERENCE ON ENVIRONMENTAL EPIDEMIOLOGY, JUNE 28-JULY 2, 1982. ALTA UT. SIAM PUBLICATION.

BROWN, CC AND KC CHU. 1983. IMPLICATIONS OF THE MULTISTAGE THEDRY OF CARCINOGENESIS APPLIED TO OCCUPATIONAL ARSENIC EXPDSURE. J NAT CANCER INST. 70: 455-463.

LEE-FELDSTEIN, A. 1983. ARSENIC AND RESPIRATORY CANCER IN MAN: FOLLOW-UP OF AN OCCUPATIONAL STUDY. IN: ARSENIC: INDUSTRIAL, BIOMEDICAL, AND ENVIRONMENTAL PERSPECTIVES. W LEDERER AND R FENSTERHEIM, EDS. VAN NOSTRAND REINHOLD. NEW YORK.

BROWN, CC AND KC CHU. 1983. A NEW METHOD FDR THE ANALYSIS OF COHORT STUDIES: IMPLICATIONS OF THE MULTISTAGE THEORY OF CARCINOGENESIS APPLIED TO OCCUPATIONAL ARSENIC EXPOSURE. ENVIRON HEALTH PERSP. 50: 293-308.

HIGGINS, I. 1982. ARSENIC AND RESPIRATORY CANCER AMONG A SAMPLE OF ANACONDA SMELTER WORKERS. REPORT SUBMITTED TO THE OCCUPATIONAL SAFETY HEALTH ADMINISTRATION IN THE COMMENTS OF THE KENNECOTT MINERALS ON THE INORGANIC ARSENIC RULE MAKING. EXHIBIT 203-5.

ENTERLINE, PE AND GM MARSH. 1982. CANCER AMDNG WORKERS EXPOSED TD ARSENIC AND DTHER SUBSTANCES IN A COPPER SMELTER. AM J EPIDEMIOL. 116: 895-911.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR ARSENIC. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. DH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON DC.

US EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATIDN ENDEAVOR (CRAVE) WDRK GROUP.

010925 TSENG WP. 1977. EFFECTS AND DOSE RESPONSE RELATIONSHIPS OF SKIN CANCER AND BLACKFOOT DISEASE WITH ARSENIC. ENVIRON HEALTH PERSPECT. 19: 108-119.

TSENG WP, HM CHU, SW HOU, ET AL. 1968. PREVALENCE OF SKIN CANCER IN AN EMDEMIC AREA OF CHRONIC ARSENICISM IN TAIWAN. J NATL CANCER INST. 40: 453-463.

US EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATIDN ENDEAVOR (CRAVE) WORK GRDUP.

ASBESTOS 001332-21-4

005010 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHRYSOTILE ASBESTOS (CAS NO 1200-29-5) IN F344/N RATS (FEED STUDIES). TECHNICAL REPORT SERIES NO 295.

US EPA. 1988. DRINKING WATER CRITERIA DOCUMENT FOR ASBESTOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005919 US EPA. 1986. AIRBORNE ASBESTOS HEALTH ASSESSMENT UPDATE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84/003F.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ATRAZINE 001912-24-9

010380 CIBA-GEIGY. 1986. TWO-YEAR FEEDING STUDY IN THE RAT. CONDUCTED BY AMERICAN BIOGENICS CORP. MRID NO 262714-262727. AVAILABLE FROM EPA. WRITE TD FOI. EPA, WASHINGTDN, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ATRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

AZOBENZENE 000103-33-3

010089 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF AZOBENZENE FDR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECHNICAL REPORT SERIES. NO. 154. US DHEW PUBL NO. (NIH) 79-1710. P 112.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AZOBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

310

BENZENE 000071-43-2

005011 WONG, D, RW MORGAN AND MD WHORTON. 1983. COMMENTS ON THE NIOSH STUDY OF LEUKEMIA IN BENZENE WORKERS. TECHNICAL REPORT SUBMITTED TO GULF CANADA, LTD, BY ENVIRONMENTAL HEALTH ASSOCIATES, AUGUST 31. CITED IN US EPA, 1985.

OTT, MG, JC TOWNSEND, WA FISHBECK AND RA LANGNER. 1978. MORTALITY AMONG WORKERS OCCUPATIONALLY EXPOSED TO BENZENE. ARCH ENVIRON HEALTH. 33: 3-10.

RINSKY, RA, RJ YOUNG AND AB SMITH. 1981. LEUKEMIA IN BENZENE WORKERS. AM J IND MED. 2: 217-245.

US EPA. 1987. MEMORANDUM FROM J. ORME HEB, CSD/ODW TO C. VOGT, JUNE, 1987. CRITERIA AND STANDARDS DIVISION, ODW.

US EPA. 1985. INTERIM QUANTITATIVE CANCER UNIT RISK ESTIMATES DUE TO INHALATION OF BENZENE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC. OFFICE OF AIR QUALITY PLANNING AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZIDINE 000092-87-5

005014 ZAVON, MR, U HOEGG AND E BINGHAM. 1973. BENZIDINE EXPOSURE AS A CAUSE OF BLADDER TUMORS. ARCH ENVIRON HEALTH. 27: 1-73.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR BENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZOTRICHLORIDE 000098-07-7

010092 FUKUDA K, H METSUSHITA AND K TAKEMOTO. 1978. CARCINOGENICITY OF BENZOTRICHLORIDE BY THE ORAL ROUTE OF ADMINISTRATION (J-4774). IN: PROC 52ND ANN MEET JAPANESE INDUSTRIAL HEALTH ASSOC. TSCA 8E SUBMISSION DOCUMENT NO 88-8000360. FICHE #204867. P 516-517.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZOTRICHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZO[A]ANTHRACENE 000056-55-3

010182 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZO[A]PYRENE 000050-32-8

010508 NEAL J. RH RIGDON. 1967. GASTRIC TUMORS IN MICE FED BENZO[A]PYRENE. A QUANTITATIVE STUDY. TEX REP. BIOL MED. 25: 553.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR POLYCYCLIC AROMATIC HYDROCARBONS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR POLYCYCLIC AROMATIC HYDROCARBONS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

BENZO[B]FLUORANTHENE 000205-99-2

010183 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZO[K]FLUORANTHENE 000207-08-9

010090 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZYL CHLORIDE 000100-44-7

010093 LIJINSKI W. 1986. CHRONIC BIOASSAY OF BENZYL CHLORIDE IN F344 RATS AND (C57BL/6J X BALB/C)F1 MICE. J NATL CANCER INST. 76: 1231-1236.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

312

BERYLLIUM 007440-41-7

005018 SCHROEDER, HA AND M MITCHNER. 1975. LIFE-TIME STUDIES IN RATS: EFFECTS OF ALUMINUM, BARIUM, BERYLLIUM AND TUNGSTEN. J NUTR. 105: 421-427.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR BERYLLIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005017 WAGONER, JK, PF INFANTE AND DL BAYLISS. 1980. BERYLLIUM: AN ETIOLOGIC AGENT IN THE INDUCTION OF LUNG CANCER, NONNEOPLASTIC RESPIRATORY DISEASE, AND HEART DISEASE AMDNG INDUSTRIALLY EXPOSED WORKERS. ENVIRON RES. 21: 15-34.

US EPA. 1987. HEALTH ASSESSMENT DOCUMENT FOR BERYLLIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BIS(2-CHLOROETHYL) ETHER 000111-44-4

005076 INNES, JRM, BM ULLAND, MG VALERIO ET AL. 1969. BIOASSAY OF PESTICIDES AND INDUSTRIAL CHEMICALS FOR TUMORIGENICITY IN MICE: A PRELIMINARY NOTE. J NATL CANCER INST. 42: 1101-1114.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BIS(2-CHLOROETHYL)ETHER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLOROALKYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BIS(2-CHLORO-1-METHYLETHYL) ETHER 000108-60-1

005079 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENIC BIOASSAY OF BIS(2-CHLORO-1-METHYLETHYL) ETHER (70%) CONTAINING 2-CHLORO-1-METHYLETHYL(2-CHLOROPROPYL) ETHER (30%) IN B6C3F1 MICE (GAVAGE STUDY). NCI CARCINOGEN TECH REP SER NO 239. 105 P. ALSO PUBL AS DHHS (NIH) 83-1795

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HALOETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

313

BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP) 000117-81-7

005120 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF DI(2-ETHYLHEXYL) PHTHALATE (CAS NO 117-81-7) IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REPORT SER NO 217. NIH/PUB-82-1773. NTP-80-37. NTIS PB82-184011.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACID ALKYL, ARYL AND ALKYL/ARYL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

BIS(CHLOROMETHYL) ETHER 000542-88-1

005077 KUSCHNER, M, S LASKIN, RT DREW, ET AL. 1975. INHALATION CARCINOGENICITY OF ALPHA HALO ETHERS: III. LIFETIME AND LIMITED PERIOD INHALATION STUDIES WITH BIS(CHLOROMETHYL) ETHER AT 0.1 PPM. ARCH ENVIRON HEALTH. 30(2): 73-77.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BROMODICHLOROMETHANE 000075-27-4

005148 NTP (NATIONAL TOXICOLOGY PROGRAM). 1987. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF BROMODICHLOROMETHANE (CAS NO 75-27-4) IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP, RESEARCH TRIANGLE PARK, NC. NTP TR 321. US DEPT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, NATIONAL INSTITUTE OF HEALTH.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. ECAO-CIN-H083.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BROMOETHENE / (VINYL BROMIDE) 000593-60-2

010094 BENYA TJ, WM BASEY, MA DORATO AND PE BERTEAU. 1982. INHALATION CARCINOGENICITY BIOASSAY OF VINYL BROMIDE IN RATS. TOXICOL APPL PHARMACOL. 64: 367-379.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOETHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

314

BROMOFORM 000075-25-2

005150 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF TRIHALOMETHANE (BROMOFORM) (CAS NO 75-25-2) IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-TR 350.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BROMOFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BUTADIENE. 1.3- 000106-99-0

010477 NTP (NATIONAL TOXICOLOGY PROGRAM). 1984. TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1.3-BUTADIENE (CAS 106-99-0) IN B6C3F1 MICE (INHALATION STUDIES).

US EPA. 1985. MUTAGENICITY AND CARCINOGENICITY ASSESSMENT OF 1.3-BUTADIENE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. WASHINGTON. DC. EPA 600/8-85-004F. NTIS-PB86-12507.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1.3-BUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BUTYL BENZYL PHTHALATE. N- 000085-68-7

005122 NTP (NATIONAL TOXICDLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF BUTYLBENZYL PHTHALATE (CAS. NO. 85-68-7) IN F344 RATS AND B6C3FI MICE (FEED STUDY). NTP TECH REP. NTIS PB83-118398. RESEARCH TRIANGLE PARK. NC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTDN DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

315

CADMIUM 007440-43-9

005019 THUN, MJ, TM SCHNORR, AB SMITH AND WE HALPERIN. 1985. MORTALITY AMONG A COHORT OF US CADMIUM PRODUCTION WORKERS: AN UPDATE. J NATL CANCER INST. 74(2): 325-333.

US EPA. 1985. UPDATED MUTAGENICITY AND CARCINOGENICITY ASSESSMENT OF CADMIUM: ADDENDUM TO THE HEALTH ASSESSMENT DOCUMENT FOR CADMIUM. (MAY 1981. EPA 600/8-81-023) EPA 600/8-83-025F.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CAPTAFOL 002425-06-1

010095 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAFOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

CAPTAN 000133-06-2

010184 NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAY OF CAPTAN FOR POSSIBLE CARCINOGENICITY. CAS NO. 133-06-2. NTIS PB-273475.

CHEVRON. 1982. UNPUBLISHED STUDY.

BIODYNAMICS. 1983. SUBMITTED CHEVRON CHEMICAL CORPORATION. UNPUBLISHED STUDY.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CARBAZOLE 000086-74-8

010096 TSUDA H, A HAZIWARA, M SHIBATA, M OHSIMA AND N ITO. 1982. CARCINOGENIC EFFECT OF CARBAZOLE IN THE LIVER OF (C57BL/6N X C3G/HEN)F1 MICE. J NATL CANCER INST. 69: 1383-1389.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CARBAZOLE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CARBON TETRACHLORIDE 000056-23-5

005022 DELLA PORTA, GB, B TERRACINI AND KP SHUBIK. 1961. INDUCTION WITH CARBON TETRACHLORIDE OF LIVER CELL CARCINOMAS IN HAMSTERS. J NATL CANCER INST. 26: 855-863.

EDWARDS, J, WE HESTON AND HA DALTON. 1942. INDUCTION OF THE CARBON TETRACHLORIDE HEPATOMA IN STRAIN L MICE. J NATL CANCER INST. 3: 297-301.

NCI (NATIONAL CANCER INSTITUTE). 1976. REPORT ON CARCINOGENESIS BIOASSAY OF CHLOROFORM. NTIS PB264-018. NCI-CG-TR-3.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR CARBON TETRACHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR CARBON TETRACHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHLORANIL 000118-75-2

010097 BRL (BIONETICS RESEARCH LABS, INC.). 1968. EVALUATION OF CARCINOGENIC, TERATOGENIC AND MUTAGENIC ACTIVITIES OF SELECTED PESTICIDES AND INDUSTRIAL CHEMICALS. VOLUME I: CARCINOGENIC STUDY. NTIS PB 223159.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORANIL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORDANE 000057-74-9

005024 VELSICOL. 1973. EIGHTEEN MONTH ORAL CARCINOGENIC STUDY IN MICE, DECEMBER 14, 1973. MRID NO. 00067568. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAY OF CHLORDANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 8. ALSO PUBL AS DHEW PUBL NO (NIH) 77-808.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLORDANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGENICITY ASSESSMENT OF CHLORDANE AND HEPTACHLOR/HEPTACHLOR EPOXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

317

CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4- 003165-93-3

010419 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-CHLORO-2-METHYLANILINE AND 4-CHLORO-2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORO-2-METHYLANILINE, 4- 000095-69-2

010098 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-CHLORO-2-METHYLANILINE AND 4-CHLORO-2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBENZILATE 000510-15-6

010848 BRL (BIONETICS RESEARCH LABORATORIES). 1968. EVALUATION OF CARCINOGENIC, TERATOGENIC AND MUTAGENIC ACTIVITIES OF SELECTED AND INDUSTRIAL CHEMICALS. I. CARCINOGENIC STUDY. PREPARED FOR NATIONAL CANCER INSTITUTE, REPORT NO. NCI DCCP-C6 1973-I-1. NTIS PB-223-157. P. 17, 27-31, 35, 39, 56-57, 68.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROBENZILATE. PREPARED BY THE OFFICE OF HEATH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

318

CHLOROFORM 000067-66-3

005036 JORGENSON, TA, EF MEIERHENRY, CJ RUSHBROOK ET AL. 1985. CARCINOGENICITY OF CHLOROFORM IN DRINKING WATER TO MALE OSBORNE-MENDEL RATS AND FEMALE B6C3F1 MICE. FUND APPL TOXICOL(USA). 5(4): 760-769.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLOROFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005035 NCI (NATIONAL CANCER INSTITUTE). 1976. REPORT ON CARCINOGENESIS BIOASSAY OF CHLOROFORM. NTIS PB264-018.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLOROFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR CHLOROFORM. PREPARED BY THE OFFICE OF HEALTH AND BENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHLOROMETHANE 000074-87-3

005038 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1981. FINAL REPORT ON 24-MONTH INHALATION STUDY ON METHYL CHLORIDE. PREPARED BY BATTELLE-COLUMBUS LABORATORIES, COLUMBUS, OH DECEMBER 31.

NIOSH (NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH). 1984. CARCINOGENIC RISK ASSESSMENT FOR OCCUPATIONAL EXPOSURE TO MONOHALOMETHANES. NTIS PB85-111623.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR CHLOROMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CHLOROMETHYL METHYL ETHER 000107-30-2

005081 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HALOETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

319

CHLORONITROBENZENE, O- **000088-73-3**

010099 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORONITROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORONITROBENZENE, P- **000100-00-5**

010100 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORONITROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROTHALONIL **001897-45-6**

010384 IRDC. 1985. TUMORIGENICITY STUDY IN RATS. CHLOROTHALONIL. 099-5TX-80-234-008.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROTHALONIL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHROMIUM(VI) **018540-29-9**

005091 MANCUSO, TF. 1975. INTERNATIONAL CONFERENCE ON HEAVY METALS IN THE ENVIRONMENT, TORONTO, CANADA, OCT 27-31. CITED IN US EPA. 1984.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXAVALENT CHROMIUM. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR CHROMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE US ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHRYSENE **000218-01-9**

010185 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

320

COKE OVEN EMISSIONS 008007-45-2

005039 MAZUMDAR S, C REDMOND, W SOLLECITO AND N SUSSMAN. 1975. AN EPIDEMIOLOGICAL STUDY OF EXPOSURE TO COAL-TAR-PITCH VOLATILES AMONG COKE OVEN WORKERS. APCA J. 25(4): 382-389.

LAND, CE. 1976. PRESENTATION AT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION HEARINGS ON COKE OVEN STANDARDS.

US EPA. 1984. CARCINOGEN ASSESSMENT OF COKE OVEN EMISSIONS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CREOSOTE, COAL TAR 008001-58-9

005042 REFER TO IRIS.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CRESOL, M- / (3-METHYLPHENOL) 000108-39-4

010187 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CRESOL, O- / (2-METHYLPHENOL) 000095-48-7

010186 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CRESOL, P- / (4-METHYLPHENOL) 000106-44-5

010188 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

321

CROTONALDEHYDE 000123-73-9

010190 CHUNG, FL, T TAMAKA, SS HECHT. 1986. INDUCTION OF LIVER TUMORS IN F344 RATS BY CROTONALDEHYDE. CANCER RES. 46: 1285-1289.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CROTONALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CYANAZINE 021725-46-2

010944 BOGDANFFY MS. 1990. COMBINED CHRONIC TOXICITY/ONCOGENICITY STUDY WITH CYANAZINE (INR-1957) 2-YEAR FEEDING STUDY IN RATS. PREPARED BY E.I. DU PONT DE NEMOURS AND CO.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DDD 000072-54-8

010291 TOMATIS, L, V TURUSOV, RT CHARLES AND M BOICCHI. 1974. EFFECT OF LONG-TERM EXPOSURE TO 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHYLENE, TO 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHANE, AND TO THE TWO CHEMICALS COMBINED ON CF-1 MICE. J NATL CANCER INST. 52(3): 883-891.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DDE 000072-55-9

010292 TOMATIS, L, V TURUSOV, RT CHARLES AND M BOICCHI. 1974. EFFECT OF LONG-TERM EXPOSURE TO 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHYLENE, TO 1,1-DICHLDRO-2,2-BIS(P-CHLDROPHENYL)ETHANE, AND TO THE TWO CHEMICALS COMBINED ON CF-1 MICE. J NATL CANCER INST. 52(3): 883-891

NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF DDT, TDE AND P,P'-DDE FOR POSSIBLE CARCINOGENICITY. NCI REPORT NO 131. DHEW PUBL NO (NIH) 78-1386

ROSSI L, O BARBIERI, M SANGUINETI, JRP CABRAL, P BRUZZI AND L SANTI. 1983. CARCINOGENICITY STUDY WITH TECHNICAL-GRADE DDT AND DDE IN HAMSTERS. CANCER RES. 43: 776-781.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

322

DDT 000050-29-3

005044 US EPA. 1986. THE CARCINOGEN ASSESSMENT GROUP'S EVALUATION OF THE CARCINOGENICITY OF DICOFDL (KELTHANE), DDT, DDE, AND DDD (TDE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC, FDR THE HAZARD EVALUATIDN DIVISIDN, DFFICE DF PESTICIDE PROGRAMS, DFFICE DF PESTICIDES AND TDXIC SUBSTANCES, WASHINGTDN, DC.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR DDT. PREPARED BY THE DFFICE DF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRDNMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTDN, DC. EPA 540/1-86-026.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATIDN ENDEAVDR (CRAVE) WDRK GRDUP.

DECABROMODIPHENYL ETHER 001163-19-5

010102 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DECABROMODIPHENYL OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, OH FOR THE DFFICE DF SDLID WASTE AND EMERGENCY RESPONSE, WASHINGTDN.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PRDFILE FDR BROMINATED DIPHENYL ETHERS. PREPARED BY THE DFFICE DF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRDNMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, DH FDR THE OFFICE DF SDLID WASTE AND EMERGENCY RESPDNSE, WASHINGTDN, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATIDN ENDEAVDR (CRAVE) WDRK GRDUP.

DIALLATE 002303-16-4

010103 BRL (BIDNETICS RESEARCH LABS, INC.). 1968. EVALUATIDN DF CARCINOGENIC, TERATOGENIC, AND MUTAGENIC ACTIVITIES DF SELECTED PESTICIDES AND INDUSTRIAL CHEMICALS. VDL 1, CARCINOGENIC STUDY. PREPARED FDR NATIDNAL CANCER INSTITUTE, US DEPARTMENT OF CDMMERCE, WASHINGTDN, DC. NTIS PB-223159.

INNES, JRM, BM ULLAND, MG VALERIO, ET AL. 1969. BIDASSAY OF PESTICIDES AND INDUSTRIAL CHEMICALS FDR TUMDRIGENICITY IN MICE: A PRELIMINARY NDTE. J NATL CANCER INST. 42: 1101-1114.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIALLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRDNMENTAL CRITERIA AND ASSESSMENT DFFICE, CINCINNATI, OH FDR THE DFFICE DF SDLID WASTE, WASHINGTDN, DC.

DIBENZO[A,H]ANTHRACENE 000053-70-3

010191 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVDR (CRAVE) WORK GRDUP.

323

DIBROMO-3-CHLOROPROPANE, 1,2 **000096-12-8**

010519 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF 1,2-DIBROMO-3-CHLOROPROPANE (CAS NO 96-12-8) IN F344 RATS AND B6C3F1 MICE (INHALATION STUDY). NTP-TR-NO 81-21.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010484 HAZELTON LABORATORIES, INC. 1977. 104 WEEK DIETARY STUDY IN RATS, 1,2-DIBROMO-3-CHLOROPROPANE (D8CP). FINAL REPORT. UNPU8LISHED REPORT SU8MITTED TO DOW CHEMICAL CO., MIDLAND, MI. OCTOBER 29, 1977.

US EPA. 1988. DRINKING WATER CRITERIA DOCUMENT FOR DI8ROMOCHLOROPROPANE. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON DC. ECAO-CIN-410.

US EPA. 1988. ASSESSMENT OF THE CARCINOGENIC POTENTIAL OF 1,2-DI8ROMO-3-CHLOROPROPANE (DBCP). PREPARED BY THE CARCINOGEN ASSESSMENT GROUP. AVAILA8LE THROUGH RCRA/SUPERFUND DOCKET.

DIBROMOCHLOROMETHANE **000124-48-1**

010891 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHLORODIBROMOMETHANE (CAS NO 124-48-1) IN F/344/N RATS AND B6C3F1 MICE. NTP TECH REP SER NO 282. DHHS NO NIH 85-2538.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIBROMOETHANE, 1,2- **000106-93-4**

005071 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS 8IOASSAY OF 1,2-DI8ROMOETHANE (ETHYLENE DI8ROMIDE) (CAS NO 106-93-4) IN F344 RATS AND 86C3F1 MICE (INHALATION STUDY). NTP TECH REP SER NO 210, NIH PUBL NO 82-1766.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005818 NCI (NATIONAL CANCER INSTITUTE). 1978. 8IOASSAY OF 1,2-DI8ROMOETHANE FOR POSSI8LE CARCINOGENICITY. NCI CARCINOGENESIS REPORT SERIES NO 86. PB-288-428.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ETHYLENE DIBROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2-DIBROMOETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

324

DICHLORO-2-BUTENE, 1,4- 000764-41-0

005053 EI DUPONT DE NEMOURS AND CO. 1986. LONG-TERM INHALATION STUDY WITH 1,4-DICHLOROBUTENE-2 (DCB) IN RATS. FINAL REPORT OTS 8(E) FICHE 0509754.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DICHLOROBUTENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROBENZENE, 1,4- 000106-46-7

005050 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,4-DICHLOROBENZENE IN F344/N RATS AND B6C3F1 MICE -- GALLEY DRAFT. US DHHS, PHS, NIH TECH REP SER NO 319.

CONTAMINANTS, 1987. FR (JULY 8). 52: 25690-25717.

DICHLOROBENZIDINE, 3,3'- 000091-94-1

005815 STULA, EF, H SHERMAN, JA ZAPP, ET AL. 1975. EXPERIMENTAL NEOPLASIA IN RATS FROM ORAL ADMINISTRATION OF 3,3'-DICHLOROBENZIDINE, 4,4'-METHYLENE-BIS(2-CHLOROANILINE) AND 4,4'-METHYLENE-BIS (2-METHYLANILINE). TOXICOL APPL PHARMACOL. 31: 159-175.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROETHANE, 1,1- 000075-34-3

005055 US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROETHANE, 1,2- 000107-06-2

005058 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,2-DICHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 55, DHEW PUBL NO (NIH) 78-1361.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR 1,2-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON, DC. EPA 600/8-84-006F.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROETHYLENE, 1,1- 000075-35-4

005060 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF VINYLIDENE CHLORIDE (CAS NO 75-35-4) IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDY). NTP TECH REP SER NO 228. DHHS NO NIH 82-1784.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR VINYLIDENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. RESEARCH TRIANGLE PARK. NC.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005059 MALTONI. C. G LEFEMINE. P CHIECO ET AL. 1985. EXPERIMENTAL RESEARCH ON VINYLIDENE CHLORIDE CARCINOGENESIS. IN: ARCHIVES OF RESEARCH ON INDUSTRIAL CARCINOGENESIS. VOL 3. C. MALTONI AND M. MEHLMAN. ED. PRINCETON SCIENTIFIC PUBLISHERS. PRINCETON. NJ.

US EPA. 1985. HEALTH ASSESSMENT DDCUMENT FOR VINYLIDENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. RESEARCH TRIANGLE PARK. NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROPROPANE, 1,2- 000078-87-5

005062 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE CARCINOGENESIS STUDIES OF 1,2-DICHLOROPROPANE (PROPYLENE DICHLORIDE). (CAS NO. 78-87-5) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-82-092. NIH PUBL NO 84-2519. NTP TR 263. US DHHS. PHS. NIH. AUGUST. 19B6 DRAFT.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 1,2-DICHLOROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DICHLOROPROPENE, 1,3- / (TELONE II) 000542-75-6

010946 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF TELONE II IN F344/N RATS AND B6C3F1 MICE. US DEPT HEALTH AND HUMAN SERVICES. TECH REPORT SER NO 269.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF WATER. WASHINGTON. DC.

010104 LOMAX LG. WT STOTT. KA JOHNSON. LL CALHOUN. BL YANO AND JF QUAST. 1989. THE CHRONIC TOXICITY AND ONCOGENICITY OF INHALED TECHNICAL GRADE 1,3-DICHLOROPROPENE IN RATS AND MICE. FUND APPL TOXICOL. 12: 418-431.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIELDRIN 000060-57-1

005816 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAYS OF ALDRIN AND DIELDRIN FOR POSSIBLE CARCINOGENICITY. NATIONAL CANCER INSTITUTE CARCINOGEN TECH REP SER NO 22 NCI-CG-TR-22. ALSO PUBL AS DHEW PUBL NO (NIH) 78-882.

WALKER. AIT. E THORPE AND DE STEVENSDN. 1972. THE TOXICOLOGY OF DIELDRIN (HEOD): I. LONG-TERM ORAL TOXICITY STUDIES IN MICE. FOOD COSMET TOXICOL. 11: 415-432.

MEIERHENREY. EF. BH REUBER. ME GERSHWIN ET AL. 1983. DIELDRIN INDUCED MALLORY BODIES IN HEPATIC TUMORS OF MICE OF DIFFERENT STRAINS. HEPATOLOGY. 3: 90-95.

TENNEKES. HA. AS WRIGHT. KM DIX AND JH KOEMAN. 1981. EFFECTS OF DIELDRIN. DIET AND BEDDING ON ENZYME FUNCTION AND TUMOR INCIDENCE IN LIVERS OF MALE CF-1 MICE. CANCER RES. 41: 3615-3620.

THDRPE. E AND AIT WALKER. 1973. THE TOXICOLOGY OF DIELDRIN (HEDD). II. CDMPARATIVE LDNG-TERM ORAL TOXICITY STUDIES IN MICE WITH DIELDRIN. DDT. PHENOBARBITONE. BETA-BHC AND GAMMA-BHC. FOOD COSMET TOXICOL. 11: 433-442.

DAVIS. KJ. 1965. PATHOLOGY REPORT ON MICE FED ALDRIN. DIELDRIN. HEPTACHLOR OR HEPATOCHLOR EPOXIDE FOR TWO YEARS. INTERNAL FDA MEMORANDUM TO DR. AJ LEHMAN. JULY 19.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIELDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTDN. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVDR (CRAVE) WORK GROUP.

DIETHYLSTILBESTROL 000056-53-1

010485 GASS. ET AL. 1964. CARCINOGENIC DOSE-RESPONSE CURVE TO ORAL DIETHYLSTILBESTEROL. J NATL CANCER INST. 33: 971-977.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF DIETHYLSTILBESTEROL. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON DC.

DIMETHOXYBENZIDINE, 3,3'- 000119-90-4

010106 SELLAKUMAR AR. R MONTESANO AND A SAFFIOTI. 1969. AROMATIC AMINES CARCINOGENICITY IN HAMSTERS. PROC AM ASSOC CANCER RES. 10: 78.

OSHA/NIOSH (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION/NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH). 1980. HEALTH HAZARD. ALERT BENZIDINE. O-TOLIDINE AND O-DIANISIDINE BASED DYES. DHHS (NIOSH) PUBL NO. 81-106.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 3,3'-DIMETHOXYBENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. DH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

328

DIMETHYLANILINE HYDROCHLORIDE, 2,4- 021436-96-4

010108 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-DIMETHYLANILINE AND 2,4-DIMETHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLANILINE, 2,4- 000095-68-1

010107 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-DIMETHYLANILINE AND 2,4-DIMETHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLBENZIDINE, 3,3'- 000119-93-7

010109 GRISWOLD DP JR, AE CASEY, EK WEISBURGER AND JH WEISBURGER. 1968. THE CARCINOGENICITY OF MULTIPLE INTRA-GASTRIC DOSES OF AROMATIC AND HETEROCYCLIC NITRO OR AMINO DERIVATIVES IN YOUNG FEMALE SPRAGUE-DAWLEY RATS. CANCER RES. 28(5): 924-933.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 3,3'-DIMETHYLBENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLHYDRAZINE, 1,2- 000540-73-8

010962 TOTH B AND K PATEL. 1982. CARCINOGENICITY DOSE RESPONSE STUDY BY CONTINUOUS ADMINISTRATION OF 1,2-DIMETHYL HYDRAZINE DIHYDROCHLORIDE IN MICE. I. LIGHT AND TRANSMISSION ELECTRON MICROSCOPE STUDY OF COLONIC NEOPLASMS. AM J PATH. 84: 69-86.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2-DIMETHYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF 1,2-DIMETHYLHYDRAZINE. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE AND OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

329

DIMETHYLSULFATE **000077-78-1**

010112 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYL SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DINITROTOLUENE, 2,4- **000121-14-2**

005066 ELLIS, HV, SH HAGEUSEN, JR JODGSON ET AL. 1979. MAMMALIAN TOXICITY OF MUNITIONS COMPOUNDS. PHASE III. EFFECTS OF LIFETIME EXPOSURE. PART I. 2,4-DINITROTOLUENE. NTIS AD-A077692. 281 P.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2,4- AND 2,6-DINITROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DINITROTOLUENE, 2,6- **000606-20-2**

005068 ELLIS HV, SH HAGUESEN, JR JODGSON, ET AL. 1979. MAMMALIAN TOXICITY OF MUNITION COMPOUNDS. PHASE III. EFFECTS OF LIFETIME EXPOSURE. PART I. 2,4-DINITROTOLUENE. NTIS AD-A077692. 281 P.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2,4- AND 2,6-DINITROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIOXANE, 1,4- **000123-91-1**

010298 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,4-DIOXANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 80. DHEW PUBLICATION NO (NIH) PB-285-711.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

330

DIPHENYLHYDRAZINE, 1,2- 000122-66-7

005070 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF HYDRAZOBENZENE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 92. DHEW PUBL NO (NIH) 78-1342.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 1,2-DIPHENYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,2-DIPHENYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR 1,2-DIPHENYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIRECT BLACK 38 001937-37-7

010113 NCI (NATIONAL CANCER INSTITUTE). 1978. 13-WEEK SUBCHRONIC TOXICITY STUDIES ON DIRECT BLUE 6, DIRECT BLACK 38 AND DIRECT BROWN 95 DYES. NCI CARCINOGENESIS TECH REP SER NO. 108. P 127.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT BLACK 38. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIRECT BLUE 6 002602-46-2

010114 NCI (NATIONAL CANCER INSTITUTE). 1978. 13-WEEK SUBCHRONIC TOXICITY STUDIES OF DIRECT BLUE 6, DIRECT BLACK 38, AND DIRECT BROWN 95 DYES. NCI CARCINOGENESIS. TECH REP SER NO. 108. P 127.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT BLUE 6. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIRECT BROWN 95 016071-86-6

010115 NCI (NATIONAL CANCER INSTITUTE). 1978. 13-WEEK SUBCHRONIC TOXICITY STUDIES OF DIRECT BLUE 6, DIRECT BLACK 38, AND DIRECT BROWN 95 DYES. NCI CARCINOGENESIS. TECH REP SER NO. 108. P 127.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT BROWN 95. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIRECT SKY BLUE 6B 002610-05-1

010116 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT SKY BLUE 6B. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

EPICHLOROHYDRIN 000106-89-8

010117 LASKIN S, AR SELLAKUMAR, M KUSCHNER, ET AL. 1980. INHALATION CARCINOGENICITY OF EPICHLOROHYDRIN IN NON-INBRED SPRAGUE-DAWLEY RATS. J NATL CANCER INST. 65(4): 751-757.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-83-032F. NTIS PB85-132363.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010198 KONISHI, T, A KAWABATA, A DENDA, ET AL. 1980. FORESTOMACH TUMORS INDUCED BY ORALLY ADMINISTERED EPICHLOROHYDRIN IN MALE WISTAR RATS. GANN. 71: 922-923.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-83-032F. NTIS PB85-132363.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ETHYL ACRYLATE 000140-88-5

010118 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. CARCINOGENESIS STUDIES OF ETHYL ACRYLATE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES).

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYL ACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

332

ETHYLENE OXIDE 000075-21-8

010421 DUNKELBERG H. 1982. CARCINOGENICITY OF ETHYLENE OXIDE AND 1,2-PROPYLENE OXIDE UPON INTRA-GASTRIC ADMINISTRATION TO RATS. BR J CANCER. 46: 924-933.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR OXIRANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SDLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010422 SNELLINGS WM, CS WEIL AND RR MORONPOT. 1981. FINAL REPORT, ETHYLENE OXIDE, TWO YEAR INHALATION STUDY. SUBMITTED TO THE US ENVIRONMENTAL PROTECTION AGENCY BY BUSHEY RUN RESEARCH CENTER, PITTSBURGH PA.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR ETHYLENE OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84-009F. NTIS PB86-102597.

ETHYLENE THIOUREA 000096-45-7

010947 NTP (NATIONAL TOXICOLOGY PROGRAM). 1992. NTP TECHNICAL REPORT ON THE PERINATAL TOXICOLOGY AND CARCINOGENESIS STUDIES OF ETHYLENE THIOUREA (CAS NO 96-45-7) IN F344/N RATS AND B6C3F1 MICE. (FEED STUDIES). NTP TR 388. US DEPT OF HEALTH AND HUMAN SERVICES. PUBLIC HEALTH SERVICE. NATIONAL INSTITUTES OF HEALTH.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

FOLPET 000133-07-3

010120 CHEVRON CHEMICAL COMPANY. 1982. CHEVRON STUDY: LIFETIME ONCOGENICITY FEEDING STUDY OF PHOLTON TECHNICAL (SX-946, FOLPET) IN CD-1 (ICR DERIVED) MICE. AUGUST 24. SOCIAL STUDY NO. 1331.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FOLPET. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

FORMALDEHYDE 000050-00-0

010121 KERNS ET AL., 1983. CARCINOGENICITY OF FORMALDEHYDE IN RATS AND MICE AFTER LONG-TERM INHALATION EXPOSURE. CANCER RES. 43(9): 4382-4392.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1985. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR FORMALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

333

FURAZOLIDONE **000067-45-8**

005106 US DHEW. 1976. FUROZOLIDONE (NF-180): NOTICE OF OPPORTUNITY FOR HEARING ON PROPOSAL TO WITHDRAW APPROVAL OF CERTAIN NEW ANIMAL DRUG APPLICATIONS. FEDERAL REGISTER. 41: 19907-19921.

US DHEW. 1976. FUROZOLIDDNE, NIHYDRAZONE, FURALTADONE, NITROFURAZONE. WITHDRAWAL OF PROPOSALS AND NOTICE OF PROPOSED RULE MAKING. FEDERAL REGISTER. 41: 34884-34921.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR NITROFURANS. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, DH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

FURIUM **000531-82-8**

005108 COHEN, SM, E ERTURK AND GT BRYAN. 1970. PRODUCTION DF LEUKEMIA AND STOMACH NEOPLASMS IN SWISS, RF, BALB/C AND C3H FEMALE MICE BY FEEDING N-(4,5-NITRO-2-FURYL-2-THIAZOLYL)ACETAMIDE. CANCER RES. 30(9): 2320-2325.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

GLYCIDALDEHYDE **000765-34-4**

010122 US EPA. 1989. HEALTH AND ENVIRDNMENTAL EFFECTS DOCUMENT FOR GLYCIDALDEHYDE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEPTACHLOR **000076-44-8**

005820 DAVIS K. 1965. PATHOLOGY REPORT ON MICE FED ALDRIN, DIELDRIN, HEPTACHLOR, AND HEPTACHLOR EPOXIDE FOR TWO YEARS. INTERNAL FDA MEMORANDUM TO DR. AJ LEHMAN, JULY 19.

NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAY OF HEPTACHLOR FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 9, DHEW NO (NIH) 77-809.

EPSTEIN, SS. 1976. CARCINOGENICITY OF HEPTACHLOR AND CHLORDANE. SCI TOTAL ENVIRON. 6: 103-154.

REUBER, MD. 1977. HISTOPATHOLOGY OF CARCINOMAS OF THE LIVER IN MICE INGESTING HEPTACHLOR OR HEPTACHLOR EPOXIDE. EXP CELL BIOL. 45: 147-157.

US EPA. 1986. CARCINOGENICITY ASSESSMENT OF CHLORDANE AND HEPTACHLOR/HEPTACHLOR EPOXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR HEPTACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 19B7. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEPTACHLOR EPOXIDE **001024-57-3**

010424 DAVIS KJ. 1965. PATHOLOGY REPORT ON MICE FED ALDRIN, DIELDRIN, HEPTACHLOR AND HEPTACHLOR EPOXIDE FOR TWO YEARS. INTERNAL FDA MEMORANDUM TO DR. A.J. LEHMAN, JULY 19.

VELSICOL CHEMICAL CORPORATION. 1973. MRID NO. 00062678. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 19B7. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROBENZENE **000118-74-1**

010365 ERTURK E, RW LAMBRECHT, HA PETERS, DJ CRIPPS ET AL. 19B6. ONCOGENICITY OF HEXACHLROBENZENE. IN: HEXACHLROBENZENE: PROC INT SYMP, CR MORRIS AND JRP CABRAL, ED. IARC SCIENTIFIC PUBL NO. 77, OXFORD UNIVERSITY PRESS, OXFORD. P 417-423.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 19B4. HEALTH EFFECTS ASSESSMENT FOR HEXACHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 19B9. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

335

HEXACHLOROBUTADIENE 000087-68-3

005088 KOCIBA, RJ, DG KEYS, GC JERSEY, ET AL. 1977. RESULTS OF A2-YEAR CHRONIC TOXICITY STUDY WITH HEXACHLOROBUTADIENE IN RATS. AM IND HYG ASSOC J. 38: 589-602.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR HEXACHLOROBUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXACHLOROBUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, ALPHA- 000319-84-6

010123 ITO N, H NAGASAKI, M ARIA, ET AL. 1973. HISTOLOGICAL AND ULTRASTRUCTURAL STUDIES ON THE HEPATOCARCINOGENICITY OF BENZENE HEXACHLORIDE IN MICE. J NATL CANCER INST. 51: 817-826.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, BETA 000319-85-7

010124 THORPE E AND AIT WALKER. 1973. TOXICOLOGY OF DIELDRIN (HEOD) II. COMPARATIVE LONG-TERM ORAL TOXICITY STUDIES IN MICE WITH DIELDRIN, DDT, PHENOBARBITONE, BETA-HCH AND GAMMA-HCH. FOOD COSMET TOXICOL. 11: 433-442.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

336

HEXACHLOROCYCLOHEXANE, DELTA- 000319-86-8

010125 ITO N, H NAGASAKI, H AOE, ET AL. 1975. BRIEF COMMUNICATION: DEVELOPMENT OF HEPATOCELLULAR CARCINOMAS IN RATS TREATED WITH BENZENEHEXACHLORIDE. J NATL CANCER INST. 54: 801-805.

ITO N, H NAGASAKI, M ARIA, ET AL. 1973. HISTOLOGICAL AND ULTRASTRUCTURAL STUDIES ON THE HEPATOCARCINOGENICITY OF BENZENE HEXACHLORIDE IN MICE. J NATL CANCER INST. 51: 817-826.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, EPSILON- 006108-10-7

010126 GOTO M, M HATTORI, T MIYAGAWA AND M ENOMOTO. 1972. ECOLOGICAL CHEMISTRY. II. HEPATOMA FORMATION IN MICE AFTER ADMINISTRATION OF HIGH DOSES OF HEXACHLOROCYCLOHEXANE ISOMERS. CHEMOSPHERE. 1: 279-282.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, GAMMA- 000058-89-9

005098 THORPE, E AND AIT WALKER. 1973. THE TOXICOLOGY OF DIELDRIN (HEOD). II. COMPARATIVE LONG-TERM ORAL TOXICITY STUDIES IN MICE WITH DIELDRIN, DDT, PHENOBARBITONE, BETA-BHC AND GAMMA-BHC. FOOD COSMET TOXICOL. 11: 433-442.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR LINDANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

337

HEXACHLOROCYCLOHEXANE-TECHNICAL **000608-73-1**

010127 MUNIR KM, CS SOMAN AND V SUMATI. 1983. HEXACHLOROCYCLOHEXANE-INDUCED TUMORIGENICITY IN MICE UNDER DIFFERENT EXPERIMENTAL CONDITIONS. TUMORIGENICITY. 69: 383-386.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROETHANE **000067-72-1**

005090 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF HEXACHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 68, DHEW NO (NIH) 78-1318.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HEXACHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED ETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR HEXACHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

338

HYDRAZINE 000302-01-2

010129 BIANCIFIORI C. 1970. HEPATOMAS IN CBA/CB/SE MICE AND LIVER LESIONS IN GOLDEN HAMSTERS INDUCED BY HYDRAZINE SULFATE. J NATL CANCER INST. 44: 943.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010128 MACEWEN JD, EH VERNDT, CC HAUN, ER KINKEAD AND A HALL, III. 1981. CHRONIC INHALATION TOXICITY OF HYDRAZINE: ONCOGENIC EFFECTS. AIR FORCE AEROSPACE MEDICAL RESEARCH LABORATORY, WRIGHT-PATTERSON AIR FORCE BASE, OH.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATIDN ENDEAVOR (CRAVE) WORK GROUP.

HYDRAZINE SULFATE 010034-93-2

010131 BIANCIFIORI C. 1970. HEPATOMAS IN CBA/C8/SE MICE AND LIVER LESIONS IN GOLDEN HAMSTERS INDUCED BY HYDRAZINE SULFATE. J NATL CANCER INST. 44: 943.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE DF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010130 MACEWEN JD, EH VERNOT, CC HAUN, ER KINKEAD AND A HALL, III. 1981. CHRONIC INHALATION TOXICITY OF HYDRAZINE: ONCOGENIC EFFECTS. AIR FORCE AEROSPACE MEDICAL RESEARCH LABORATORY, WRIGHT-PATTERSON AIR FORCE BASE, OH.

US EPA. 1984. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

339

INDENO[1,2,3-CD]PYRENE **000193-39-5**

010192 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ISOPHORONE **000078-59-1**

005094 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF ISOPHORONE (CAS NO 78-59-1) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECH REP SER NO 291. DHHS (NIH)86-2547.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ISOPHORONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ISOPHORONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

LEAD **007439-92-1**

005096 US EPA. 1989. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF LEAD AND LEAD COMPOUNDS. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. WASHINGTON DC FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR LEAD. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

LINURON **000330-55-2**

010383 REFER TO IRIS.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

340

MERCURIC CHLORIDE 007487-94-7

010971 NTP (NATIONAL TOXICOLOGY PROGRAM). 1993. TOXICOLOGY AND CARCINOGENESIS STUDIES OF MERCURIC CHLORIDE (CAS NO. 7487-94-7) IN F344 RATS AND B3C3F1 MICE (GAVAGE STUDIES). NTP TECHNICAL REPORT SERIES NO. 408. NATIONAL TOXICOLOGY PROGRAM. U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH, RESEARCH TRIANGLE PARK, NC.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002Ab.

U.S. EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

MERCURY, ELEMENTAL 007439-97-6

010973 CRAGLE, D.L., D.R. HOLLIS, J.R. QUALTERS, W.G. TANKERSLEY AND S.A. FRY. 1984. A MORTALITY STUDY OF MEN EXPOSED TO ELEMENTAL MERCURY. J. OCCUP. MED. 26(11): 817-821.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/00Ab.

U.S. EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

METHOXY-5-NITROANILINE, 2- 000099-59-2

010132 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 5-NITRO-O-ANISIDINE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO. 127. 123 P.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHOXY-5-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

METHYL-5-NITROANILINE, 2- 000099-55-8

010140 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 5-NITRO-O-TOLUIDINE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 107. 102 P.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHYL-5-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

341

METHYLANILINE HYDROCHLORIDE, 2- 000636-21-5

010134 HECHT SS, A EL-BOYOUMY, A RIVENSON AND E FIALA. 1982. COMPARATIVE CARCINOGENICITY OF O-TOLUIDINE HYDROCHLORIDE AND O-NITROSOTOLUENE IN F-344 RATS. CANCER LETT. 16(1): 103-108.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHYLANILINE AND 2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLANILINE, 2- 000095-53-4

010133 HECHT SS, A EL-BOYOUMY, A RIVENSON AND E FIALA. 1982. COMPARATIVE CARCINOGENICITY OF O-TOLUIDINE HYDROCHLORIDE AND O-NITROTDLUENE IN F-344 RATS. CANCER LETT. 16(1): 103-108.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHYLANILINE AND 2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TOLUIDINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE CHLORIDE / (DICHLOROMETHANE) 000075-09-2

005100 NCA (NATIONAL COFFEE ASSOCIATION). 1983. TWENTY-FOUR MONTH ONCOGENICITY STUDY OF METHYLENE CHLORIDE IN MICE. PREPARED BY HAZELTON LABORATORIES, AMERICA INC, VIENNA, VA.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF DICHLOROMETHANE (METHYLENE CHLORIDE) (CAS NO 75-09-2) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TECH REP SER NO 306, DHHS (NIH) 86-2562.

US EPA. 1985. ADDENDUM TO THE HEALTH ASSESSMENT DOCUMENT FOR DICHLOROMETHANE (METHYLENE CHLORIDE). UPDATED CARCINOGENICITY ASSESSMENT OF DICHLOROMETHANE (METHYLENE CHLORIDE). OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005904 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF DICHLOROMETHANE (METHYLENE CHLORIDE) (CAS NO 75-09-2) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TECH REP SER NO 306, DHHS (NIH) 86-2562.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR METHYLENE CHLORIDE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

342

METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4

010425 KOMMINENI C, DH GROTH, IJ FROCKT, RW VOELKER AND RP STANOVICK. 1979. DETERMINATION OF THE TUMORIGENIC POTENTIAL OF METHYLENE-BIS-ORTHO-CHLOROANILINE. J ENVIRON PATH TOXICOL. 2(5): 149-171.

STULA EF, H SHERMAN, JP ZAPP, JR AND JW CLAYTON. 1975. EXPERIMENTAL NEOPLASIA IN RAT FROM ORAL ADMINISTRATION OF 3,3-DICHLOROBENZIDINE, 4,4-METHYLENE-BIS(2-CHLOROANILINE) AND 4,4-METHYLENE-BIS(2-METHYLANILINE). TOXICOL APPL PHARMACOL. 31(I): 159-176.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4,4-METHYLENE-BIS(2-CHLOROANILINE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'- 000101-61-1

010137 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF 4,4'-METHYLENE-BIS(N,N'-DIMETHYL)BENZENAMINE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN. TECH REP SER NO. 186. CAS 101-61-1.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4,4'-METHYLENE-BIS(N,N'-DIMETHYL)ANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

METHYLMERCURY 022967-92-6

010972 TAMASHIRO, H., M. ARAKAKI, H. AKAGI, M. FUTATSUKA AND L.H. ROHT. 1984. CAUSES OF DEATH IN MINAMATA DISEASE: ANALYSIS OF DEATH CERTIFICATES. INT. ARCH. OCCUP. ENVIRON. HEALTH. 54: 135-146.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002Ab.

U.S. EPA. 1994 CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

METOLACHLOR 051218-45-2

010951 US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR METOLACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

MIREX 002385-85-5

010952 NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF MIREX (CAS NO 2385-85-5) IN F344/N RATS. (FEED STUDIES). NTP TR 313. US DEPT OF HEALTH AND HUMAN SERVICES. PUBLIC HEALTH SERVICE. NATIONAL INSTITUTES OF HEALTH.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

343

NIAGARA BLUE 4B 002429-74-5

010141 US EPA. 1987. HEALTH AND ENVIRDNMENTAL EFFECTS PROFILE FOR NIAGARA BLUE 4B. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT DFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

NICKEL REFINERY DUST

005103 CHOVIL. A. RB SUTHERLAND AND M HALLIDAY. 1981. RESPIRATORY CANCER IN A COHDRT OF NICKEL SINTER PLANT WORKERS. BR J IND MED. 38: 327-333.

PETO. J. H CUCKLE. R DOOL. ET AL. 1984. RESPIRATORY CANCER MORTALITY OF WELSH NICKEL REFINERY WORKERS. IN: NICKEL IN THE HUMAN ENVIRONMENT: PROCEEDINGS OF A JOINT SYMPOSIUM. MARCH. 1983. IARC SCIENTIFIC PUBL NO 53. IARC. LYON. FRANCE. P. 36-46.

ENTERLINE. PE AND GM MARSH. 1982. MORTALITY AMONG WORKERS IN A NICKEL REFINERY AND ALLOY MANUFACTURING PLANT IN WEST VIRGINIA. J NAT CANCER INST. 68: 925-933.

MAGNUS. K. A ANDERSEN AND A HOGETVEIT. 1982. CANCER OF RESPIRATORY ORGANS AMONG WORKERS AT A NICKEL REFINERY IN NORWAY. INT J CANCER. 30: 681-685.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR NICKEL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. RESEARCH TRIANGLE PARK. NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NICKEL SUBSULFIDE 012035-72-2

005768 CHOVIL. A. RB SUTHERLAND AND M HALLIDAY. 1981. RESPIRATORY CANCER IN A COHDRT OF NICKEL SINTER PLANT WORKERS. BR J IND MED. 38: 327-333.

PETO. J. H CUCKLE. R DOOL. ET AL. 1984. RESPIRATORY CANCER MORTALITY OF WELSH NICKEL REFINERY WORKERS. IN: NICKEL IN THE HUMAN ENVIRONMENT: PROCEEDINGS OF A JOINT SYMPOSIUM. MARCH. 1983. IARC SCIENTIFIC PUBL NO 53. IARC. LYON. FRANCE. P. 36-46.

ENTERLINE. PE AND GM MARSH. 1982. MORTALITY AMONG WORKERS IN A NICKEL REFINERY AND ALLOY MANUFACTURING PLANT IN WEST VIRGINIA. J NAT CANCER INST. 68: 925-933.

MAGNUS. K. A ANDERSEN AND A HOGETVEIT. 1982. CANCER OF RESPIRATORY ORGANS AMONG WORKERS AT A NICKEL REFINERY IN NORWAY. INT J CANCER. 30: 681-685.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR NICKEL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. RESEARCH TRIANGLE PARK. NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

344

NITROBENZENE 000098-95-3

010969 CIIT. 1993. CHRONIC INHALATION TOXICITY STUDY OF NITROBENZENE IN B6C3F1 MICE, FISHER 344 RATS, AND SPRAGUE-DAWLEY CD RATS. CIIT, PO BOX 12137, RESEARCH TRIANGLE PARK, NC, 27709.

US EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE)

NITROFURAZONE 000059-87-0

005110 ERTURK, E, JE MORRIS, SM COHEN, ET AL. 1970. TRANSPLANTABLE RAT MAMMARY TUMORS INDUCED BY 5-NITRO-2-FURALDEHYDE SEMICARBAZONE AND BY FORMIC ACID 2-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]HYDRAZIDE. CANCER RES. 30(5): 1409-1412.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROPROPANE, 2- 000079-46-9

010142 LEWIS TR, CE ULRICH AND WM BUSEY. 1979. SUBCHRONIC INHALATION TOXICITY OF NITROMETHANE AND 2-NITROPROPANE. J ENVIRON PATHOL TOXICOL. 2(5): 233-249.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-NITROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF 2-NITROPROPANE. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON DC, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON DC.

NITROSO-DI-N-BUTYLAMINE, N- 000924-16-3

010143 BERTRAM JS AND AW CRAIG. 1970. INDUCTION OF BLADDER TUMORS IN MICE WITH DIBUTYLNITROSAMINES. BR. J CANCER. 24: 352-359.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSO-DI-N-PROPYLAMINE, N- 000621-64-7

010147 DRUCKREY H. 1967. QUANTITATIVE ASPECTS IN CHEMICAL CARCINOGENS. IN: POTENTIAL CARCINOGENIC HAZARDS FROM DRUGS. UICC MONOGRAPH. SERIES 7. SPRINGER-VERLAG. BERLIN. P 60-78.

DRUCKREY H. R PURESSMAN. S IVANKOVIC AND D SCHMAHL. 1967. ORGANOTROPIC CARCINOGENIC EFFECT OF 65 DIFFERENT N-NITROSO COMPOUNDS ON BD RATS. Z KREBSFORSCH. 69: 103-201.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSO-N-ETHYLUREA, N- 000759-73-9

010426 BULAY. O. SS MIRVISH. H GARCIA. AF PELFRENE. B GOLD AND M EAGAN. 1979. CARCINOGENICITY TESTS OF SIX NITROSAMIDES AND NITROSOCYANAMIDE ADMINISTERED ORALLY TO RATS. J NATL CANCER INST. 62: 1523-1528.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF N-NITROSO-N-ETHYLUREA. IN SUPPORT OF REPORTABLE QUANTITY ADJUSTMENTS PURSUANT TO CERCLA SECTION 102. PREPARED BY THE CARCINOGEN ASSESSMENT GRDUP. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. WASHINGTON. OC FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

NITROSO-N-METHYLUREA, N- 000684-93-5

010427 REDDY. JK AND MS RAO. 1975. PANCREATIC AOENOCARCINOMA IN INBREO GUINEA PIGS INOUCED BY N-METHYL-N-NITROSOUREA. CANCER RES. 35: 2269-2277.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF N-NITROSO-N-METHYLUREA. IN SUPPORT OF REPORTABLE QUANTITY ADJUSTMENTS PURSUANT TO CERCLA SECTION 102. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. WASHINGTON. DC FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSODIETHANOLAMINE, N- 001116-54-7

010144 LIJINSKY W AND RM KOVATCH. 1985. INDUCTION OF LIVER TUMORS IN RATS BY NITROSODIETHANOLAMINE AT LOW DOSES. CARCINOGENESIS. 6: 1679-1681.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

346

NITROSODIETHYLAMINE, N- **000055-18-5**

010145 PETO R, R GRAY, P BRANTOM AND P GRASSO. 1984. NITROSAMINE CARCINOGENESIS IN 5120 RODENTS: CHRONIC ADMINISTRATION OF 16 DIFFERENT CONCENTRATIONS OF NDEA, NDMA, NPYR AND NPIP IN THE WATER OF 4440 INBRED RATS, WITH PARALLEL STUDIES ON NDEA ALONE OF THE EFFECT OF AGE OF STARTING (3, 6 OR 20 WEEKS) AND OF SPECIES (RATS, MICE OR HAMSTERS). IARC SCI PUBL. 57: 627-665.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSODIMETHYLAMINE, N- **000062-75-9**

010146 PETO R, R GRAY, P BRANTOM AND P GRASSO. 1984. NITROSAMINE CARCINOGENESIS IN 5120 RODENTS: CHRONIC ADMINISTRATION OF 16 DIFFERENT CONCENTRATIONS DF NDEA, NDMA, NPYR AND NPIP IN THE WATER OF 4440 INBRED RATS, WITH PARALLEL STUDIES ON NDEA ALONE OF THE EFFECT OF AGE OF STARTING (3, 6 OR 20 WEEKS) AND OF SPECIES (RATS, MICE OR HAMSTERS). IARC SCI PUBL. 57: 627-665.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSODIPHENYLAMINE, N- **000086-30-6**

005112 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF N-NITROSODIPHENYLAMINE (CAS NO 86-30-6) FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 164, NIH 79-1720. NTIS PB 298-275.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR N-NITROSODIPHENYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSOMETHYLETHYLAMINE, N- **010595-95-6**

010148 DRUCKREY H. 1967. QUANTITATIVE ASPECTS IN CHEMICAL CARCINOGENS. IN: POTENTIAL CARCINOGENIC HAZARDS FROM DRUGS. UICC MONOGRAPH. SERIES 7. SPRINGER-VERLAG. BERLIN. P 60-78.

DRUCKREY H. R PURESSMAN. S IVANKOVIC AND D SCHMAHL. 1967. ORGANOTROPIC CARCINOGENIC EFFECT OF 65 DIFFERENT N-NITROSO COMPOUNDS ON BD RATS. Z KREBSFORSCH. 69: 103-201.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSOMETHYLVINYLAMINE, N 004549-40-0

010149 ORUCKREY H. 1967. QUANTITATIVE ASPECTS IN CHEMICAL CARCINOGENS. IN: POTENTIAL CARCINOGENIC HAZAROS FROM ORUGS. UICC MONOGRAPH, SERIES 7. SPRINGER-VERLAG, BERLIN. P 60-78.

ORUCKREY H, R PURESSMAN, S IVANKOVIC ANO O SCHMAHL. 1967. ORGANOTROPIC CARCINOGENIC EFFECT OF 65 OIFFERENT N-NITROSO COMPOUNOS ON BO RATS. Z KREBSFORSCH. 69: 103-201.

US EPA. 1986. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF N-NITROSOMETHYLVINYLAMINE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON OC.

NITROSOPYRROLIDINE, N- 000930-55-2

010300 PREUSSMAN R, O SCHMAHL ANO G EISENBRANO. 1977. CARCINOGENICITY OF N-NITROSOPYRROLIOINE: OOSE-RESPONSE STUOY IN RATS. Z KREBSFORSCH. 90: 161-166.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

PARATHION 000056-38-2

005116 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR PARATHION. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY ANO REMEOIAL RESPONSE, WASHINGTON, OC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5- 000087-84-3

010150 BLAIR EH. 1981. TSCA SEC 8(E) SUBMISSION 8E HQ-0381-0393, 88-8100295 BY OOW CHEMICAL CO. OFFICE OF TOXIC SUBSTANCES. US EPA, WASHINGTON, OC.

US EPA. 1985. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR 1,2,3,4,5-PENTABROMO-6-CHLOROCYCLOHEXANE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, OC.

349

PENTACHLORONITROBENZENE 000082-68-8

010151 INNES, JRM, BM ULLAND, MG VALERIA, ET AL. 1969. BIOASSAY OF PESTICIDES AND INDUSTRIAL CHEMICALS FOR TUMORIGENICITY IN MICE: A PRELIMINARY NOTE. J NATL CANCER INST. 41: 1101-1114.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENTACHLORONITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PENTACHLOROPHENOL 000087-86-5

010381 NTP (NATIONAL TOXICOLOGY PROGRAM). 1989. TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF PENTACHLOROPHENOL (CAS NO 87-86-5) IN B6C3F1 MICE (FEED STUDIES). NTP TECH REPORT NO 349. NIH PUBL NO 89-2804.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

PHENYLENEDIAMINE, O- 000095-54-5

010152 WEISBURGER EK, AB RUSSFIELD AND F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2(2): 325-356.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR O-PHENYLENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHENYLPHENOL, 2- 000090-43-7

010153 HIRAGA K AND U FUJII. 1981. INDUCTION OF TUMOURS OF THE URINARY SYSTEM IN F344 RATS BY DIETARY ADMINISTRATION OF SODIUM O-PHENYLPHENATE. FOOD COSMET TOXICOL. 19(3): 303-310.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-PHENYLPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

POLYBROMINATED BIPHENYLS

010154 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF POLYBROMINATED BIPHENYL MIXTURE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). FIREMASTER FF-1. CASE NO 67774-32-7. NTP, RESEARCH TRIANGLE PARK, NC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR POLYBROMINATED BIPHENYLS (PBBS). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

350

POLYCHLORINATED BIPHENYLS 001336-36-3

005118 NORBACK, DH, AND RH WELTMAN. 1985. POLYCHLORINATED BIPHENYL INDUCTION OF HEPATOCELLULAR CARCINOMA IN THE SPRAGUE-DAWLEY RAT. ENVIRON HEALTH PERSPECT. 60: 97-105.

US EPA. 1990. DRINKING WATER CRITERIA DOCUMENT FOR POLYCHLORINATED BIPHENYLS (PCBS). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

PROPYLENE OXIDE 000075-56-9

010156 DUNKELBERG H. 1982. CARCINOGENICITY OF ETHYLENE OXIDE AND 1,2-PROPYLENE OXIDE UPON INTRAGASTRIC ADMINISTRATION TO RATS. BR J CANCER. 46: 924-933.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPYLENE OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010155 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF PROPYLENE OXIDE (CAS NO 75-56-9) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TECH REP SER NO. 267. NTP, RESEARCH TRIANGLE PARK, NC. NIH PUB NO 85-2527.

RENNE RA, WE GIDDENS, GA BOORMAN, R KOVATCH, JE HASEMAN AND WJ CLARKE. 1986. NASAL CAVITY NEOPLASIA IN F344/N RATS AND (C57BL/6XC3H)F1 MICE INHALING PROPYLENE OXIDE FOR UP TO TWO YEARS. J NATL CANCER INST. 77: 573-582.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

QUINOLINE 000091-22-5

010158 HIRAO K, Y SHINDHARA, H TSUDA, ET AL. 1976. CARCINOGENIC ACTIVITY OF QUINOLINE ON RAT LIVER. CANCER RES. 36: 329-335.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR QUINOLINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

RDX / (CYCLONITE) 000121-82-4

010157 LISH PM, BS LEVINE, EM FUREDI, EM SAGARTZ AND VS RAC. 1984. DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL EFFECT OF RDX: TWENTY FOUR MONTH CHRONIC TOXICITY/CARCINOGENICITY STUDY OF HEXAHYDRA-I,2,5-TRINITRO-1,3,5-TRIAZINE (RDX) IN THE B6C3F1 HYBRID MOUSE. PHASE VI. VOL 1. ITT RESEARCH INSTITUTE, CHICAGO, IL. US ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND, CONTRACT NO. DAMD 17-79-C-9161. NTIS AD-A181766.

US EPA. 19B9. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR RDX (CYCLONITE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 19B8. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

SELENIUM SULFIDE 007446-34-6

010194 NCI/NTP (NATIONAL CANCER INSTITUTE/NATIONAL TOXICOLOGY PROGRAM). 1980. BIOASSAY OF SELENIUM SULFIDE (GAVAGE) FOR POSSIBLE CARCINOGENICITY. NCI TECHNICAL REPORT SERIES NO. 194. NTP NO. B0-17.

US EPA. 19B9. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELENIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

SIMAZINE 000122-34-9

010195 US EPA. 19B4. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SIMAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

SODIUM DIETHYLDITHIOCARBAMATE 000148-18-5

005126 BRL (BIONETICS RESEARCH LABDRATDRIES). 196B. EVALUATION OF CARCINOGENIC TERATOGENIC AND MUTAGENIC ACTIVITIES DF SELECTED PESTICIDES ON INDUSTRIAL CHEMICALS. VOL. I. CARCINOGENIC STUDY. PREPARED FOR NATIONAL CANCER INSTITUTE. US OEPT COMMERCE, NAT TECH INFO SERV, WASHINGTON, DC NTIS PB223159.

US EPA. 19BB. HEALTH AND ENVIRONMENTAL EFFECTS OOCUMENT FOR SODIUM OIETHYLDITHIOCARBAMATE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

STYRENE 000100-42-5

010480 CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

352

TCDD, 2,3,7,8- **001746-01-6**

005128 KOCIBA, RJ, DG KEYES, JE BOWER ET AL. 1978. RESULTS OF A TWO-YEAR CHRONIC TOXICITY AND ONCOGENICITY STUDY OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN IN RATS. TOXICOL APPL PHARMACOL. 46(2): 279-303.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR POLYCHLORINATED DIBENZO-P-DIOXIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. EPA 600/8-84-014F. NTIS PB86-122546.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 2,3,7,8-TCDD. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TETRACHLOROETHANE, 1,1,1,2- **000630-20-6**

010302 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF 1,1,1,2-TETRACHLOROETHANE (CAS NO 630-20-6) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-81-53. NIH PUBL NO 83-1793. NTP TECHNICAL REPORT SERIES NO 237. NTIS, SPRINGFIELD, VA.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR 1,1,1,2-TETRACHLORDETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

TETRACHLOROETHANE, 1,1,2,2- **000079-34-5**

005130 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,1,2,2-TETRACHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 27. DHEW NO (NIH) 78-827.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED ETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TETRACHLOROETHYLENE **000127-18-4**

010482 CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

353

TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA- 005216-25-1

005028 FUKADA, KS, MATSASHITA AND K TAKEMOTO. 1979. CARCINOGENICITY OF P-CHLOROBENZOTRICHLORIDE. PROC OF JAPAN ASSOC OF IND HEALTH. P 330-331.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED CHLORINATED TOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TETRACHLOROVINPHOS / (STIROFOS) 000961-11-5

010159 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TETRACHLOROVINPHOS FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 33. NTIS PB278650.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR STIROFOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOLUENE-2,4-DIAMINE 000095-80-7

010160 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF 2,4-DIAMINOTOLUENE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 162.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-TOLUENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOLUIDINE, P- 000106-49-0

010162 WEISBURGER EK, AB RUSSFIELD AND F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2(2): 325-356.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TOLUIOINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOXAPHENE 008001-35-2

005134 LITTON BIONETICS, INC. 1978. CARCINOGENIC EVALUATION IN MICE: TOXAPHENE. PREPARED BY LITTON BIONETICS, INC., KENSINGTON, MD FOR HERCULES, INC. WILMINGTON, DE. LBI PROJECT NO. 20602.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TDXAPHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA OOCUMENT FOR TOXAPHENE. PREPAREO BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENOEAVOR (CRAVE) WORK GROUP.

354

TRICHLOROANILINE HYDROCHLORIDE, 2,4,6- 033663-50-2

005142 WEISBURGER, EL, AB RUSSFIELD, R HOMBURGER, ET AL. 1978. TESTING OF 21 ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

TRICHLOROANILINE, 2,4,6- 000634-93-5

010487 WEISBURGER, EL, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF 21 ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

TRICHLOROETHANE, 1,1,2- 000079-00-5

005144 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,1,2-TRICHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 74, DHEW NO NIH 78-1324.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED ETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1,2-TRICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVDR (CRAVE) WORK GROUP.

TRICHLOROETHYLENE 000079-01-6

010483 CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

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TRICHLOROPHENOL, 2,4,6- **000088-06-2**

010428 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF 2,4,6-TRICHLOROPHENOL FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 155, DHEW NO NIH 79-1711.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 2,4,6-TRICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TRICHLOROPROPANE, 1,2,3- **000096-18-4**

010849 NTP (NATIONAL TOXICOLOGY PROGRAM). 1991. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,2,3-TRICHLOROPROPANE (CAS NO 96-1B-4) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). BOARD DRAFT NTP TR 384. NIH PUB NO 91-2839. US DEPT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, NIH, RESEARCH TRIANGLE PARK, NC.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TRIFLURALIN **001582-09-8**

010163 EMMERSON JL, EC PIERCE, JP MCGRATH, ET AL. 1980. THE CHRONIC TOXICITY OF COMPOUND 36352 (TRIFLURALIN) GIVEN AS A COMPOUND OF THE DIET TO FISCHER 344 RATS FOR TWO YEARS. STUDIES R-B7 AND R-97 (UNPUBLISHED STUDY RECEIVED SEPTEMBER 18, 1980 UNDER 147I-35, SUBMITTED BY ELANCO PRODUCTS CO., DIVISION OF ELI LILLY AND CO., INDIANAPOLIS, IN).

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRIFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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TRIMETHYL PHOSPHATE 000512-56-1

010164 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TRIMETHYLPHOSPHATE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 81.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRIMETHYL PHOSPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRINITROTOLUENE, 2,4,6- 000118-96-7

010476 US DOD (DEPARTMENT OF DEFENSE). 1984. AD-A168637. DEFENSE TECHNICAL CENTER, CAMERON STATION, ALEXANDRIA, VA.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2,4,6-TRINITROTDLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

VINYL CHLORIDE 000075-01-4

010368 FERON, VJ, CFM HENDRIKSEN, AJ SPEEK, ET AL. 1981. LIFESPAN ORAL TOXICITY STUDY OF VINYL CHLORIDE IN RATS. FOOD COSMET TOXICOL. 19(3): 317-333.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR VINYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT FOR VINYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010367 MALTONI, C, G LEFEMINE, A CILIBERTI ET AL. 1980. VINYL CHLORIDE CARCINOGENICITY BIOASSAYS (BT PROJECT) AS AN EXPERIMENTAL MODEL FOR RISK IDENTIFICATION AND ASSESSMENT IN ENVIRONMENTAL AND OCCUPATIONAL CARCINOGENESIS. EPIDEMIOL ANIM EPIDEMIOL HUM: CAS CHLORURE VINYLE MONOMERE, (REUN CLUB CANCEROG CHIM), 20TH, MEETING OATE 1979, P. 11-112. PUBL ESSENT, PARIS, FRANCE.

MALTONI, C, G LEFEMINE, A CILIBERTI ET AL. 1981. CARCINOGENICITY BIOASSAYS OF VINYL CHLORIDE MONOMER: A MODEL OF RISK ASSESSMENT ON AN EXPERIMENTAL BASIS. ENVIRON HEALTH PERSPECT. 41: 329.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROETHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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EPA 540/R-95-036
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May 1995

HEALTH EFFECTS ASSESSMENT

SUMMARY TABLES

FY-1995 Annual

Office of Research and Development
Office of Emergency and Remedial Response
U.S. Environmental Protection Agency
Washington, DC 20460

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DISCLAIMER

This report has been prepared by the U.S. Environmental Protection Agency. The information contained herein has been taken from final documents prepared by the Office of Health and Environmental Assessment (hereafter referred to as the National Center for Environmental Assessment) for the Office of Solid Waste and Emergency Response and the Office of Water, Washington, DC and the Office of Air Quality Planning and Standards, Research Triangle Park, NC. These documents were reviewed in accordance with Agency policy and approved for publication. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY) 2-1

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INTRODUCTION

This document is the FY95 Annual Update of the Health Effects Assessment Summary Tables (HEAST) prepared by EPA's National Center for Environmental Assessment, Cincinnati, OH (NCEA-CIN) for use at both Superfund and RCRA sites. It completely replaces all former editions and supplements of the HEAST.

This version of the HEAST will be updated by a November 1995 Supplement. The supplement will supercede the information in this document, the May 1995 HEAST Annual Update. Therefore, if the supplement is available it should be checked whenever this document is consulted. The supplement, however, will not be produced to stand alone and will not contain the User's Guides or Appendix that are available in the annual update. Thus, the user should refer to the May 1995 HEAST Annual Update for this information.

The HEAST is a comprehensive listing consisting almost entirely of PROVISIONAL RISK ASSESSMENT INFORMATION relative to oral and inhalation routes for chemicals of interest to Superfund, the Resource Conservation and Recovery Act (RCRA), and the EPA in general. These entries in the HEAST are limited to chemicals that have undergone review and have the concurrence of individual Agency Program Offices, and each is supported by an Agency reference. This risk assessment information has not, however, had enough review to be recognized as high quality, Agency-wide consensus information.

The Integrated Risk Information System (IRIS) is the Agency's official repository of Agency-wide consensus chronic human health risk information. IRIS evaluations are conducted by the Agency's Work Group Review process, i.e., they have been examined by either the Reference Dose/Reference Concentration (RfD/RfC) Work Group or the Carcinogen Risk Assessment Verification Endeavor (CRAVE) Work Group. These Agency Work Groups conduct a process that leads to internal Agency scientific consensus regarding risk assessment

information on a chemical. This information is recorded on IRIS, is considered to be "Work Group Verified," and does not appear on the HEAST. Thus, provisional risk assessment information on the HEAST is subject to possible review and revision by these Agency Work Groups.

There are two exceptions to the above discussion. The HEAST also contains information on chemicals that are a part of the National Ambient Air Quality Standards (NAAQS) or the Drinking Water Criteria Document (DWCD) series. In each of these cases, the chemicals are subject to extensive scientific peer review processes of extremely high quality.

CHEMICAL STATUS DEFINITIONS

Chemicals reviewed by the Agency Work Groups are classified according to their status as either "verified," "not verifiable," or "under review." The toxicity values (other than NAAQS or DWCD values) listed on the HEAST are considered to be "provisional." The Agency has no official definitions for these terms, but the HEAST user may interpret them as follows:

> **Provisional:** A toxicity value or a cancer value is "provisional" if the value has had some form of Agency review, but it does not appear on the IRIS system. These values are generated in several ways. Often they are determined in the course of developing an Agency document on a chemical or on a class of chemicals. Some have been generated through the Work Group process, but have not yet been input to the IRIS system. At the time each value was derived, all available information on the chemical was evaluated, the value was calculated using the most current methodology, and a consensus was reached on the value by Agency scientists.
>
> Brackets are placed around the names of toxicity and carcinogenicity values on the HEAST to distinguish these "provisional" values from information on IRIS. The following names are affected: RfD to [RfD], RfC to [RfC], slope factor to [slope factor], EPA group to [EPA Group] and unit risk to [unit risk].
>
> **These "provisional" values are found on the HEAST. They do not appear on IRIS.**
>
> **Verified:** A toxicity value or a cancer value is "Work Group Verified" if all available information on the value has been examined by an Agency Work Group, the value has been calculated using current Work Group methodology, a

unanimous consensus has been reached on the value by the Work Group, and the value appears on IRIS.

Some numbers that have achieved unanimous concensus by the Work Group may appear on the HEAST for a short time until they are loaded onto IRIS, at which time they are termed, "verified." During the interim, they are considered to be "provisional" values that are still "under review" by the Work Group.

These "verified" numbers only appear on IRIS. They do not appear on the HEAST.

Not verifiable: A toxicity value is "not verifiable" if an Agency Work Group has considered all available data on a chemical and has unanimously determined that data are inadequate to generate a value that would be suitable for inclusion on IRIS. No toxicity value is calculated; no toxicity value is available for IRIS or the HEAST.

This "not verifiable" status is noted on IRIS, and is sometimes found on the HEAST, with a pointer to the IRIS system.

Under Review: A toxicity value is "under review" if an Agency Work Group is in the process of considering all available data on a chemical. All Work Group chemicals will have this status until the toxicity value is placed on the IRIS system. Toxicity values that have been withdrawn from IRIS by a Work Group for further review will have this status.

This "under review" status may be indicated on IRIS or on the HEAST. During this time, "provisional" toxicity values may appear on the HEAST.

In all cases, the status of a chemical may change as new data become available, and the assessment is revisited.

CAUTION

It is imperative for each user of the HEAST to recognize that the values listed in the toxicity tables and the cancer table are generally considered to be PROVISIONAL RISK ASSESSMENT INFORMATION. The user is referred to IRIS for "Work Group Verified" values. It is also important to remember that the numbers in these tables alone tell very little about the adverse effects of a chemical or the quality of evidence on which risk assessment information is based. Original assessment documents must be consulted by users of the HEAST in order to

fully appreciate the strengths and limitations of a specific data base. Original source documents will allow for the most complete characterization of potential toxicity associated with the range of exposure pathways generally evaluated at Superfund and RCRA sites. The Reference Tables point the user to these sources.

CONTRIBUTORS

Chemicals commonly found at RCRA sites as identified by the Office of Solid Waste's (OSW) Technical Assessment Branch are included in the HEAST. The Office of Radiation Programs has provided data on radionuclide carcinogenicity for Table 4. Finally, the Office of Air Quality Planning and Standards (OAQPS) has provided information on chemicals for which Air Quality Criteria Documents and National Ambient Air Quality Standards have been developed.

CHEMICALS LISTED

Most of the chemicals included on the toxicity tables and carcinogenicity table are those for which at least one of the following EPA documents has been written: Health Effects Assessment Document (HEA), Health and Environmental Effects Profile (HEEP), Health and Environmental Effects Document (HEED), Health Assessment Document (HAD), Air Quality Criteria Document (AQCD), Drinking Water Criteria Document (DWCD). A description of each is provided in Appendix A, Section I. In a few cases, the values are supported by other written material, such as Work Group meeting notes or Carcinogen Assessment Group (CAG) Profiles. Radionuclide slope factor values are calculated by the EPA's Office of Radiation Programs.

The names of criteria pollutants that are regulated as National Ambient Air Quality Standards (NAAQS) under the Clean Air Act are listed in the main body of the HEAST, but the actual criteria are included as Section V of Appendix A: Technical Information. The NAAQS

were not included in the tables in order to distinguish them from the reference concentration ([RfC]) values. The NAAQS and [RfC]s represent different levels of review and different methods of calculation and thus, must be interpreted and used differently.

HIERARCHY OF SOURCES

It is recognized that at any point in time there may be multiple old and new Agency documents or data bases that present different values on a specific chemical. For chemicals other than those represented by the NAAQS or DWCDs, the following hierarchy of sources is recommended in evaluating chemical toxicity for Superfund sites:

1. The Agency's Integrated Risk Information System (IRIS) and cited references. Changes are made in this data base on a monthly basis, but there may be data gaps. Call RISK INFORMATION HOTLINE at (513)569-7254 for further information.

2. The Health Effects Assessment Summary Tables (HEAST) and cited references.

3. Consultation with the Superfund Health Risk Technical Support Center (TSC) at (513)569-7300.

4. Do not consult either the toxicity tables (Appendix A) in the Superfund Public Health Evaluation Manual (SPHEM, U.S. EPA, 1986) or the September 1988 Public Health Risk Evaluation Data Base (PHRED) as these sources are likely to contain numerous values that have since become out-of-date.

QUESTIONS

Chemical Toxicity and Carcinogenicity

Regional EPA Superfund Staff may direct questions regarding the contents of the chemical toxicity and carcinogenicity tables on the HEAST (e.g., chemicals not covered, chemicals with pending [RfD]s) to EPA's Superfund Health Risk Technical Support Center

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(TSC) in Cincinnati, OH at (513)569-7300. Questions from other users must be submitted to the TSC in writing and must contain the following information:

- Superfund site name, site location and twelve-digit site number;
- Name and phone number of the site Remedial Project Manager (RPM) or Regional Risk Assessor/Toxicologist;
- Detailed description of the risk assessment related question.

Please send requests via mail or FAX to:

Superfund Health Risk Technical Support Center
US EPA
26 W. ML King Dr.
National Center for Environmental Assessment
MS 117
Cincinnati, OH 45268
FAX#: (513)569-7159

RCRA Chemicals

Questions about RCRA chemicals may be addressed by calling the Office of Solid Waste at (202)260-4761.

Radionuclide Carcinogenicity

Questions concerning radionuclide carcinogenicity should first be addressed by contacting the appropriate Regional Radiation Program Manager. A listing of these managers and several contacts in the Office of Radiation Programs can be found in Exhibit 2 of the User's Guide - Radionuclide Carcinogenicity.

REFERENCES

Most cited Agency references (e.g., HEAs, HEEPs, HEEDs), are (or will soon be) available through the National Technical Information Service (NTIS), 5285 Port Royal Road,

Springfield, VA 22161 [(703)487-4650]. Carcinogen Assessment Group (CAG) Profiles cited in Table 3 are available through the RCRA docket (202)260-9327.

Drinking water documents are available by calling the Drinking Water Docket at (202)260-3027.

ORDERING INFORMATION

Limited copies of the HEAST are available for EPA Superfund staff, State Superfund programs and other Federal agencies working on Superfund sites, and EPA contractors working for the EPA Superfund program. Users in these groups can call Syracuse Research Corporation (202)479-0881 to be put on the mailing list.

EPA's Office of Solid Waste (OSW) requests that their users (i.e., OSW staff, contractors, State solid waste programs) call the Health Assessment Section (202)260-4761 to obtain copies of the HEAST. Regional OSW staff are reminded that copies are sent to all EPA Regional libraries.

Users of the HEAST in EPA's Office of Air and Radiation and State air programs should call Kelly Rimer of EPA's Office of Air Quality Planning and Standards at (919)541-2962.

All other users must purchase the document from:

National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
(703)487-4650

For ordering information, call the NTIS Subscriptions Department at (703)487-4630. NTIS normally ships 4th class United States mail. When ordering the 1995 Health Effects Assessment Summary Table annual update from NTIS refer to the following order number:

PB95-921199: FY95 Annual HEAST update

STRUCTURE OF THE HEAST

The HEAST Introduction contains explanatory material relative to the quality of information on the HEAST, its sources, and its availability. This is followed by a listing of changes since the last HEAST was published and then by User's Guides for both Chemical Toxicity and Carcinogenicity, and Radionuclide Carcinogenicity. The values on the HEAST are presented in a series of five tables that contain toxicity information and three tables of references. The information contained in each table and their designations are as follows:

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
Table 1 lists subchronic and chronic non-cancer toxicity values that were calculated using the current methodology practiced by the RfD/RfC Work Group.

HEAST TABLE 1 REFERENCES: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
The references for Table 1 are numerically coded to associate each toxicity value clearly with its corresponding reference.

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
Table 2 lists subchronic and chronic non-cancer toxicity values that are found in Agency documents, but were calculated by alternative methods that are not currently practiced by the RfD/RfC Work Group. These values are considered to be adequate provisional values for risk assessment purposes at Superfund and RCRA sites, but are subject to being reviewed by the RfD/RfC Work Group and revised when necessary to reflect current work group practices.

HEAST TABLE 2 REFERENCES: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
The references for Table 2 are numerically coded to associate each toxicity value clearly with its corresponding reference.

HEAST TABLE 3: CARCINOGENICITY
Table 3 lists carcinogenicity values that were calculated using the current methodology of the CRAVE Work Group.

HEAST TABLE 3 REFERENCES: CARCINOGENICITY
The references for Table 3 are numerically coded to associate each toxicity value clearly with its corresponding reference.

HEAST TABLE 4: RADIONUCLIDE CARCINOGENICITY - SLOPE FACTORS (In Units of Picocuries)

Table 4 lists ingestion, inhalation and external exposure carcinogenicity slope factors for radionuclides in units of picocuries and a factor to convert into the International System (SI) activity units of becquerels (Bq).

Following the tables, a Technical Appendix (Appendix A) is available, containing the following sections:

I. Data Sources and Selection Criteria Used in HEAST

II. Dose Conversions on HEAST

III. Chemical Name and Chemical Abstracts Service Registry Number Cross Reference

IV. Effect Level Definitions

V. National Ambient Air Quality Standards (NAAQS)

WHAT'S NEW IN THE FY95 ANNUAL HEAST

GENERAL CHANGES -- CHEMICAL TOXICITY AND CARCINOGENICITY

The changes in this version of the HEAST reflect changes in IRIS through May 1, 1995. It is also current with RfD/RfC and CRAVE Work Group activities through May 1, 1995.

CHEMICAL-SPECIFIC CHANGES -- CHEMICAL TOXICITY AND CARCINOGENICITY

A. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Aroclor 1254 011097-69-1
An indicator was added to show that the chronic oral RfD is now on IRIS. The chronic oral RfD is adopted as the subchronic oral [RfD].

Endosulfan 000115-29-7
An indicator was added to show that the chronic oral RfD is now on IRIS.

Mercuric Chloride 007487-94-7
This is a new entry to the table with a comment indicating that the chronic oral RfD was adopted as the subchronic oral [RfD].

Mercury, Inorganic 007439-97-6
The HEAST entry is changed to Mercury, Elemental and a comment indicating that the chronic [RfC] is under review.

Methylmercury 022967-92-6
A critical oral dose entry is indicated with a change in target and critical effect. The subchronic [RfD] is also changed from 3E-4 to 1E-4. A comment is added to indicate that a benchmark dose approach was used to derive the RfD.

Metribuzin 021087-64-9
The subchronic oral [RfD] was removed because the chronic oral RfD upon which it is based in under review by the RfD/RfC Work Group.

Nickel (Metallic) 007440-02-0
The HEAST entry is changed to Nickel, Soluble Salts. "Various" is used for CAS registry number since there is none for salts. A comment was added to indicate that the chronic oral [RfD] was derived from the nickel moiety of the administered nickel chloride salt.

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B. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Nitrobenzene 000098-95-3

A typographical error was discovered in earlier issues of HEAST Table 2. The subchronic [RfC] comment should read 6E-3 mg/kg/day, and has been corrected accordingly.

C. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE 3: CARCINOGENICITY

Dichlorobenzene, 1,4- 000106-46-7
Carcinogenicity value in HEAST Table 3 is changed to reflect 1987 FR (July 8). 52:25690-25717.

Mercuric Chloride 007487-94-7
An indicator was added to show that the EPA Group Classification is available on IRIS.

Mercury, Elemental 007439-97-6
An indicator was added to show that the EPA Group Classification is available on IRIS.

Methylmercury 0022967-92-6
An indicator was added to show that the EPA Group Classification is available on IRIS.

Nitrobenzene 000098-95-3
The EPA Group Classification under review by the CRAVE Work Group was added to Table 3.

D. CHEMICAL-SPECIFIC CHANGES ON HEAST TABLE: RADIONUCLIDE CARCINOGENICITY -- SLOPE FACTORS

CHEMICAL SPECIFIC CHANGES MADE IN THE JULY 1994 SUPPLEMENT NO. 1 AND THE NOVEMBER 1994 SUPPLEMENT NO. 2 TO THE MARCH 1994 HEAST ANNUAL UPDATE

The following changes were made in the July 1994 and November 1994 supplemental editions of the March 1994 HEAST Annual Update and represent changes that have occurred between the publication of the March 1994 HEAST Annual Update and this document, the May 1995 HEAST Annual Update. Because some HEAST users may have been unaware of the publication of these supplements, the following information

will indicate additional changes in toxicity information that should be noted. [Note:

These changes have been incorporated into the May 1995 Annual Update.]

A. CHEMICAL-SPECIFIC CHANGES IN THE JULY 1994 AND NOVEMBER 1994 SUPPLEMENTS ON HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Acetone cyanohydrin / (2-Methyllactonitrile) 000075-86-5
The chronic oral [RfD] now under review by the RfD/RfC Work Group was added to Table 1. The chronic oral [RfD] was modified to derive the subchronic oral [RfD]. The synonym used by the RfD/RfC Work Group in its latest review is now included in HEAST.

Acrolein 000107-02-8
The subchronic [RfD] and [RfC] Risk Assessment Issue Papers for this compound were not reexamined by ECAO this year and the comment to contact the Superfund Health Risk Technical Support Center was removed from HEAST. No further change to the table.

Acrylic acid 000079-10-7
The chronic oral RfD has been replaced on IRIS. The chronic oral RfD on IRIS was adopted as the subchronic oral [RfD].

Anthracene 000120-12-7
A comment was added to indicate that the chronic inhalation [RfC] is considered not verifiable (08/04/94) by the RfD/RfC Work Group.

Aroclor 1248 012672-29-6
An indicator was added to show that a comment is now on IRIS that the chronic oral RfD is considered not verifiable by the RfD/RfC (07/20/93) Work Group.

Aroclor 1254 012672-29-6
The chronic oral [RfD] under review by the RfD/RfC Work Group was added to the table. The chronic oral [RfD] was modified to derive the subchronic oral [RfD].

Benzo[a]anthracene 000056-55-3
A comment was added to indicate that the chronic inhalation [RfC] is considered not verifiable (08/04/94) by the RfD/RfC Work Group.

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Caprolactam 000105-60-2
An indicator was added to show that a comment is now on IRIS that the chronic inhalation RfC is considered not verifiable (08/03/94) by the RfD/RfC Work Group.

Carbon disulfide 000075-15-0
No change to the table. Reference to the 1989 RfD/RfC Work Group was added.

Chlordane 000057-74-9
The subchronic [RfC] Risk Assessment Issue Paper for this compound was not reexamined by NCEA this year and the comment to contact the Superfund Health Risk Technical Support Center was removed from HEAST. No further change to the table.

Dacthal 001861-32-1
The chronic oral RfD has been replaced on IRIS. The chronic oral RfD on IRIS was adopted as the subchronic oral [RfD].

Dibromoethane, 1,2- 000106-93-4
The subchronic inhalation [RfC] was modified to be consistent with the chronic inhalation [RfC].

Dichlorobenzene, 1,2- 000095-50-1
The subchronic [RfD] Risk Assessment Issue Paper for this compound was not reexamined by NCEA this year and the comment to contact the Superfund Health Risk Technical Support Center was removed from HEAST. No further change to the table.

Dichloroethane, 1,2- 000107-06-2
The subchronic [RfD] and [RfC] Risk Assessment Issue Papers for this compound were not reexamined by NCEA this year. The comment to contact the Superfund Health Risk Technical Support Center was the only information on Table 1, therefore the compound was removed from Table 1.

Dimethylphthalate 000131-11-3
The chronic oral [RfD] has been removed. A comment was added to show that the chronic oral [RfD] is considered not verifiable by the RfD/RfC (02/16/94) Work Group.

Fluoranthene 000206-44-0
A comment was added to indicate that the chronic inhalation [RfC] is considered not verifiable (08/04/93) by the RfD/RfC Work Group.

Hexachlorobenzene 000118-74-1
The subchronic [RfD] Risk Assessment Issue Paper for this compound was not reexamined by NCEA this year and the comment to contact the Superfund Health Risk Technical Support Center was removed from HEAST. No further change to the table.

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Hexachlorobutadiene 000087-68-3
The subchronic [RfC] Risk Assessment Issue Paper for this compound was not reexamined by NCEA this year and the comment to contact the Superfund Health Risk Technical Support Center was removed from HEAST. No further change to the table.

Methylenediphenyl isocyanate, 4,4- / (Diphenylmethanediisocyanate) 000101-68-8
An indicator was added to show that the chronic inhalation RfC is now on IRIS. The chronic inhalation RfC on IRIS was adopted as the subchronic inhalation [RfC].

Nitric oxide 010102-43-9
The chronic oral RfD for this compound has been permanently withdrawn (09/01/94) from IRIS.

Nitrogen dioxide 010102-44-0
The chronic oral RfD for this compound has been permanently withdrawn (09/01/94) from IRIS. The subchronic oral [RfD] was removed from HEAST.

Phenanthrene 000085-01-8
A comment was added to indicate that the chronic inhalation [RfC] is considered not verifiable (08/04/94) by the RfD/RfC Work Group.

Pyrene 000129-00-0
A comment was added to indicate that the chronic inhalation [RfC] is considered not verifiable (08/04/94) by the RfD/RfC Work Group.

Styrene 000100-42-5
The subchronic [RfD] Risk Assessment Issue Paper for this compound was not reexamined by NCEA this year and the comment to contact the Superfund Health Risk Technical Support Center was removed from HEAST. No further change to the table.

Trichloroethane, 1,1,1- 000071-55-6
A comment pertaining to the subchronic [RfC] was added to the table.

B. CHEMICAL-SPECIFIC CHANGES IN THE JULY 1994 AND NOVEMBER 1994 SUPPLEMENTS ON HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

No changes were made to HEAST Table 2.

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C. CHEMICAL-SPECIFIC CHANGES IN THE JULY 1994 AND NOVEMBER 1994 SUPPLEMENTS ON HEAST TABLE 3: CARCINOGENICITY

Bis(2-chloroisopropyl) ether 039638-32-9
Removed from Table 3. Compound tested was **Technical bis(2-chloro-1-methylethyl) ether** containing 70% **bis(2-chloro-1-methylethyl) ether** and 30% **bis(2-chloroisopropyl) ether**. [Slope factor], [unit risk], and [EPA Group] classification were only derived for **bis(2-chloro-1-methylethyl) ether**.

Bis(2-chloro-1-methylethyl) ether 000108-06-1
Replaced on Table 3. Compound tested was **Technical bis(2-chloro-1-methylethyl) ether** containing 70% **bis(2-chloro-1-methylethyl) ether** and 30% **bis(2-chloroisopropyl) ether**. [Slope factor], [unit risk], and [EPA Group] classification were only derived for **bis(2-chloro-1-methylethyl) ether**.

Dimethylhydrazine, 1,2- 000540-73-8
The general comment, "Contact the Superfund Health Risk Technical Support Center" has been removed from the table.

Vinyl chloride 000075-01-4
No change in values. The General Comment was changed to reflect additional review by the CRAVE Work Group.

D. CHEMICAL-SPECIFIC CHANGES IN THE JULY 1994 AND NOVEMBER 1994 SUPPLEMENTS ON HEAST TABLE 4: RADIONUCLIDE CARCINOGENICITY – SLOPE FACTORS

EPA's Office of Radiation and Indoor Air (ORIA) has recently revised its methodology for estimating radiogenic cancer risks and for deriving radionuclide slope factors[1]. Specifically, ORIA has:

✓ revised its risk models for potential cancer sites based on current epidemiological data on radiogenic cancers in humans and on recent recommendations of the National Academy of Sciences (NAS) Biological Effects of Ionizing Radiation

[1] Radionuclide ingestion and inhalation slope factors are central estimates in a linear model of the age-averaged, lifetime attributable radiation cancer incidence (fatal and nonfatal cancer) risk per unit of activity inhaled or ingested, expressed as risk per picocurie (pCi). External exposure slope factors are central estimates of lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil, and are expressed as risk/yr per pCi/g soil.

(BEIR) Committee[2], the International Commission on Radiological Protection (ICRP)[3], and the U.S. Nuclear Regulatory Commission (NRC)[4]; (EPA's previous radiogenic cancer risk models were based primarily upon NAS BEIR III Committee recommendations.)

✓ incorporated a dose and dose rate effectiveness factor (DDREF) of 2 for low-LET radiation for all cancer sites except breast (DDREF=1) whenever the total dose is below 20 rad (0.2 Gy) or the dose rate is below 10 mrad/min (0.1 mGy/min); (In EPA's previous methodology, a value of DDREF=1 was assumed for low-LET radiation for all cancer sites. For high-LET alpha radiation, EPA has retained the value of DDREF=1.)

✓ revised the relative biological effectiveness (RBE) for alpha particles to RBE=20 for all cancer sites except breast (RBE=10) and leukemia (RBE=1); (In the previous methodology, EPA assumed a value of RBE=8 all cancer sites with the exception of leukemia (RBE=1.117).)

✓ taken survival data and vital statistics from the *U.S. Decennial Life Tables for 1979-1981*; (Previously, EPA used life table data for the 1970 decennial U.S. population in the calculation of radionuclide slope factors.)

✓ revised its method for integrating vital statistics and risk models for reference populations;

✓ re-evaluated and revised (as appropriate) the radiation dose estimates used to derive the slope factors;

✓ increased the Agency's estimate of the lifetime fatal cancer risk associated with uniform, whole-body irradiation of the U.S. population from low-LET radiation at low doses and dose rates by approximately 24% from 392 to 509 per 10^6 person-rad (392 to 509 per 10^4 person-Gy); and

✓ increased the Agency's cancer morbidity risk estimate from 623 to 761 per 10^6 person-rad (623 to 761 per 10^4 person-Gy).

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[2] National Academy of Sciences (1990). Health Effects of Exposure to Low Levels of Ionizing Radiation, BEIR V, Committee on the Biological Effects of Ionizing Radiations, National Research Council, Washington, D.C.

[3] International Commission on Radiological Protection (1991), 1990 Recommendations of the International Commission on Radiological Protection, ICRP Publication 60, Pergamon Press, New York, NY.

[4] U.S. Nuclear Regulatory Commission (1991, 1993), Health Effects Models for Nuclear Power Plant Accident Consequence Analysis, NUREG/CR-4214. Addenda documenting the scientific basis for radiogenic risk models published in 1991 (for low-LET radiation) and 1993 (for alpha radiation). See EPA 402-R-93-076 for discussion of these models.

As a result of these changes in risk assessment methodology, assumptions, and calculations, ORIA has also rederived its lifetime excess cancer incidence slope factors for all radionuclides listed in previous HEAST updates and for a few new radionuclides added to this update. The HEAST User's Guide on Radionuclide Carcinogenicity provides an overview of ORIA's revised methodology for deriving radionuclide slope factors, and interested users are directed to *Estimating Radiogenic Cancer Risks* (EPA 402-R-93-076) for a more detailed discussion of ORIA's approach and assumptions.

For simplicity and to minimize the possibility of confusion and errors, this HEAST update includes a single table—Table 4—of radionuclide slope factors in customary activity units of picocuries (pCi) only, consistent with the reporting format for radionuclide slope factors in EPA's Integrated Risk Information System (IRIS) data base. Previous HEAST updates presented radionuclide slope factors in both customary units and the International System (SI) units of becquerels (Bq) in Tables 4A and 4B, respectively.

Similar to the former HEAST Tables 4A and 4B, the new Table 4 provides reference toxicity information for each radionuclide, including a Chemical Abstract Service Reference Number (CASRN), radioactive half-life, lung clearance classification and gastrointestinal (GI) absorption factor (where appropriate). *It should be noted that the GI absorption factors, lung classifications and radioactive half-lives are provided in HEAST Table 4 for reference only and should not be used to correct, modify, or in any way adjust radionuclide slope factors or intake assumptions in risk calculations.*

Inhalation, ingestion and external exposure slope factors for radionuclides marked with the suffix "+D" in Table 4 include the added risks from associated radioactive decay chain products with half-lives less than or equal to six months, assuming equilibrium with the principal or parent radionuclide in the environment. (Note that slope factors for all radionuclides always account for associated decay products created within the body after intake.)

In summary, key features of this HEAST update for radionuclides are:

- **All radionuclide ingestion, inhalation and external exposure cancer slope factors have been updated** to incorporate EPA's revised methodology for estimating radiogenic cancer risk.

- **Table 4 presents radionuclide slope factors in customary activity units of picocuries (pCi) only**, consistent with EPA's IRIS data base format for radionuclides.

- **Additional slope factors are now provided for the following six radionuclide decay chains:**
  Ag-108m+D, Ce-144+D, Cm-243+D, Pu-241+D, Pu-244+D, and Sb-125+D.

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USER'S GUIDE: CHEMICAL TOXICITY

The HEAST summarizes provisional toxicity and cancer values as well as values developed for the NAAQS and DWCD chemicals. The provisional status of the toxicity and cancer values is indicated by placing brackets around the title of the value. These include provisional reference concentrations ([RfC]) and provisional reference doses ([RfD]) for toxicity from subchronic and chronic inhalation and oral exposure (Tables 1 and 2) and provisional slope factors ([slope factor]), provisional cancer classifications ([EPA Group]) and provisional unit risk values ([unit risk]) for carcinogenicity, based on lifetime inhalation and oral exposure (Table 3). Brackets should be included with the acronym whenever a user quotes the value in an assessment document, and the provisional nature of the value should be noted. A more complete discussion of how Superfund develops and considers the toxicity assessment in hazardous waste sites is presented in Chapter 7 of Risk Assessment Guidance for Superfund Volume 1: Human Health Evaluation Manual, Part A, EPA/540/1-89/002.

The references listed for each chemical in the Reference Tables for Tables 1, 2 and 3 represent the study or studies that are the basis for the [RfC], [RfD], [slope factor], [EPA Group], or [unit risk], as well as the EPA reference that is the source of the Agency analysis or risk assessment information. In some cases, additional EPA documents are also listed as a source of information on the chemical. Work Group verified values found on IRIS are not found on the HEAST, but are indicated in the tables by the word "IRIS" in place of the number.

TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

The [RfC] or [RfD] is a provisional estimate (with uncertainty spanning perhaps an order of magnitude) of the daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a portion of the lifetime, in the case of a subchronic [RfC] or [RfD], or during a lifetime, in the case of a chronic [RfC] or [RfD]. The [RfC] and [RfD] values are listed in Tables 1 and 2 in columns with the headings "Subchronic" and "Chronic". The critical dose or concentration level is usually a No-Observed-Adverse-Effect Level (NOAEL) or a Lowest-Observed-Adverse-Effect Level (LOAEL) (See Appendix A, Section IV: Effect Level Definitions, for more information). The [RfC] or [RfD] is derived by dividing the NOAEL or LOAEL by an uncertainty factor (UF) times a modifying factor (MF):

$$[RfC] \text{ or } [RfD] = \frac{NOAEL \text{ or } LOAEL}{UF \times MF}$$

In Tables 1 and 2, the information listed is the following:

Chemical	=	Chemical Name/CASRN
Level	=	Effect Level
Dose	=	Administered Dose or Concentration
Route	=	Route of Administration
Species	=	Tested Species
Experiment Length	=	Length of Exposure
Target	=	Target Organ(s) Affected at Critical Level
Critical Effect	=	Effect(s) Observed at Critical Level
Subchronic [RfC]	=	Subchronic Inhalation [Reference Concentration]
UF	=	Uncertainty Factor for the Subchronic Inhalation [Reference Concentration]
Subchronic [RfD]	=	Subchronic Oral [Reference Dose]
UF	=	Uncertainty Factor for the Subchronic Oral [Reference Dose]
Chronic [RfC]	=	Chronic Inhalation [Reference Concentration]

UF	=	Uncertainty Factor for the Chronic Inhalation [Reference Concentration]
Chronic [RfD]	=	Chronic Oral [Reference Dose]
UF	=	Uncertainty Factor for the Chronic Oral [Reference Dose]
Reference	=	Reference Identification Number for All Toxicity Values on the Same Line.

An example of this information is shown in Figure 1, HEAST Table 1:

Chemical	=	GLYCIDALDEHYDE/000765-34-4
Level	=	NOAEL
Dose	=	10 PPM
Route	=	INHALATION: INTERMITTENT
Species	=	RAT
Experiment Length	=	12 WEEKS
Target	=	WHOLE BODY, BLOOD, KIDNEY
Critical Effect	=	DECREASED WEIGHT GAIN, HEMATOPOIETIC EFFECTS
Subchronic [RfC]	=	1E-2 mg/cu.m
UF	=	300
Subchronic [RfD]	=	4E-3 mg/kg/day
UF	=	300
Chronic [RfC]	=	1E-3 mg/cu.m
UF	=	3000
Chronic [RfD]	=	IRIS
UF	=	IRIS
Reference	=	005968

Notice that a Chronic RfD for Glycidaldehyde is available on IRIS, so it is not listed here. Also notice that there are footnotes for this chemical that indicate a route-to-route extrapolation was performed and that there is information available on Table 3: Carcinogenicity.

Also given in Figure 1 is an example of the References for Table 1 for the same chemical. The reference is identified by the chemical name (Glycidaldehyde), the CASRN (00765-34-4), and the reference number that links it with the toxicity values (005968).

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FIGURE 1

Example Data and References for Chemical Toxicity

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	UF	Subchronic [RfC] (mg/cu m)	UF	Subchronic [RfD] (mg/kg/day)	UF	Chronic [RfC] (mg/cu m)	UF	Chronic [RfD] (mg/kg/day)	REFERENCE
GLYCIDALDEHYDE		000765-34-4												
NOAEL	10 PPM	RAT				1E-2	4E-3		1E-3		IRIS		005968	
	INHALATION:	12 WEEKS		WHOLE BODY	DECREASED WEIGHT GAIN	300		300		3000				
	INTERMITTENT			BLOOD	HEMATOPOIETIC EFFECTS									
				KIDNEY	EFFECTS									

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: ALSO SEE TABLE 3: CARCINOGENICITY.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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GLYCIDALDEHYDE 000765-34-4

005968 HINE CH, RJ GUZMAN, MK DUNLAP, R LIMA AND GS LOQUVAM. 1961. STUDIES ON THE TOXICITY OF GLYCIDALDEHYDE. ARCH ENVIRON HEALTH. 2: 23-30.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENTFOR GLYCIDALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, National Center for Environmental Assessment, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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The uncertainty factor used in calculating the [RfC] or [RfD] reflects scientific judgment regarding the various types of data used to estimate [RfC] or [RfD] values. An uncertainty factor of 10 is usually used to account for variation in human sensitivity among populations. An additional 10-fold factor is usually used to account for each of the uncertainties assumed when extrapolating from animal data to humans, when extrapolating from a LOAEL to a NOAEL, and when extrapolating from subchronic to chronic exposure. In order to reflect professional assessment of the uncertainties of the study and the data base not explicitly addressed by the above uncertainty factors (e.g., completeness of the overall data base), an additional uncertainty factor or modifying factor ranging from greater than 0 to less than or equal to 10 is applied. The default value for this modifying factor is 1.

For chemicals for which a chronic [RfC] or [RfD] is presented in Tables 1 and 2, a subchronic [RfC] or [RfD] is usually derived, if not previously derived in the Agency documents that originally addressed the chemical. Subchronic toxicity values are not evaluated by the RfD/RfC Work Group. The subchronic [RfC] or [RfD] is derived in either of two ways: 1) If an uncertainty factor was used to account for extrapolation from subchronic to chronic exposure in the derivation of the chronic [RfC] or [RfD], then, the subchronic [RfC] or [RfD] is derived from the same benchmark concentration or dose without applying the uncertainty factor for subchronic to chronic exposure extrapolation. 2) If the chronic [RfC] or [RfD] was derived without use of an uncertainty factor for extrapolating from subchronic to chronic exposure (e.g., if chronic data were available), then, the chronic [RfC] or [RfD] is adopted as the subchronic [RfC] or [RfD].

Tables 1 and 2 list the uncertainty factor and modifying factor, multiplied together, to form a single factor under the heading "Uncertainty Factor." For example, the uncertainty factor of 3000 listed for the chronic inhalation [RfC] for Glycidaldehyde reflects an uncertainty factor of 1000 (10 for human sensitivity, 10 for extrapolation from animal to human, and 10 for extrapolation from subchronic to chronic) and a modifying factor of 3 (for an inadequate data base); the uncertainty factor of 500 listed for the subchronic oral [RfD] for cyanide reflects an uncertainty factor of 100 (10 for human sensitivity, and 10 for extrapolation from animal to human) and a modifying factor of 5 (to account for tolerance to cyanide when ingested by food rather than administration by gavage or by drinking water).

[RfC] and [RfD] values are specific for the route of exposure for which they are listed on Tables 1 and 2. In the few instances where an [RfD] or [RfC] has been determined from another exposure route, route-to-route extrapolation is indicated by a footnote.

The current methodology for the derivation of inhalation RfCs is detailed in the document, "Interim Methods for Development of Inhalation Reference Doses" (U.S. EPA, 1990, EPA/600/8-88/066F, NTIS PB90-145723). These methods are different from those used for oral RfDs because of (1) the dynamics of the respiratory system and its diversity across species, and (2) differences in the physicochemical properties of contaminants (such as the size and shape of a particle or whether the contaminant is an aerosol or a gas). Parameters such as deposition, clearance mechanisms and the physicochemical properties of the inhaled agent are considered in the determination of the effective dose delivered to the target organ.

An RfC value calculated using this interim methodology is generally reported as a concentration in air (mg/m^3), although it may be converted to a corresponding inhaled dose (mg/kg/day) by dividing by 70 kg (an assumed human body weight), multiplying by 20 m^3/day (an assumed human inhalation rate), and adjusting by an appropriate absorption factor. This conversion, however, may often be technically incorrect, and the appropriateness of doing this must be evaluated on a case-by-case basis. It is recommended that HEAST users that plan to use this technique read a further discussion of the difficulties inherent in this dose conversion that can be found in Appendix A, Section II: Dose Conversions On HEAST.

Inhalation [RfC] values reported in HEAs and early HEEDs that were finalized prior to the implementation of the interim methods were calculated using methods similar in concept to those used for oral [RfD]s. These values are reported both as a concentration in air (in mg/m^3 for continuous, 24 hours/day exposure) under the column [RfC], and as a corresponding inhaled dose (in mg/kg/day) in the footnotes called, Chronic (Subchronic) [RfC] Comment. These chemicals are listed in Table 2: Alternate Methods - Subchronic and Chronic Toxicity (Other Than Carcinogenicity).

[RfD] values for oral exposure are reported as mg/kg/day. An oral [RfD] value can be converted to a corresponding concentration in drinking water, assuming human body weight of 70 kg and water consumption of 2 L/day, as follows:

$$mg/L \text{ in water} = \frac{\text{oral [RfD] (in mg/kg/day)} \times 70 \text{ kg}}{2 \text{ L/day}}$$

The [RfC] or [RfD] is used as a reference point for gauging the potential effects of other exposures. Usually, exposures that are less than the [RfC] or [RfD] are not

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likely to be associated with health risks. As the frequency of exposures exceeding the [RfC] or [RfD] increases and as the size of the excess increases, the probability increases that adverse health effects may be observed in a human population. Nonetheless, a clear distinction that would categorize all exposures below the [RfC] or [RfD] as "acceptable" (risk-free) and all exposures in excess of the [RfC] or [RfD] as "unacceptable" (causing adverse effects) cannot be made. In addition, [RfC] and [RfD] values, and particularly those with limitations in the quality or quantity of supporting data, are subject to change as additional information becomes available.

When [RfC] or [RfD] values are listed in Tables 1 or 2 for chemicals that are carcinogens, a footnote will refer to Table 3 if additional information concerning carcinogenicity is available in that table. [RfC] and [RfD] values that have been derived for carcinogens are based on noncancer endpoints only and should not be assumed to be protective against carcinogenicity.

TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

Chemicals are listed in Table 2 when the [RfD] or [RfC] was derived from alternative methods that are not currently practiced by the RfD/RfC Work Group. The table consists primarily of inhalation [RfC] values determined from methodology that does not follow the interim inhalation methods adopted by the Agency, and [RfC] or [RfD] values based on route-to-route extrapolation with inadequate pharmacokinetic and toxicity data. A footnote is added to each chemical to provide a short explanation of the specific methodology used in calculating these provisional toxicity values. Most of these toxicity values were formerly listed in Table 1. In some instances, the chemical

may be listed in both Tables 1 and 2 if the chemical has more than one toxicity value. Table 2 follows the same format as Table 1 (refer to Figure 1).

TABLE 3: CARCINOGENICITY

In assessing the carcinogenic potential of a chemical, the Human Health Assessment Group (HHAG) of EPA classifies the chemical into one of the following groups, according to the weight of evidence from epidemiologic and animal studies:

Group A - Human Carcinogen (sufficient evidence of carcinogenicity in humans)

Group B - Probable Human Carcinogen (B1 - limited evidence of carcinogenicity in humans; B2 - sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans)

Group C - Possible Human Carcinogen (limited evidence of carcinogenicity in animals and inadequate or lack of human data)

Group D - Not Classifiable as to Human Carcinogenicity (inadequate or no evidence)

Group E - Evidence of Noncarcinogenicity for Humans (no evidence of carcinogenicity in adequate studies).

These classifications are shown under [EPA Group] on Table 3.

Quantitative carcinogenic risk assessments are performed for chemicals in Groups A and B, and on a case-by-case basis for chemicals in Group C. Cancer [slope factors] (formerly called cancer potency factors in the Superfund Public Health Evaluation Manual) are estimated through the use of mathematical extrapolation models, most commonly the linearized multistage model, for estimating the largest possible linear

slope (within the 95% confidence limit) at low extrapolated doses that is consistent with the data. The [slope factor] or risk is characterized as an upper-bound estimate, i.e., the true risk to humans, while not identifiable, is not likely to exceed the upper-bound estimate and in fact may be lower.

Quantitative carcinogenic estimates listed in Table 3 include the following:

[slope factor] = risk per unit dose = risk per mg/kg/day

[unit risk] for inhalation exposure = risk per concentration unit in air = risk per $\mu g/m^3$

[unit risk] for oral exposure = risk per concentration unit in water = risk per $\mu g/L$

[Unit risk] estimates for inhalation and oral exposure can be calculated by dividing the appropriate [slope factor] by 70 kg and multiplying by the inhalation rate (20 m^3/day) or the water consumption rate (2 L/day), respectively, for risk associated with unit concentration in air or water. Hence,

$$\text{risk per } \mu g/m^3 \text{ (air)} = (\text{risk per mg/kg/day}) \times \frac{1}{70\text{ kg}} \times 20\ m^3/\text{day} \times 10^3\ (\text{mg}/\mu g)$$

$$\text{risk per } \mu g/L \text{ (water)} = (\text{risk per mg/kg/day}) \times \frac{1}{70\text{ kg}} \times 2\ L/\text{day} \times 10^{-3}\ (\text{mg}/\mu g)$$

Quantitative estimates of carcinogenic risk are listed under [Unit Risk] or [Slope Factor] in Table 3. Information on the study and data set used for estimation of the [slope factor] is given in the other columns of Table 3.

In Table 3, the information listed is the following:

Chemical	=	Chemical Name/CASRN
Route	=	Route of Administration
Species	=	Tested Species

Experiment Length	=	Length of Exposure
Target	=	Target Organ(s) Affected at Critical Level
Cancer	=	Tumors Observed at Critical Level (Not Specified if More Than One Type of Tumor)
[EPA Group]	=	EPA Classification by Weight of Evidence
Oral [Slope Factor]	=	Risk Per Unit Dose
Inhalation [Slope Factor]	=	Risk Per Unit Dose
Oral [Unit Risk]	=	Risk Per Concentration Unit in Water
Inhalation [Unit Risk]	=	Risk Per Concentration Unit in Air
Reference	=	Reference Identification Number for All Toxicity Values on the Same Line.

An example of this information is shown in Figure 2, HEAST Table 3:

Chemical	=	DIMETHYLHYDRAZINE, 1,2-/000077-78-1
Route	=	ORAL: DRINKING WATER
Species	=	MOUSE
Experiment Length	=	LIFETIME
Target	=	CARDIOVASCULAR SYSTEM
Cancer	=	TUMORS
[EPA Group]	=	B2
Oral [Slope Factor]	=	3.7E+1 (MG/KG/DAY)-1
Inhalation [Slope Factor]	=	3.7E+1 (MG/KG/DAY)-1
Oral [Unit Risk]	=	1.1E-3 (UG/L)-1
Inhalation [Unit Risk]	=	1.1E-2 (UG/CU M)-1
Reference	=	009993

Notice that the inhalation values for 1,2-Dimethylhydrazine was extrapolated from the oral data.

Also given in Figure 2 is an example of the References for Table 3 for the same chemical. The reference is identified by the chemical name (Dimethylhydrazine, 1,2-), the CASRN (000077-78-1), and the reference number that links it with the toxicity values (009993).

Quantitative carcinogenic estimates are specific for the route of exposure for which they are listed on Table 3. Footnotes are used to indicate those instances in which the values for inhalation or oral exposure are based on extrapolation from another route of

FIGURE 2
Example Data and References for Carcinogenicity

HEAST TABLE 3: CARCINOGENICITY

January 1992

CHEMICAL ROUTE	EXPERIMENT LENGTH SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
DIMETHYLHYDRAZINE,1,2- 000077-78-1									
ORAL: DRINKING WATER	LIFETIME			B2	3.7E+1	3.7E+1	1.1E-3	1.1E-2	009993
	MOUSE	CARDIOVASCULAR SYSTEM	TUMORS						
Inhalation [Slope] Comment:	BASED ON ROUTE TO ROUTE EXTRAPOLATION.								

REFERENCES FOR HEAST TABLE 3: CARCINOGENICITY

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DIMETHYLHYDRAZINE, 1,2- 000077-78-1

009993 TOTH B AND K PATEL. 1982. CARCINOGENICITY DOSE-RESPONSE STUDY BY CONTINUOUS ADMINISTRATION OF 1,2-DIMETHYLHYDRAZINE DI-HYDROCHLORIDE IN MICE. I. LIGHT AND TRANSMISSION ELECTRON MICROSCOPIC STUDY OF COLONOIC NEOPLASMS. AM. J. OF PATH. 84:69-86.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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exposure. The route-to-route conversion required to present inhalation [slope factors] in the units of mg/kg/day is considered by the CRAVE Work Group to be technically incorrect. It is recommended that HEAST users who plan to use this information read a further discussion of the difficulties inherent in this dose conversion which can be found in Appendix A, Section II: Dose Conversions On HEAST.

To estimate risk-specific concentrations in air from the [unit risk] in air as presented in Table 3, the specified level of risk is divided by the [unit risk] for air. Hence, the air concentration (in $\mu g/m^3$) corresponding to an upper-bound increased lifetime cancer risk of 1×10^{-5} is calculated as follows:

$$\mu g/m^3 \text{ in air} = \frac{1 \times 10^{-5}}{[\text{unit risk}] \text{ in } (\mu g/m^3)^{-1}}$$

To estimate risk-specific concentrations in drinking water from the oral [slope factor] values presented in Table 3, the specified level of risk is multiplied by 70 kg and divided by the [slope factor] times 2 L/day. Hence, the water concentration corresponding to an upper-bound increased lifetime cancer risk of 1×10^{-5} is calculated as follows:

$$mg/L \text{ in water} = \frac{1 \times 10^{-5} \times 70 \text{ kg}}{[\text{slope factor}] \text{ in } (mg/kg/day)^{-1} \times 2 \text{ L/day}}$$

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USER'S GUIDE: RADIONUCLIDE CARCINOGENICITY

Introduction

EPA classifies all radionuclides as Group A carcinogens. HEAST Table 4 lists ingestion, inhalation and external exposure cancer slope factors for radionuclides in units of picocuries (pCi).[5] Ingestion and inhalation slope factors are central estimates in a linear model of the age-averaged, lifetime attributable radiation cancer incidence (fatal and nonfatal cancer) risk per unit of activity inhaled or ingested, expressed as risk/pCi. External exposure slope factors are central estimates of lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil, and are expressed as risk/yr per pCi/gram soil. When combined with site-specific media concentration data and appropriate exposure assumptions[6], slope factors can be used to estimate lifetime cancer risks to members of the general population due to radionuclide exposures.

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[5] Slope factors are reported in Table 4 in the customary units of picocuries (1 pCi = 10^{-12} curies (Ci) = 3.7×10^{-2} nuclear transformations per second) for consistency with the system used for radionuclides in the IRIS database. If required, slope factors in Table 4 can be converted into the International System (SI) units of becquerels (1 Bq = 1 nuclear transformation per second) by dividing each inhalation, ingestion, or external exposure value by 27.03. Users can calculate cancer risks using slope factors expressed in either customary units or SI units with equivalent results, provided that they also use air, water and soil concentration values in the same system of units.

[6] Agency standardized default exposure scenarios and assumptions for use in baseline risk assessment are provided in EPA (1991), *Risk Assessment Guidance for Superfund, Vol. I, Human Health Evaluation Manual, Supplemental Guidance:* "Standard Default Exposure Factors" (Interim Final), Office of Emergency and Remedial Response, OSWER Directive 9285.6-03. [NTIS order number: PB 91-921314.]

Intended Users and Applications

HEAST users include individuals from the EPA, other Federal agencies, States and contractors who are responsible for the identification, characterization and remediation of sites contaminated with radioactive materials. Radionuclide slope factors are calculated by EPA's Office of Radiation and Indoor Air (ORIA) to assist HEAST users with risk-related evaluations and decision-making at various stages of the remediation process. During site assessment, for example, slope factors are used in EPA's Hazard Ranking System (HRS) to assign toxicity factor values to radionuclides to calculate site scores. During the remedial investigation and feasibility study (RI/FS), slope factors are used to determine baseline site risk, to develop preliminary remediation goals, and to evaluate cleanup alternatives. For further examples on the application of radionuclide slope factors in risk evaluations, users are referred to the following EPA documents:

- Hazard Ranking System (HRS), Federal Register (55 FR 515320), December 1990.
- *Risk Assessment Guidance for Superfund; Volume I - Human Health Evaluation Manual* (RAGS/HHEM), Part A, Baseline Risk Assessment (EPA/540/1-89/002).
- RAGS/HHEM Part B, Development of Risk-Based Preliminary Remediation Goals (OSWER Directive 9285.7-01B). [NTIS order number: PB 92-963333.]
- RAGS/HHEM Part C, Risk Evaluation of Remedial Alternatives (OSWER Directive 9285.7-01C). [NTIS order number: PB 92-963334.]

Copies of RAGS/HHEM Parts A, B and C are available to the public from the National Technical Information Service (NTIS) at (703) 487-4650. Copies are available to EPA staff by calling the Superfund Documents Center at (703) 603-8917.

Radiation Effects

Ionizing radiation has been shown to be a carcinogen, a mutagen, and a teratogen. Radiation can induce cancers in nearly any tissue or organ in both humans and animals, and the probability of cancer induction increases with increasing radiation dose. Cancer induction is a delayed response that has been documented extensively in epidemiological studies of Japanese atomic bomb survivors, underground uranium miners, radium dial painters, and patients subject to a variety of radiation treatments. Laboratory animal research and mammalian tissue culture studies have provided additional, collaborative data.

Mutagenic effects of radiation have been demonstrated primarily in animal and tissue culture studies; limited data from studies of A-bomb survivors indicate that humans may be as sensitive or less sensitive than animals to radiogenic mutagenicity. Data are also available from both human and animal studies on the teratogenic effects of radiation. These data show that the fetus is most sensitive to radiation injury during the early stages of organ development (between 8 and 15 weeks for the human fetus). Resultant radiation-induced malformations depend on which cells are most actively differentiating at the time of exposure.

EPA classifies all radionuclides as Group A carcinogens, based on their property of emitting ionizing radiation and on the extensive weight of evidence provided by epidemiological studies of radiogenic cancers in humans. At Superfund radiation sites, EPA generally evaluates potential human health risks based on the radiotoxicity, i.e., adverse health effects caused by ionizing radiation, rather than on the chemical toxicity, of each radionuclide present. These evaluations consider the carcinogenic effects of radionuclides only. In most cases, cancer risks are limiting, exceeding both mutagenic and teratogenic risks.

Derivation of Radionuclide Slope Factors

EPA's Office of Radiation and Indoor Air (ORIA) calculates radionuclide slope factor values using health effects data and dose and risk models from a number of national and international scientific advisory commissions and organizations, including the National Academy of Sciences (NAS), the National Council on Radiation Protection and Measurements (NCRP), the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), and the International Commission on Radiological Protection (ICRP). A detailed discussion of ORIA's approach and assumptions is provided in *Estimating Radiogenic Cancer Risks* (EPA 402-R-93-076).

Radionuclide slope factors are calculated for each radionuclide individually, based on its unique chemical, metabolic and radioactive properties. The calculation uses dose estimates from EPA's computer code RADRISK[7], vital statistics from the *U.S. Decennial Life Tables for 1979-1981* (described in EPA 402-R-93-076), and cancer risk estimates based largely on the results of the NAS BEIR V report[8], ICRP Publication 60[9], and U.S. Nuclear Regulatory Commission (NRC) analyses.[10] Ingestion and inhalation slope factors for radionuclides account for:

- the amount of radionuclide transported into the bloodstream from either the gastrointestinal (GI) tract following ingestion, or from the lungs following inhalation;
- the ingrowth and decay of radioactive progeny produced within the body subsequent to intake;

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[7] Dunning, D.E. Jr., Leggett, R.W., and Yalcinatas, M.G. (1980). "A Combined Methodology for Estimating Dose Rates and Health Effects from Exposure to Radioactive Pollutants," ORNL/TM-7105.

[8] National Academy of Sciences (1990). Health Effects of Exposure to Low Levels of Ionizing Radiation, BEIR V, Committee on the Biological Effects of Ionizing Radiations, National Research Council, Washington, D.C.

[9] International Commission on Radiological Protection (1991), 1990 Recommendations of the International Commission on Radiological Protection, ICRP Publication 60, Pergamon Press, New York, NY.

[10] U.S. Nuclear Regulatory Commission (1991, 1993), Health Effects Models for Nuclear Power Plant Accident Consequence Analysis, NUREG/CR-4214. Addenda documenting the scientific basis for radiogenic risk models published in 1991 (for low-LET radiation) and 1993 (for alpha radiation). See EPA 402-R-93-076 for discussion of these models.

- the distribution and retention of each radionuclide (and its associated progeny, if appropriate) in body tissues and organs;
- the radiation dose delivered to body tissues and organs from the radionuclide (and its associated progeny, if appropriate); and
- the sex, age, and organ-specific risk factors over the lifetime of exposure.

The slope factors are the average risk per unit intake or exposure for an individual in a stationary population with vital statistics (mortality rates) of the United States in 1980. (The expected lifetime for an individual in this population is about 74 years.) Consequently, radionuclide ingestion and inhalation slope factors are not expressed as a function of body weight and time, and do not require corrections for GI absorption or lung transfer efficiencies.

NOTE: ***The GI absorption values (f_1), ICRP lung classifications (D, W, Y) and radioactive half-lives are provided in HEAST Table 4 for reference only and should not be used to correct, modify, or in any way adjust radionuclide slope factors or intake assumptions in risk calculations.***

External slope factors provide cancer risk estimates per unit exposure to a uniform radionuclide concentration in soil. These factors, which account for photon energy flux attenuation and buildup in soil, are calculated for each radionuclide using volume and surface dose factors derived using the computer code DFSOIL.[11]

Because of the radiation risk models employed for both internal and external exposures, slope factors for radionuclides are characterized as central estimates in a linear model of the age-averaged lifetime total radiation cancer incidence risk per unit intake or exposure.

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[11] Sjoreen, A.L., Kocher, D.C., Killough, G.G. and Miller C.W. (1984). "MLSOIL and DFSOIL - Computer Codes to Estimate Effective Ground Surface Concentrations for Dose Computations," Oak Ridge National Laboratory, Oak Ridge, TN, ORNL-5974.

About the Information Provided in Table 4

Table 4 lists ingestion, inhalation and external exposure slope factors of principal radionuclides, and provides key parameter values used in the derivation of slope factor values. Radionuclides are presented alphabetically by element and atomic weight.

Selected radionuclides and radioactive decay chain products are designated in HEAST Table 4 with the suffix "+D" (e.g., U-238+D, Ra-226+D, Cs-137+D) to indicate that cancer risk estimates for these radionuclides include the contributions from their short-lived decay products, assuming equal activity concentrations (i.e., secular equilibrium) with the principal or parent nuclide in the environment.[12] Decay chains are identified in Exhibit 1.

In most cases, site-specific analytical data should be used to establish the actual degree of equilibrium between each parent radionuclide and its decay products in each media sampled. However, in the absence of empirical data, the "+D" values for radionuclides should be used unless there are compelling reasons not to. For example, the external slope factors for Cs-137 and Cs-137+D are 0.0 and 2×10^{-6} (risk per year per pCi/gram), respectively. The value for Cs-137+D is higher because it includes the risk contribution from cesium's short-lived gamma-emitting decay product Ba-137m (half-life, 25.5 minutes) which, under most environmental conditions, will be in secular equilibrium with Cs-137.

Note that there may be circumstances, such as long disposal times or technologically enhanced concentrations of naturally occurring radionuclides, that may necessitate the combination of the risks of a parent radionuclide and its decay products over several contiguous subchains. For example, Ra-226 soil analyses at a site might show that all radium decay products are present in secular equilibrium down to stable Pb-206 (See Exhibit 1). In this case, Ra-226 risk calculations should be based on the

[12] There is one exception to the assumption of secular equilibrium. For the inhalation slope factor for Rn-222+D reported in HEAST Table 4, ORIA assumes a 50% equilibrium value for radon decay products (Po-218, Pb-214, Bi-214 and Po-214) in air.

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ingestion, inhalation and external exposure slope factors for the Ra-226+D subchain, plus the ingestion, inhalation and external exposure factors for the Pb-210+D subchain. For actual sites, users should consult with a health physicist or radiochemist (1) to evaluate the site-specific analytical data to determine the degree of equilibrium between parent radionuclides and decay members of contiguous decay chains and (2) to assist in the combination of appropriate slope factor values. For health physics and radioanalytical support, HEAST users may contact EPA's Regional Radiation Program Managers, ORIA's National Air and Radiation Laboratory (NAREL) in Montgomery, Alabama, ORIA's Las Vegas Laboratory (ORIA-LV) in Las Vegas, Nevada, or the ORIA contact at EPA headquarters in Washington, D.C., listed in Exhibit 2.

A Chemical Abstract System Reference Number (CASRN) is assigned to each radionuclide for identification and reporting accuracy during risk assessments, and radioactive half-lives are provided for reference.

The designations "D", "W", and "Y" presented in Table 4 under the heading "ICRP Lung Class" in the tables refer to the lung clearance times for inhaled particulate radionuclides, expressed as days (D), weeks (W), or years (Y), as recommended by the International Commission on Radiological Protection (ICRP). Gaseous radionuclides, e.g., Rn-222, are designated with an asterisk ("*"). "GI Absorption Factors, f_1" are the fractional amounts of each radionuclide that may be absorbed from the gastrointestinal (GI) tract into blood following an oral intake. The ICRP lung clearance classifications and GI absorption factors provided in Table 4 are the default values that EPA used to calculate radionuclide slope factors for inhalation and ingestion exposures, respectively. These factors are provided *for reference only* (see the Note Box).

Where to Address Questions About Radionuclide Slope Factors:

EPA continuously reviews the scientific literature on radiation effects to ensure that the Agency's risk assessment methodologies are consistent with current models

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and assumptions. As risk methodologies are refined, EPA will revise and update the slope factors in Table 4.

HEAST users with questions about radionuclide slope factor values and their use in radiation risk assessments should contact Michael Boyd of the Remedial Guidance Section of the Radiation Assessment Branch of ORIA at (202) 233-9395. Written requests for assistance can be sent by fax to (202) 233-9650.

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Exhibit 1. Radionuclide Decay Chains Considered Explicitly in HEAST Table 4*

Principal Radionuclide[a]			Terminal Nuclide or Radionuclide[c]	
Nuclide	Half-life (yr)	Associated Decay Chain[b]	Nuclide	Half-life (yr)
Ac-227+D	22	[Th-227 (98.6%, 19 d)] Fr-223 (1.4%, 22 min) Ra-223 (11 d) Rn-219 (4 s) Po-215 (2 ms) Pb-211 (36 min) Bi-211 (2 min) [Tl-207 (99.7%, 5 min) Po-211 (0.3%, 0.5 s)]	Pb-207	*
Ag-108m+D	127	-[d] Ag-108 (9%, 2 min)	Pd-108 (91%) [Cd-108 (98%) Pd-108 (2%)]	* * *
Ag-110m+D	0.7	- Ag-110 (1%, 25 s)	Cd-110 (99%) [Cd-110 (99.7%) Pd-110 (0.3%)	* * *
Am-243+D	7.4×10^3	Np-239 (2 d)	Pu-239	2.4×10^4
Ce-144+D	0.8	[Pr-144 (9%, 17 min) Pr-144m (2%, 7 min)]	Nd-144	*
Cs-137+D	30	Ba-137m (95%, 3 min)	Ba-137	*
Np-237+D	2.1×10^6	Pa-233 (27 d)	U-233	1.6×10^5
Pb-210+D	22	Bi-210 (5 d) Po-210 (138 d)	Pb-206	*
Pu-241+D	14	[Am-241 (~100%, 432 y) U-237 (7 d)][e]	Np-237	2.1×10^6
Pu-244+D	8.3×10^7	U-240 (~100%, 14 h) Np-240	Pu-240	6.5×10^3
Ra-226+D	1.6×10^3	Rn-222 (4 d) Po-218 (3 min) Pb-214 (~100%, 27 min) Bi-214 (20 min) Po-214 (~100%, 1 min)	Pb-210	22
Ra-228+D	8	Ac-228 (6 h)	Th-228	2
Ru-106+D	1	Rh-106 (30 s)	Pd-106	*
Sb-125+D	3	Te-125m (23%, 58 d)	Te-125	*
Sr-90+D	29	Y-90 (64 h)	Zr-90	*

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Exhibit 1 (Continued)

Principal Radionuclide[a]			Terminal Nuclide or Radionuclide[c]	
Nuclide	Half-life (yr)	Associated Decay Chain[b]	Nuclide	Half-life (yr)
Th-228+D	2	Ra-224 (4 d) Rn-220 (56 s) Po-216 (0.2 s) Pb-212 11 h) Bi-212 (61 min) [Po-212 (64%, 0.3 μs) Tl-208 (36%, 3 min)]	Pb-208	*
Th-229+D	7.3×10^3	Ra-225 (15 d) Ac-225 (10 d) Fr-221 (5 min) At-217 (32 ms) Bi-213 (46 min) [Po-213 (98%, 4 μs) Tl-209 (2%, 2 min)] Pd-209 (3 h)	Bi-209	*
U-235+D	7.0×10^8	Th-231 (26 h)	Pa-231	3.4×10^4
U-238+D	4.5×10^9	Th-234 (24 d) [Pa-234m (99.8%, 1 min) Pa-234 (0.2%, 7 h)]	U-234	2.4×10^5

[a] Radionuclides with half-lives greater than six months. "+D" designates principal radionuclides with associated decay chains.

[b] The chain of decay products of a principal radionuclide extending to (but not including) the next principal radionuclide or a stable radionuclide. Half-lives are given in parentheses. Branches are indicated by square brackets with branching ratios in parentheses.

[c] The principal radionuclide or stable nuclide that terminates an associated decay chain. Stable nuclides are indicated by an asterisk (*) in place of a half-life.

[d] A hyphen indicates that there are no associated decay products.

[e] The branching decay for Pu-241 and Cm-243 involves multiple principal radionuclides and associated radionuclides.

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* Table adapted from: C. Yu, et al. (1994), "Manual for Implementing Residual Radioactive Materials Guidelines Using RESRAD, Version 5.0," Argonne National Laboratory.

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Exhibit 2. EPA Radiation Program Staff

Tom D'Avanzo Radiation Program Manager, Region 1 U.S. Environmental Protection Agency John F. Kennedy Federal Building/ATR One Congress Street Boston, MA 02203	(617) 565-4502
Paul A. Giardina Radiation Program Manager, Region 2 U.S. Environmental Protection Agency/1005A 26 Federal Plaza New York, NY 10278	(212) 264-4110
Lewis Felleisen Radiation Program Manager, Region 3 Special Program Section (3AT12) U.S. Environmental Protection Agency 841 Chestnut Street Philadelphia, PA 19107	(215) 597-8326
Paul Wagner Radiation Program Manager, Region 4 U.S. Environmental Protection Agency 345 Courtland Street, NE Atlanta, GA 30365	(404) 347-3907
Jack Barnette Radiation Program Manager, Region 5 U.S. Environmental Protection Agency 77 West Jackson Boulevard/AT18J Chicago, IL 60604-3507	(312) 886-6175
Donna Ascenzi Radiation Program Manger, Region 6 U.S. Environmental Protection Agency Air Enforcement Branch (6T-E) 1445 Ross Avenue Dallas, TX 75202-2733	(214) 655-7224
Robert Dye Radiation Program Manager, Region 7 U.S. Environmental Protection Agency 726 Minnesota Avenue/ARTXARBR Kansas City, KS 66101	(913) 551-7605

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Exhibit 2 (Continued)

Milton W. Lammering Radiation Program Manager, Region 8 (8HWM-RP) U.S. Environmental Protection Agency Suite 500 999 18th Street Denver, CO 80202-2405	(303) 293-1440
Michael S. Bandrowski Radiation Program Manager, Region 9 (A1-1) U.S. Environmental Protection Agency 75 Hawthorne Street San Francisco, CA 94105	(415) 744-1048
Jerry Leitch Radiation Program Manager, Region 10 (AT-082) U.S. Environmental Protection Agency 1200 Sixth Avenue Seattle, WA 98101	(206) 442-7660
Samuel T. Windham, Director Office of Radiation and Indoor Air National Air and Radiation Environmental Laboratory (NAREL) U.S. Environmental Protection Agency 540 South Morris Avenue Montgomery, AL 36115-2601	(205) 270-3402
Jed Harrison, Director Office of Radiation and Indoor Air Las Vegas Laboratory EPA Facilities P.O. Box 98516 Las Vegas, NV 89193-8516	(702) 798-2476
Michael Boyd Office of Radiation and Indoor Air (6603J) U.S. Environmental Protection Agency 401 M Street, SW Washington, DC 20460	(202) 233-9395

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HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACENAPHTHENE			**000083-32-9**							
NOAEL 175 MG/KG/DAY		MOUSE								
	ORAL: GAVAGE		90 DAYS	LIVER	HEPATOTOXICITY		6E-1 300		IRIS	010165
ACENAPTHYLENE			**000208-96-8**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005202
ACEPHATE			**030560-19-1**							
LOAEL 2 PPM		RAT								
	ORAL: DIET		13 WEEKS	BRAIN	DECREASED CHOLINESTERASE ACTIVITY		4E-3 30		IRIS	005833
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
ACETONE			**000067-64-1**							
NOEL 100 MG/KG/DAY		RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	INCREASED WEIGHT		1E+0		IRIS	005204
				KIDNEY	INCREASED WEIGHT		100			
				KIDNEY	NEPHRDTDXICITY					
ACETONE CYANOHYDRIN / (2-METHYLLACTONITRILE)			**000075-86-5**							
NOAEL 8.75 MG/(KG-DAY)		RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	INCREASED RELATIVE WEIGHT		8E-3 300		8E-4 3000	005776

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACETONITRILE		**000075-05-8**							
NOAEL 100 PPM		MOUSE							
	INHALATION:	92 DAYS	ERYTHROCYTES	DECREASED CELL COUNT		6E-2		IRIS	005210
	INTERMITTENT		BLOOD	DECREASED HEMATOCRIT		300			
			LIVER	HEPATIC LESIONS					

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.

ACETOPHENONE		**000098-86-2**							
NOAEL 10,000 PPM		RAT							
	ORAL: DIET	17 WEEKS		NONE OBSERVED		1E+0		IRIS	005212
						300			
									010874

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (06/25/92) BY THE RfD/RfC WORK GROUP.

ACROLEIN		**000107-02-8**							
NOAEL 15.6 MG/KG/DAY		RAT							
	ORAL: WATER	90 DAYS						2E-2	010390
								1000	
							IRIS		010856

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

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HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACRYLAMIDE		**000079-06-1**							
NOEL 0.2 MG/KG/DAY	ORAL: DRINKING WATER	RAT 90 DAYS	NERVE	DAMAGE		2E-3 100		IRIS	005835
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (09/20/90) BY THE RfD/RfC WORK GROUP.							IRIS		010876
ACRYLIC ACID		**000079-10-7**							
NOAEL 53 MG/KG/DAY	ORAL: DRINKING WATER	RAT 2 GENERATION	WHOLE BODY	DECREASED PUP WEIGHT		5E-1 100		IRIS	005836
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD ON IRIS WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
LOAEL 5 PPM	INHALATION: INTERMITTENT	MOUSE 13 WEEKS	NASAL MUCOSA	LESIONS	3E-3 100		IRIS		010346
ACRYLONITRILE		**000107-13-1**							
NOAEL 1 MG/(KG-DAY)	ORAL: GAVAGE	MOUSE 60 DAYS	TESTES	DECREASED SPERM COUNTS		1E-2		1E-3	010939
			TESTES	SEMINIFEROUS TUBULE DEGENERATION		100		1000	
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] UNDER REVIEW BY THE RfD/RfC WORK GROUP WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY									
ADIPONITRILE		**000111-69-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005157

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ALACHLOR			**015972-60-8**							
NOEL 1 MG/KG/DAY		DOG								
	ORAL: CAPSULE		1 YEAR	BLOOD	ANEMIA		1E-2		IRIS	005837
				SITES, MULTIPLE	HEMOSIDEROSIS		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
ALDICARB			**000116-06-3**							
NOAEL 0.01 MG/KG-DAY		HUMAN								
	ORAL		ACUTE	CENTRAL NERVOUS SYSTEM	SWEATING		1E-3		IRIS	010960
							10			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: CLINICAL SIGNS OF ACETYL CHOLINESTERASE INHIBITION INCLUDING SWEATING, PINPOINT PUPILS, LEG WEAKNESS, NAUSEA, DIARRHEA AND OTHER EFFECTS WERE OBSERVED IN THE PRINCIPAL AND SUPPORTING STUDIES.										
ALDRIN			**000309-00-2**							
LOAEL 0.025 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	LIVER	LESIONS		3E-5		IRIS	005159
							1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
ALLIDOCHLOR			**000093-71-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005838

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ALLYL ALCOHOL		**000107-18-6**								
NOEL 50 PPM		RAT								
	ORAL: DRINKING WATER		15 WEEKS	LIVER	EFFECTS		5E-2		IRIS	005839
				KIDNEY	EFFECTS		100			
ALLYL CHLORIDE		**000107-05-1**								
NOAEL 17 MG/CU M		RABBIT								
	INHALATION: INTERMITTENT		5 MONTHS	NERVOUS SYSTEM	NEUROTOXICITY	1E-2 300		IRIS		010369
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
ALUMINUM		**007429-90-5**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005162
ALUMINUM PHOSPHIDE		**020859-73-8**								
NOAEL 0.43 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	ALTERED WEIGHT		4E-4		IRIS	010255
				UNSPECIFIED	ALTERED CLINICAL PARAMETERS		100			
AMETRYN		**000834-12-8**								
NOEL 10 MG/KG/DAY		RAT								
	ORAL: GAVAGE		13 WEEKS	LIVER	EFFECTS		9E-2 100		IRIS	005841
AMINO-2-NAPHTHOL, 1-		**002834-92-6**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005842
AMINO-2-NAPHTOL HYDROCHLORIDE, 1-		**001198-27-2**								
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005843

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
AMINOPHENOL, M-		**000591-27-5**								
NOAEL 1300 PPM		RAT								
	ORAL: DIET		13 WEEKS	WHOLE BODY	ALTERED WEIGHT		7E-1		7E-2	005844
				THYROID	ALTERED WEIGHT		100		1000	
AMINOPHENOL, O-		**000095-55-6**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005845
AMINOPHENOL, P-		**000123-30-8**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005846
AMINOPYRIDINE, 4-		**000504-24-5**								
NOAEL 3 PPM		RAT								
	ORAL: DIET		90 DAYS	LIVER	INCREASED WEIGHT		2E-4		2E-5	005847
				BRAIN	INCREASED WEIGHT		1000		10000	
AMMONIA		**007664-41-7**								
NOAEL 34 MG/L		HUMAN								
	ORAL: DRINKING WATER			SENSORY	TASTE THRESHOLD		34 MG/L 1		34 MG/L 1	005166
	SUBCHRONIC [RfD] COMMENT:	GIVEN AS CONCENTRATION IN DRINKING WATER. SPECIFICALLY RELATED TO ORGANOLEPTIC THRESHOLD. SAFE CONCENTRATION MAY BE HIGHER, BUT DATA ARE INADEQUATE TO ASSESS.								
	CHRONIC [RfD] COMMENT:	GIVEN AS CONCENTRATION IN DRINKING WATER. SPECIFICALLY RELATED TO ORGANOLEPTIC THRESHOLD. SAFE CONCENTRATION MAY BE HIGHER, BUT DATA ARE INADEQUATE TO ASSESS.								
NOAEL 6.4 MG/CU M		HUMAN								
	INHALATION: INTERMITTENT			NASAL CAVITY	RHINITIS	1E-1		IRIS		010392
				LUNGS	PNEUMONIA	30				
				LUNGS	LESIONS					

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ANILINE		**000062-53-3**								
NOAEL 19 MG/CU M		MOUSE								
	INHALATION: INTERMITTENT	20-26 WEEKS		SPLEEN	PATHOLOGY	1E-2 300		IRIS		010370
		RAT								
		20-26 WEEKS		SPLEEN	PATHOLOGY					
		GUINEA PIG								
		20-26 WEEKS		SPLEEN	PATHOLOGY					

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

ANTHRACENE		**000120-12-7**								
NOEL 1000 MG/KG/DAY		MOUSE								
	ORAL: GAVAGE	90 DAYS			NONE OBSERVED		3E+0 300		IRIS	010166

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP. 010964

ANTIMONY PENTOXIDE		**001314-60-9**								
LOAEL 0.46 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER	LIFETIME		WHOLE BODY	INCREASED MORTALITY		5E-4		5E-4	005174
				BLOOD	ALTERED CHEMISTRIES		1000		1000	

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ANTIMONY POTASSIUM TARTRATE 000304-61-0										
LOAEL 0.91 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		9E-4		9E-4	005234
				BLOOD	ALTERED CHEMISTRIES		1000		1000	
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.										
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.										
ANTIMONY TETROXIDE 001332-81-6										
LOAEL 0.44 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		4E-4		4E-4	005238
				BLOOD	ALTERED CHEMISTRIES		1000		1000	
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.										
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.										
ANTIMONY TRIOXIDE 001309-64-4										
LOAEL 0.42 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		4E-4		4E-4	005242
				BLOOD	ALTERED CHEMISTRIES		1000		1000	
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.										
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ANTIMONY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.										
ANTIMONY, METALLIC 007440-36-0										
LOAEL 0.35 MG SB/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME	WHOLE BODY	INCREASED MORTALITY		4E-4		IRIS	005170
				BLOOD	ALTERED CHEMISTRIES		1000			

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ARAMITE		**000140-57-8**								
NOAEL 100 PPM		RAT								
	ORAL: DIET		104 WEEKS	LIVER	INCREASED WEIGHT				5E-2 100	005850
NOAEL 500 PPM		DOG								
	ORAL: DIET		52 WEEKS	LIVER	DEGENERATION		1E-1 100			005849

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

AROCLOR 124B		**012672-29-6**								
									IRIS	

CHRONIC RfD COMMENT: THE CHRONIC ORAL RfD IS CONSIDERED NOT VERIFIABLE (07/20/93) BY THE RfD/RfC WORK GROUP. 010940

AROCLOR 1254		**011097-69-1**								
LOAEL 0.005 MG/KG/DAY										
	ORAL: CAPSULE	MONKEY	>5 YEARS	IMMUNE SYSTEM	TOXICITY		5E-5 100		IRIS	010963

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].

ARSENIC, INORGANIC		**007440-38-2**								
NOAEL 0.009 MG/L		HUMAN								
	ORAL			SKIN	KERATOSIS		3E-4		IRIS	010434
				SKIN	HYPERPIGMENTATION		3			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ATRAZINE		**001912-24-9**							
NOEL 3.5 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		3.5E-2 100		IRIS	010855
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BARIUM		**007440-39-3**							
NOAEL 0.21 MG/KG/DAY		HUMAN							
	ORAL: WATER	10 WEEKS	CARDIOVASCULAR SYSTEM	INCREASED BLOOD PRESSURE		7E-2 3		IRIS	010348
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
BARIUM CYANIDE		**000542-62-1**							
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/20/93) BY THE RfD/RfC WORK GROUP.									010941
BENEFIN		**001861-40-1**							
NOAEL 25 MG/KG/DAY		DOG							
	ORAL: DIET	1 YEAR	ERYTHROCYTE	DECREASED COUNT		3E-1 100		IRIS	005852
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
BENZAL CHLORIDE		**000098-87-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005853

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BENZALDEHYDE				**000100-52-7**						
NOEL	200 MG/KG/DAY	RAT								
	ORAL: GAVAGE		13 WEEKS	KIDNEY	EFFECTS		1E+0		IRIS	005854
				FORESTOMACH	LESIONS		100			
SUBCHRONIC [RfD] CPMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].										
BENZALDEHYDE CYANOHYDRIN				**000532-28-5**						
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005781
BENZENE				**000071-43-2**						
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
BENZENETHIOL / (THIOPHENOL)				**000108-98-5**						
LOAEL	0.1 MG/(KG-DAY)	RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	CENTRILOBULAR EOSINOPHILIC		1E-4		1E-5	010942
					CHANGES		1000		10,000	
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] UNDER REVIEW BY THE RfD/RfC WORKGROUP WAS MODIFIED TD ESTIMATE THE SUBCHRONIC ORAL [RfD].										
BENZIDINE				**000092-87-5**						
LOAEL	2.7 MG/KG/DAY	MOUSE								
	ORAL: DRINKING WATER		33 MONTHS	BRAIN	CELLULAR CHANGES		3E-3		IRIS	005830
				LIVER	CELLULAR CHANGES		1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSD SEE HEAST TABLE 3: CARCINOGENICITY.										
								IRIS		010877
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NDT VERIFIABLE (03/28/91) BY THE RfD/RfC WORK GROUP.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BENZO[A]ANTHRACENE		**000056-55-3**							
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									010965
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BENZOIC ACID		**000065-85-0**							
NOAEL 312 MG/DAY		HUMAN							
	ORAL: DIET			NONE OBSERVED		4E+0 1		IRIS	005260
SUBCHRONIC [RfD] COMMENT: THE HUMAN DAILY PER CAPITA INTAKE WAS USED AS THE CRITICAL DOSE LEVEL. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: THE HUMAN DAILY PER CAPITA INTAKE WAS USED AS THE CRITICAL DOSE LEVEL.									
BENZO[B]FLUORANTHENE		**000205-99-2**							
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BENZYL ALCOHOL		**000100-51-6**							
LOAEL 286 MG/KG/DAY		RAT							
	ORAL: GAVAGE	103 WEEKS	FORESTOMACH	EPITHELIAL HYPERPLASIA			3E-1 1000		005855
NOAEL 143 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	WHOLE BODY	DECREASED WEIGHT		1E+0 100			005856

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BERYLLIUM		**007440-41-7**								
NOAEL 0.54 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME		NONE OBSERVED		5E-3 100		IRIS	005262
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
BIPHENYL, 1,1'		**000092-52-4**								
NOAEL 50 MG/KG/DAY		RAT								
	ORAL: DIET		700 DAYS	KIDNEY	DAMAGE		5E-2 1000		IRIS	005857
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (09/20/90) BY THE RfD/RfC WORK GROUP.								IRIS		010878
BIS(2-CHLOROISOPROPYL) ETHER		**039638-32-9**								
NOAEL 35.8 MG/KG/DAY		MOUSE								
	ORAL: DIET		2 YEARS	ERYTHROCYTES	DECREASED HEMOGLOBIN		4E-2 1000		IRIS	010257
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP)		**000117-81-7**								
									IRIS	010859
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BISPHENOL A		**000080-05-7**							
								IRIS	005268
NOAEL 750 PPM		RAT							
	ORAL	13 WEEKS	WHOLE BODY	DECREASED WEIGHT		6E-1 100			005266
BORON TRIFLUORIDE		**007637-07-2**							
NOAEL 6 MG/CU M		RAT							
	INHALATION: INTERMITTENT	13 WEEKS	KIDNEY	NECROSIS	7E-3 300		7E-4 3000		010395
BORON, ELEMENTAL		**007440-42-8**							
NOAEL 8.8 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	TESTIS	LESIONS		9E-2 100		IRIS	005272
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
LOAEL 4.5 MG/CU M		HUMAN							
	INHALATION: INTERMITTENT		RESPIRATORY TRACT BRONCHUS	IRRITATION BRONCHITIS	2E-2 100		2E-2 100		005269
	SUBCHRONIC [RfC] COMMENT: THE SUBCHRONIC INHALATION [RfC] IS SPECIFICALLY FOR ANHYDROUS BORAX. CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS SPECIFICALLY FOR ANHYDROUS BORAX.								
BROMINATED DIBENZO-P-DIOXINS									
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005858
BROMINATED DIBENZOFURANS									
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005859

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BROMOACETONE		**000598-31-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005860
BROMOCHLOROETHANES									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005861
BROMODICHLOROMETHANE		**000075-27-4**							
LOAEL 17.9 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	102 WEEKS	KIDNEY	CYTOMEGALY		2E-2 1000		IRIS	005715
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
BROMOETHENE / (VINYL BROMIDE)		**000593-60-2**							
LOAEL 9.7 PPM		RAT							
	INHALATION:	24 MONTHS	LIVER	HYPERTROPHY	3E-3		IRIS		010929
	INTERMITTENT		LIVER	BASOPHILIC FOCI	3000				
			LIVER	EOSINOPHILIC FOCI					
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
BROMOFORM		**000075-25-2**							
NOEL 17.9 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	LIVER	EFFECTS		2E-1 100		IRIS	005722
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010961
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (02/11/93) BY THE RfD/RfC WORK GROUP.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BROMOMETHANE		**000074-83-9**							
								IRIS	010861
							IRIS		010860
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
BROMOPHENYL PHENYL ETHER, 4-		**000101-55-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005864
BROMOPHOS		**002104-96-3**							
NOAEL 5 MG/KG/DAY		RAT							
	ORAL: DIET	3 GENERATIONS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		5E-2 100		5E-3 1000	005865
			LIVER	DECREASED CHOLINESTERASE ACTIVITY					
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY.									
CHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY.									
BROMOXYNIL		**001689-84-5**							
NOEL 5 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS		NONE OBSERVED		2E-2 300		IRIS	005866
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BROMOXYNIL OCTANOATE		**001689-99-2**								
NOEL 7.3 MG/KG/DAY	ORAL: DIET	RAT	2 YEARS		NONE OBSERVED		2E-2 300		IRIS	005867
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
BUSAN 77		**031512-74-0**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005868
BUSAN 90		**002491-38-5**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005869
BUTANOL, 1-		**000071-36-3**								
NOAEL 125 MG/KG/DAY	ORAL: GAVAGE	RAT	13 WEEKS	CENTRAL NERVOUS SYSTEM CENTRAL NERVOUS SYSTEM	HYPOACTIVITY ATAXIA		1E+0 100		IRIS	005870
BUTYL BENZYL PHTHALATE, N-		**000085-68-7**								
NOAEL 159 MG/KG/DAY	ORAL: DIET	RAT	26 WEEKS	LIVER	ALTERED WEIGHT		2E+0 100		IRIS	005616
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
BUTYLATE		**002008-41-5**							
NOEL 5 MG/KG/DAY		DOG							
	ORAL: CAPSULE	12 MONTHS	LIVER	INCREASED RELATIVE WEIGHT		5E-2 100		IRIS	005871
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
BUTYLCHLORIDE, T-		**000507-20-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005810
BUTYROLACTONE, GAMMA-		**000096-48-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005872
CACODYLIC ACID		**000075-60-5**							
NOEL 9.2 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS		NONE OBSERVED		3E-2 300		3E-3 3000	005873
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ARSENIC BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO ARSENIC BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CADMIUM		**007440-43-9**							
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.							IRIS	005280	

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CALCIUM CYANIDE		**000592-01-8**							
NOAEL 19.1 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		4E-2		IRIS	010258
			THYRDID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

CAPROLACTAM		**000105-60-2**							
								IRIS	005284
NOAEL 50 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	KIDNEY	EFFECTS		5E-1			005282
						100			
							IRIS		010966
CAPTAFOL		**002425-06-1**							
LOAEL 2 MG/KG/DAY		DOG							
	ORAL: CAPSULE	12 MONTHS	KIDNEY	EFFECTS		2E-3		IRIS	005874
			BLADDER	EFFECTS		1000			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CAPTAN			**000133-06-2**							
NOEL	12.5 MG/KG/DAY	RAT								
	ORAL: DIET			WHOLE BODY	DECREASED WEIGHT		1.3E-1		IRIS	005875
							100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (05/27/92) BY THE RfD/RfC WORK GROUP.
CHRONIC [RfD] COMMENT: BASED ON A MULTI-GENERATION REPRODUCTION STUDY.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CARBARYL			**000063-25-2**							
NOAEL	9.6 MG/KG/DAY	RAT								
	ORAL: DIET	2 YEARS		KIDNEY	TOXICITY		1E-1		IRIS	005876
				LIVER	TOXICITY		100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
IRIS 010882
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (08/15/91) BY THE RfD/RfC WORK GROUP.

CARBOFURAN			**001563-66-2**							
NOEL	0.5 MG/KG/DAY	DOG								
	ORAL: DIET	1 YEAR		BLOOD	CHOLINESTERASE INHIBITION		5E-3		IRIS	005877
				TESTIS	EFFECTS		100			
				UTERUS	EFFECTS					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CARBON DISULFIDE				**000075-15-0**						
NOEL	11 MG/KG/DAY	RABBIT								
	INHALATION: INTERMITTENT			FETUS	TOXICITY		1E-1 100		IRIS	010259
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS DETERMINED FROM A TERATOLOGY STUDY WITH EXPOSURES BEFORE AND DURING THE ENTIRE GESTATION PERIOD.									
NOAEL	10 MG/CU M	RAT								
	INHALATION: INTERMITTENT		GESTATION	FETUS	TOXICITY	1E-2 1000		1E-2 1000		010430
	SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
CARBON MONOXIDE				**000630-05-0**						
	CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010493
CARBON TETRACHLORIDE				**000056-23-5**						
									IRIS	010862
	SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300. SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300. GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHLORAL				**000075-87-6**						
	LOAEL	15.7 MG/KG/DAY		MOUSE						
	ORAL: DRINKING WATER		90 DAYS	LIVER	EFFECTS		2E-2 1000		IRIS	005290
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLORDANE		**000057-74-9**								
NOEL 0.055 MG/KG/DAY		RAT								
	ORAL: DIET		130 WEEKS	LIVER	HYPERTROPHY		6E-5 1000		IRIS	005296
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
CHLORINE CYANIDE		**000506-77-4**								
NOAEL 25.3 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT		5E-2		IRIS	010261
				THYROID	EFFECTS		500			
				NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHLORO-1,3-BUTADIENE, 2- / (CHLOROPRENE)		**000126-99-8**								
NOAEL 32 PPM		RAT								
	INHALATION		90 DAYS	OLFACTORY	DEGENERATION	7E-2		7E-3		010515
				EPITHELIUM		30		300		
SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
CHLORO-M-CRESOL, P-		**000059-50-7**								
NOAEL 200 MG/KG/DAY		RAT								
	ORAL: GAVAGE		28 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		2E+0 100			005366
CHLOROACETALDEHYDE		**000107-20-0**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										005342

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROACETIC ACID		**000079-11-8**							
LOAEL 30 MG/KG		RAT							
	ORAL: GAVAGE	13 WEEKS	HEART	MYOCARDITIS		2E-2 1000		2E-3 10000	005346
CHLOROANILINE, 2-		**000095-51-2**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005347
CHLOROANILINE, 3-		**000108-42-9**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								00534B
CHLOROANILINE, 4-		**000106-47-8**							
LOAEL 12.5 MG/KG/DAY		RAT							
	ORAL: DIET	7B WEEKS	SPLEEN	PROLIFERATIVE LESIONS		4E-3 3000		IRIS	005349
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
CHLOROBENZENE		**000108-90-7**							
								IRIS	010B63

SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROBENZILATE		**000510-15-6**								
NOEL 5 MG/KG/DAY		RABBIT								
	ORAL: GAVAGE		13 DAYS	GASTRO-INTESTINAL SYSTEM	DECREASED STOOL QUANTITY		2E-2 300		IRIS	010260
				WHOLE BODY	DECREASED FOOD CONSUMPTION					
				WHOLE BODY	DECREASED WEIGHT GAIN					
				NERVOUS SYSTEM	HYPERIRRITABILITY					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. BASED ON A TERATOLOGY STUDY WITH EXPOSURES DURING DAYS 7-19 OF GESTATION.

CHRONIC [RfD] COMMENT: BASED ON A TERATOLOGY STUDY WITH EXPOSURES DURING DAYS 7-19 OF GESTATION.

010931

CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (02/11/93) BY THE RfD/RfC WORK GROUP.

CHLOROBENZOIC ACID, P-		**000074-11-3**								
NOAEL 26 MG/DAY		RAT								
	ORAL: DIET		5 MONTHS		NONE OBSERVED		2E+0 100		2E-1 1000	005360
CHLOROBENZOTRIFLUORIDE, 4-		**000098-56-6**								
NOAEL 15 MG/KG/DAY		RAT								
	ORAL: GAVAGE			KIDNEY	TUBULAR DEGENERATION		2E-1 100		2E-2 1000	005364

SUBCHRONIC [RfD] COMMENT: BASED ON A 2-GENERATION REPRODUCTION STUDY WITH EXPOSURES 4 WEEKS PRIOR TO MATING, DURING GESTATION, AND FOR 90 DAYS POST-WEANING.

CHRONIC [RfD] COMMENT: BASED ON A 2-GENERATION REPRODUCTION STUDY WITH EXPOSURES 4 WEEKS PRIOR TO MATING, DURING GESTATION, AND FOR 90 DAYS POST-WEANING.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROBUTANE, 1-		**000109-69-3**								
NOAEL 43 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 WEEKS	WHOLE BODY	INCREASED MORTALITY				4E-1	005808
				CENTRAL NERVOUS SYSTEM	EFFECTS				100	
				BLOOD	HEMATOLOGIC EFFECTS					
NOAEL 86 MG/KG/DAY		RAT								
	ORAL: GAVAGE		13 WEEKS	WHOLE BODY	DECREASED WEIGHT GAIN		9E-1			005806
				CENTRAL NERVOUS SYSTEM	EFFECTS		100			
				SPLEEN	HEMATOPOIESIS					
CHLOROBUTANE, 2-		**000078-86-4**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005809
CHLOROCYCLOPENTADIENE		**041851-50-7**								
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005297
CHLOROFORM		**000067-66-3**								
LOAEL 12.9 MG/KG/DAY		DOG								
	ORAL: CAPSULE		7.5 YEARS	LIVER	LESIONS		1E-2		IRIS	005372
							1000			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROMETHANE / (METHYL CHLORIDE) 000074-87-3									
									010005
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
CHLORONITROBENZENE, M- 000121-73-3									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005879
CHLOROPHENOL, 2- 000095-57-8									
NOAEL 50 PPM		RAT							
	ORAL: DRINKING WATER		REPRODUCTION	REPRODUCTIVE EFFECTS		5E-2 100		IRIS	010436
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTIVE STUDY WITH EXPOSURE 10 WEEKS PRIOR TO AND DURING MATING, GESTATION AND WEANING.									
CHRONIC [RfD] COMMENT: BASED ON A REPRODUCTIVE STUDY WITH EXPOSURE 10 WEEKS PRIOR TO AND DURING MATING, GESTATION AND WEANING.									
CHLOROPHENOL, 3- 000108-43-0									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005309
CHLOROPHENOL, 4- 000106-48-9									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005310
CHLOROPROPANE, 2- 000075-29-6									
NOAEL 91.4 MG/KG/DAY		RAT							
	INHALATION: INTERMITTENT	4 WEEKS	LIVER	EFFECTS	1E+0 100		1E-1 1000		010444
CHLOROTOLUENE, M- 000108-41-8									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005880

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLOROTOLUENE, O-		**000095-49-8**								
NOAEL 20 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		2E-1 100		IRIS	010167
CHLOROTOLUENE, P-		**000106-43-4**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										010200
CHLORPYRIFOS		**002921-88-2**								
NOEL 0.03 MG/KG/DAY		HUMAN								
	ORAL: CAPSULE		20 DAYS OR 9 DAYS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		3E-3 10		IRIS	005881
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHLORPYRIFOS METHYL		**005598-13-0**								
NOAEL 1 MG/KG/DAY		RAT								
	ORAL: DIET		3 GENERATIONS	REPRODUCTION	DECREASED FERTILITY		1E-2 100		1E-2 100	005882
		RAT	2 YEARS	LIVER	EFFECTS					
CHLOROTHALONIL		**001897-45-6**								
NOEL 1.5 MG/KG/DAY		DOG								
	ORAL: DIET		2 YEARS	KIDNEY	EFFECTS		1.5E-2 100		IRIS	005883
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLORTHIOPHOS				**060238-56-4**						
NOAEL 0.08 MG/KG/DAY	ORAL: DIET	RAT	2 YEARS		NONE OBSERVED		8E-4 100		8E-4 100	005884
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHROMIUM(III)				**016065-83-1**						
NOEL 5 % (CR2O3)	ORAL: DIET	RAT	840 DAYS		NONE OBSERVED		1E+0 1000		IRIS	005731
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfC] COMMENT: INHALATION ISSUES ARE UNDER REVIEW BY THE RFD/RFC WORK GROUP.										
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
CHROMIUM(VI)				**018540-29-9**						
NOAEL 2.4 MG/KG/DAY	ORAL: DRINKING WATER	RAT	1 YEAR		NONE OBSERVED		2E-2 100		IRIS	005522
CHRONIC [RfC] COMMENT: INHALATION ISSUES ARE UNDER REVIEW BY THE RFD/RFC WORK GROUP.										
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
CHRYSENE				**000218-01-9**						
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										005885

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
COPPER		**007440-50-8**								
LOAEL 5.3 MG		HUMAN								
	ORAL		SINGLE DOSE	GASTRO-INTESTINAL SYSTEM	IRRITATION		1.3 MG/L		1.3 MG/L	005374

SUBCHRONIC [RfD] COMMENT: CURRENT DRINKING WATER STANDARD OF 1.3 MG/L. DWCD (1987) CONCLUDED TOXICITY DATA WERE INADEQUATE FOR CALCULATION DF AN RfD FOR COPPER.
CHRONIC [RfD] COMMENT: CURRENT DRINKING WATER STANDARD OF 1.3 MG/L. DWCD (1987) CONCLUDED TOXICITY DATA WERE INADEQUATE FOR CALCULATION OF AN RfD FOR COPPER.

COPPER CYANIDE		**000544-92-3**								
NOAEL 5 MG/KG/DAY		RAT								
	ORAL: GAVAGE		90 DAYS	LIVER	HISTOPATHOLOGY		5E-2		IRIS	010262
				KIDNEY	HISTOPATHOLOGY		100			
				WHOLE BODY	DECREASED WEIGHT					
				ORGANS	DECREASED WEIGHT					

CRESOL, M- / (3-METHYLPHENOL)		**000108-39-4**								
NOAEL 50 MG/KG/DAY		RAT								
	ORAL: GAVAGE		90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		5E-1		IRIS	005380
				NERVOUS SYSTEM	NEURDTOXICITY		100			

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

IRIS 010888

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NDT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CRESOL, O- / (2-METHYLPHENOL) 000095-48-7									
NOAEL 50 MG/KG/DAY	ORAL: GAVAGE	RAT 90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		5E-1		IRIS	005384
			NERVOUS SYSTEM	NEUROTOXICITY		100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010889
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									
CRESOL, P- / (4-METHYLPHENOL) 000106-44-5									
NOAEL 5 MG/(KG-DAY)	ORAL: GAVAGE	RABBIT GESTATION DAYS 6-18	CENTRAL NERVOUS SYSTEM	HYPOACTIVITY		5E-3 1000		5E-3 1000	010516
			RESPIRATORY SYSTEM	DISTRESS					
			WHOLE BODY	MATERNAL DEATH					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010890
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									
CUMENE 000098-82-8									
NOAEL 154 MG/KG/DAY	ORAL: GAVAGE	RAT 194 DAYS	KIDNEY	INCREASED WEIGHT		4E-1 300		IRIS	005392
NOAEL 105.1 PPM	INHALATION: INTERMITTENT	RAT 4 WEEKS	CENTRAL NERVOUS SYSTEM	INVOLVEMENT	9E-2 1000		9E-3 10000		005908
			NOSE	IRRITATION					

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CYANAZINE		**021725-46-2**								
NOEL 0.625 MG/KG/DAY		DOG								
	ORAL: DIET		1 YEAR	WHOLE BODY	DECREASED WEIGHT		2E-3		2E-3	010411
				BLOOD	INCREASED PLATELET COUNT		300		300	
				BLOOD	ALTERED CLINICAL CHEMISTRY PARAMETERS					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS WITHDRAWN FROM IRIS (07/01/92). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CYANIDE		**000057-12-5**								
NOAEL 10.8 MG/KG/DAY		RAT								
	ORAL: DIET		104 WEEKS	WHOLE BODY	DECREASED WEIGHT		2E-2		IRIS	005396
				THYROID	EFFECTS		500			
				NERVE	MYELIN DEGENERATION					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: THE CASRN FOR CN- IS 000057-12-5; THE CASRN FOR HCN IS 000074-90-8.

CYANOGEN		**000460-19-5**								
NOAEL 21.6 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT		4E-2		IRIS	010263
				THYROID	EFFECTS		500			
				NERVE	MYELIN DEGENERATION					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CYANOGEN BROMIDE		**000506-68-3**							
NOAEL 44 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		9E-2		IRIS	010264
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CYCLOATE		**001134-23-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005886
CYCLOHEXANOL		**000108-93-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005887
CYCLOHEXYLAMINE		**000108-91-8**							
								IRIS	005400
NOAEL 30 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		3E-1			005398
			TESTIS	DECREASED WEIGHT		100			
CYCLOPENTADIENE		**000542-92-7**							
									010494
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DACTHAL			**001861-32-1**							
NOAEL 1 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	LUNG	EFFECTS		1E-2		IRIS	005888
				LIVER	EFFECTS		100			
				KIDNEY	EFFECTS					
				THYROID	EFFECTS					
				THYROID HORMONES	EFFECTS					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
DALAPON			**000075-99-0**							
NOEL 8.45 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	KIDNEY	INCREASED RELATIVE WEIGHT		3E-2		IRIS	005889
							300			
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO DALAPON SODIUM BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
DDT			**000050-29-3**							
NOEL 0.05 MG/KG/DAY		RAT								
	ORAL: DIET		27 WEEKS	LIVER	LESIONS		5E-4		IRIS	005408
							100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
DECABROMODIPHENYL ETHER			**001163-19-5**							
NOEL 1 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	LIVER	INCREASED WEIGHT		1E-2		IRIS	005891
							100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DI-N-OCTYL PHTHALATE		**000117-84-0**							
LOAEL 175 MG/KG/DAY		RAT							
	ORAL: DIET	7-12 MONTHS	KIDNEY	INCREASED WEIGHT		2E-2		2E-2	010275
			LIVER	INCREASED WEIGHT		1000		1000	
			LIVER	INCREASED SGOT ACTIVITY					
			LIVER	INCREASED SGPT ACTIVITY					
DIAZINON		**000333-41-5**							
NOAEL 0.09 MG/KG/DAY		RAT							
	ORAL: DIET	35-42 DAYS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		9E-4 100		9E-4 100	005892
DIBENZOFURAN		**000132-64-9**							
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.							005409
DIBROMOBENZENE, 1,4-		**000106-37-6**							
NOAEL 10 MG/KG/DAY		RAT							
	ORAL: GAVAGE	45 OR 90 DAYS	LIVER	INCREASED RELATIVE WEIGHT		1E-1		IRIS	005893
			LIVER	ALTERED ENZYME ACTIVITIES		100			
DIBROMOCHLOROMETHANE		**000124-48-1**							
NOEL 21.4 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	LIVER	LESIONS		2E-1 100		IRIS	005894
	GENERAL COMMENT:	ALSO SEE HEAST TABLE 3: CARCINOGENICITY.							

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIBROMOETHANE, 1,2-			**000106-93-4**							
LOAEL 88 PPB		HUMAN								
	INHALATION: INTERMITTENT			SPERM	EFFECTS	2E-3 100		2E-4 1000		010854

SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] WAS MODIFIED TO ESTIMATE THE SUBCHRONIC INHALATION [RfC].
CHRONIC [RfC] COMMENT: UNDER REVIEW, CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

DIBUTYL PHTHALATE			**000084-74-2**							
NOAEL 125 MG/KG/DAY		RAT								
	ORAL: DIET		52 WEEKS	WHOLE BODY	INCREASED MORTALITY		1E+0 100		IRIS	005622
								IRIS		010892

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (07/26/90) BY THE RfD/RfC WORK GROUP.

DICAMBA			**001918-00-9**							
NOAEL 3 MG/KG/DAY		RABBIT								
	ORAL: GAVAGE		GESTATION DAYS 6-18	FETUS	DECREASED WEIGHT		3E-2 100		IRIS	010945
				FETUS	INCREASED POST-IMPLANTATION LOSSES					
				FETUS	INCREASED MORTALITY					
				DAM	DECREASED WEIGHT GAIN					

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfO].

DICHLOROBENZENE, 1,2-			**000095-50-1**							
									IRIS	010864

GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROBENZENE, 1,3-		**000541-73-1**							
									005414
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (06/23/92) BY THE RfD/RfC WORK GROUP.									
DICHLOROBENZENE, 1,4-		**000106-46-7**							
NOAEL 75 MG/CU M		RAT							
	INHALATION: INTERMITTENT	MULTI-GENERATION	LIVER	INCREASED WEIGHT IN MALE PARENTS	2.5E+0 30		IRIS		010840
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS MODIFIED TO ESTIMATE THE SUBCHRONIC INHALATION [RfC].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
DICHLOROBUTENES									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005415
DICHLORODIFLUOROMETHANE		**000075-71-8**							
								IRIS	005498
NOAEL 90 MG/KG/DAY		DOG							
	ORAL: DIET	90 DAYS		NONE OBSERVED		9E-1 100			005496
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROETHANE, 1,1- 000075-34-3									
NOEL 115 MG/KG/DAY	INHALATION: INTERMITTENT	RAT 13 WEEKS		NONE OBSERVED		1E+0 100		1E-1 1000	005790

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

DICHLOROETHANE, 1,2- 000107-06-2

SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

DICHLOROETHYLENE, 1,1- 000075-35-4									
LOAEL 9 MG/KG/DAY	ORAL: DRINKING WATER	RAT 2 YEARS	LIVER	LESIONS		9E-3 1000		IRIS	005419

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: UNDER REVIEW, CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROETHYLENE, 1,2- (MIXED ISOMERS) 000540-59-0									
LOAEL 50 PPM	ORAL: DRINKING WATER	RAT 2 YEARS	LIVER	LESIONS		9E-3 1000		9E-3 1000	010509
SUBCHRONIC [RfD] COMMENT: VALUES DERIVED FOR 1,1-DICHLOROETHYLENE WERE ADOPTED FOR 1,2- DICHLOROETHYLENE MIXED ISOMERS BASED ON ANALOGY.									
CHRONIC [RfD] COMMENT: VALUES DERIVED FOR 1,1-DICHLOROETHYLENE (000075-35-4) WERE ADOPTED FOR 1,2-DICHLOROETHYLENE MIXED ISOMERS BASED ON ANALOGY.									
DICHLOROETHYLENE, 1,2-C- 000156-59-2									
NOAEL 32 MG/KG/DAY	ORAL: GAVAGE	RAT 90 DAYS	BLOOD	DECREASED HEMATOCRIT		1E-1		1E-2	005420
			BLOOD	DECREASED HEMOGLOBIN		300		3000	
CHRONIC [RfD] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.									
DICHLOROETHYLENE, 1,2-T- 000156-60-5									
NOAEL 17 MG/KG/DAY	ORAL: DRINKING WATER	MOUSE 90 DAYS	BLOOD	INCREASED ALKALINE PHOSPHATASE		2E-1 100		IRIS	005895
DICHLOROPHENOL, 2,3- 000576-24-9									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005315

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROPHENOL, 2,4- 000120-83-2										
NOEL 3 PPM		RAT								
	ORAL: DRINKING WATER		2 GENERATIONS	IMMUNE SYSTEM	ALTERED IMMUNE FUNCTION		3E-3 100		IRIS	005314

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: BASED ON A 2-GENERATION REPRODUCTION STUDY WITH EXPOSURES BEFORE AND DURING GESTATION, PARTURITION, AND WEANING OF PUPS.

DICHLOROPHENOL, 2,5- 000583-78-8

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005316

DICHLOROPHENOL, 2,6- 000087-65-0

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005317

DICHLOROPHENOL, 3,4- 000095-77-2

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005318

DICHLOROPHENOL, 3,5- 000591-35-5

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005319

DICHLOROPHENOXY ACETIC ACID, 2,4- 000094-75-7

NOAEL 1 MG/KG/DAY		RAT							
	ORAL: DIET		91 DAYS	BLOOD	TOXICITY		1E-2	IRIS	010265
				LIVER	TOXICITY		100		
				KIDNEY	TOXICITY				

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4- / (2,4-DB) 000094-82-6									
NOAEL 8 MG/KG/DAY		DOG							
	ORAL: DIET	90 DAYS	CARDIOVASCULAR SYSTEM	HEMORRHAGE		8E-2 100		IRIS	005890
			WHOLE BODY	INCREASED MORTALITY					
DICHLOROPROPANE, 1,1- 000078-99-9									
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.							005897
DICHLOROPROPANE, 1,2- 000078-87-5									
NOAEL 69.3 MG/CU		RAT							
	INHALATION: INTERMITTENT	13 WEEKS	NASAL MUCOSA	HYPERPLASIA	1.3E-2 100		IRIS		005898
	GENERAL COMMENT:	ALSO SEE HEAST TABLE 3: CARCINOGENICITY.							
DICHLOROPROPANE, 1,3- 000142-28-9									
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.							005899
DICHLOROPROPANE, 2,2- 000594-20-7									
	GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.							005900

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROPROPENE, 1,3- / (TELONE II)		**000542-75-6**							
NOEL 3 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	ORGANS	INCREASED WEIGHT		3E-3 1000		IRIS	005901
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								
NOAEL 5 PPM		MOUSE							
	INHALATION:	2 YEARS	NASAL MUCOSA	HYPERTROPHY	2E-2		IRIS		010351
	INTERMITTENT		NASAL MUCOSA	HYPERPLASIA	30				
	SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].								
DICHLORPROP		**000120-36-5**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005896
DICYCLOPENTADIENE		**000077-73-6**							
NOEL 32 MG/KG/DAY		RAT							
	ORAL: DIET	3 GENERATIONS		NONE OBSERVED		3E-1 100		3E-2 1000	005425
	SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)								
	SUBCHRONIC [RfD] COMMENT: BASED ON A 3-GENERATION REPRODUCTION STUDY.								
	CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)								
	CHRONIC [RfD] COMMENT: BASED ON A 3-GENERATION REPRODUCTION STUDY.								
DIELDRIN		**000060-57-1**							
NOAEL 0.005 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	LESIONS		5E-5 100		IRIS	005429
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].								
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIETHYL PHTHALATE		**000084-66-2**							
NOAEL 750 MG/KG/DAY		RAT							
	ORAL: DIET	16 WEEKS	WHOLE BODY	DECREASED GROWTH		8E+0		IRIS	005620
			ORGANS	DECREASED WEIGHT		100			
DIETHYL-P-NITROPHENYL PHOSPHATE		**000311-45-5**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005922
DIETHYLANILINE, N,N-		**000091-66-7**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005903
DIETHYLENE GLYCOL MONOBUTYL ETHER		**000112-34-5**							
NOAEL 18 PPM		RAT							
				NONE OBSERVED	2E-1		2E-2		005482
					100		1000		
	CHRONIC [RfC] COMMENT: UNDER REVIEW.								
DIETHYLENE GLYCOL MONOETHYL ETHER		**000111-90-0**							
NOEL 200 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER		KIDNEY	HISTOPATHOLOGY				2E+0	005478
								100	
	CHRONIC [RfD] COMMENT: BASED ON A 3-GENERATION REPRODUCTION STUDY.								
NOEL 500 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	KIDNEY	IMPAIRED FUNCTION		5E+0			005476
			TESTIS	INCREASED WEIGHT		100			

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIETHYLFORMAMIDE			**000617-84-5**							
NOEL 0.546 MG/DAY, 5 DAYS/WEEK		RAT								
	ORAL: GAVAGE		73 WEEKS		NONE OBSERVED		1.1E-2 100		1.1E-2 100	010437
DIETHYLHYDRAZINE, 1,2-			**001615-80-1**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										005921
DIMETHOATE			**000060-51-5**							
NOEL 0.05 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	BRAIN	DECREASED CHOLINESTERASE ACTIVITY		2E-4 300		IRIS	005923
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
DIMETHYLANILINE, N,N-			**000121-69-7**							
LOAEL 22.32 MG/KG/DAY		MOUSE								
	ORAL: GAVAGE		13 WEEKS	SPLEEN	EFFECTS		2E-2 1000		IRIS	005924
DIMETHYLFORMAMIDE, N,N-			**000068-12-2**							
NOAEL 96 MG/KG/DAY		RAT								
	ORAL: DIET		119 DAYS	LIVER	EFFECTS		1E+0 100		1E-1 1000	005925
LOAEL 22 MG/CU M		HUMAN								
	INHALATION: INTERMITTENT			LIVER GASTRO INTESTINAL SYSTEM	EFFECTS EFFECTS	3E-2 300		IRIS		010352
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RFC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RFC].										

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIMETHYLPHENOL, 2,3-		**000526-75-0**							
GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005926
DIMETHYLPHENOL, 2,4-		**000105-67-9**							
NOAEL 50 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	90 DAYS	NERVOUS SYSTEM	EFFECTS		2E-1		IRIS	010266
			BLOOD	ALTERATIONS		300			
DIMETHYLPHENOL, 2,5-		**000095-87-4**							
GENERAL COMMENT:	DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.								005928
DIMETHYLPHENOL, 2,6-		**000576-26-1**							
NOEL 0.6 MG/KG/DAY		RAT							
	ORAL	8 MONTHS	WHOLE BODY	INCREASED WEIGHT		6E-3		IRIS	005431
			ORGANS, MAJOR	LESIONS		100			
DIMETHYLPHENOL, 3,4-		**000095-65-8**							
NOEL 1.4 MG/KG/DAY		RAT							
	ORAL	8 MONTHS	WHOLE BODY	DECREASED WEIGHT		1E-2		IRIS	005437
			ORGANS, MAJOR	LESIONS		100			
			CARDIOVASCULAR SYSTEM	ALTERED BLOOD PRESSURE					
DIMETHYLPHTHALATE		**000131-11-3**							
CHRONIC RfD COMMENT:	THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (02/16/94) BY THE RfD/RfC WORK GROUP.								010267
								IRIS	010894
CHRONIC RfC COMMENT:	THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (07/26/90) BY THE RfD/RfC WORK GROUP.								

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DIMETHYLTEREPHTHALATE		**000120-61-6**								
LOAEL 125 MG/KG/DAY		RAT								
	ORAL: DIET		103 WEEKS	KIDNEY	INFLAMMATION		1E-1 1000		IRIS	005930
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
DIMETHYLUREA, N,N-		**000598-94-7**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005931
DINITRO-O-CRESOL, 4,6-		**000534-52-1**								
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (02/11/93) BY THE RfD/RfC WORK GROUP.										010470
DINITRO-P-CRESOL, 2,6-		**000609-93-8**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005934
DINITROBENZENE, 1,2-		**000528-29-0**								
NOAEL 0.4 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		16 WEEKS	SPLEEN	INCREASED WEIGHT		4E-3 100		4E-4 1000	010201
SUBCHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE. CHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.										
DINITROBENZENE, 1,3-		**000099-65-0**								
NOAEL 0.4 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER			SPLEEN	INCREASED WEIGHT		1E-3 100		IRIS	010471

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DINITROBENZENE, 1,4-		**000100-25-4**							
NOAEL 0.4 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	16 WEEKS	SPLEEN	INCREASED WEIGHT		4E-3 100		4E-4 1000	010202
SUBCHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.									
CHRONIC [RfD] COMMENT: DERIVED BY ANALOGY TO 1,3-DINITROBENZENE.									
DINITROPHENOL, 2,3-		**000066-56-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005936
DINITROPHENOL, 2,4-		**000051-28-5**							
LOAEL 2 MG/KG/DAY		HUMAN							
	ORAL		EYE	CATARACT		2E-3 1000		IRIS	010438
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDEREO NOT VERIFIABLE (06/13/91) BY THE RfD/RfC WORK GROUP.							IRIS		010895
DINITROPHENOL, 2,5-		**000329-71-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005937
DINITROPHENOL, 2,6-		**000573-56-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005938
DINITROPHENOL, 3,5-		**000586-11-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005939
DINITROTOLUENE, 2,3-		**000602-01-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005940

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DINITROTOLUENE, 2,4- 000121-14-2									
NOAEL 0.2 MG/KG/DAY		DOG							
	ORAL: GELATIN CAPSULE	UP TO 2 YEARS	CENTRAL NERVOUS SYSTEM	NEUROTOXICITY		2E-3 100		IRIS	005941
			ERYTHROCYTES	HEINZ BODIES					
			BILIARY TRACT	HYPERPLASIA					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfO IS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010896
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDEREO NOT VERIFIABLE (12/20/90) BY THE RfO/RfC WORK GROUP.									
DINITROTOLUENE, 2,5- 000619-15-8									
GENERAL COMMENT: OATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005942
DINITROTOLUENE, 2,6- 000606-20-2									
NOAEL 4 MG/KG/OAY		DOG							
	ORAL: OIET	13 WEEKS	WHOLE BODY	MORTALITY		1E-2		1E-3	005943
			CENTRAL NERVOUS SYSTEM	NEUROTOXICITY		300		3000	
			BLOOD	HEINZ BODIES					
			BLOOD	METHEMOGLOBINEMIA					
			BILE DUCT	HYPERPLASIA					
			KIDNEY	HISTOPATHOLOGY					
CHRONIC [RfO] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
DINITROTOLUENE, 3,4- 000610-39-9									
GENERAL COMMENT: OATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005944

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DINOSEB		**000088-85-7**							
LOAEL 1 MG/KG/DAY		RAT							
	ORAL: DIET	29 WEEKS	FETUS	DECREASED WEIGHT		1E-3		IRIS	005945
						1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RFD WAS ADOPTED AS THE SUBCHRONIC ORAL [RFD].									
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RFD WAS DETERMINED FROM A 3-GENERATION REPRODUCTION STUDY.									
DIPHENYLAMINE, N,N-		**000122-39-4**							
NOEL 2.5 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		2.5E-2		IRIS	005946
			LIVER	INCREASED WEIGHT		100			
			KIDNEY	INCREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
DIRECT LIGHTFAST BLUE		**004399-55-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005947
DISULFOTON		**000298-04-4**							
LOAEL 0.04 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	EYE	DEGENERATION		4E-5		IRIS	010412
			BLOOD	CHOLINESTERASE INHIBITION		1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ENDOSULFAN		**000115-29-7**							
NOAEL 15 PPM		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		6E-3		IRIS	010926
			KIDNEY	GLOMERULONEPHROSIS		100			
			BLOOD VESSEL	ANEURYSMS					
NOAEL 10 PPM		DOG							
	ORAL: DIET	1 YEAR	WHOLE BODY	DECREASED WEIGHT GAIN					010938
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHORNIC ORAL [RfD]. BASED ON CD-CRITICAL RAT AND DOG STUDIES.									
ENDOTHALL		**000145-73-3**							
NOEL 2 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	STOMACH	INCREASED WEIGHT		2E-2		IRIS	005948
			SMALL INTESTINE	INCREASED WEIGHT		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
ENDRIN		**000072-20-8**							
NOEL 0.025 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	CENTRAL NERVOUS SYSTEM	CONVULSIONS		3E-4		IRIS	005445
						100			
			LIVER	LESIONS					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
EPICHLOROHYDRIN		**000106-89-8**							
LOAEL 37.8 MG/CU M	INHALATION: INTERMITTENT	RAT 136 WEEKS	KIDNEY	LESIONS		2E-3 1000		2E-3 1000	010440
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE-TO-ROUTE EXTRAPOLATION. THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (04/01/92).									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
NOAEL 19 MG/CU M	INHALATION: INTERMITTENT	RAT 90 DAYS	NASAL EPITHELIUM	LESIONS	1E-2 100		IRIS		010492
EPTC		**000759-94-4**							
NOEL 2.5 MG/KG/DAY	ORAL: DIET	RAT 2 GENERATIONS	HEART	DEGENERATIVE CARDIOMYOPATHY		2.5E-2 100		IRIS	005959
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RFD WAS DETERMINED FROM A 2-GENERATION REPRODUCTION STUDY.									
ETHOPROP		**013194-48-4**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005951
ETHOXYETHANOL ACETATE, 2-		**000111-15-9**							
									010507
SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
ETHOXYETHANOL ACRYLATE, 2-		**000106-74-1**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005953

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHOXYETHANOL DODECANOATE, 2- 000106-13-8										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005956
ETHOXYETHANOL PHOSPHATE, 2- 068554-00-7										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005955
ETHOXYETHANOL, 2- 000110-80-5										
LOAEL 357 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 WEEKS	WHOLE BODY	DECREASED WEIGHT				4E-1 1000	005470
NOEL 50 uL/KG/DAY		RAT								
	ORAL: GAVAGE		21 DAYS	FETUS	SKELETAL MALFORMATIONS		5E-1 100			005468
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY WITH EXPOSURES OURING OAYS 1-21 OF GESTATION.										
NOAEL 380 MG/CU M		RABBIT								
	INHALATION: INTERMITTENT		13 WEEKS	BLOOD	ALTERED HEMATOLOGY	2E+0 30		IRIS		010441
ETHOXYETHYL METHACRYLATE, 2- 002370-63-0										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005954
ETHYL ACETATE 000141-78-6										
NOEL 900 MG/KG/DAY		RAT								
	ORAL: GAVAGE		90 DAYS	WHOLE BODY	INCREASED MORTALITY		9E+0		IRIS	005957
				WHOLE BODY	DECREASED WEIGHT		100			

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYL BENZENE		**000100-41-4**							
								IRIS	010867
							IRIS		010866
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
ETHYL CHLORIDE		**000075-00-3**							
NOAEL 1504 PPM		MOUSE							
	INHALATION: INTERMITTENT	10 DAYS	FETUS	DEVELOPMENTAL TOXICITY	1E+1 300		IRIS		010371
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
CHRONIC [RfC] COMMENT: BASED ON A DEVELOPMENTAL STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION.									
ETHYL ETHER		**000060-29-7**							
NOAEL 500 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	EFFECTS		2E+0 300		IRIS	010396
ETHYL METHACRYLATE		**000097-63-2**							
NOEL 7.5 MG/KG/DAY		RAT							
	ORAL: DRINKING WATER	2 YEARS	KIDNEY	INCREASED RELATIVE WEIGHT		9E-2 100		9E-2 100	005961
CHRONIC [RfD] COMMENT: CALCULATED FROM METHYL METHACRYLATE DATA BY MULTIPLYING BY THE RATIO OF THE MOLECULAR WEIGHTS (114.5/100.13).									
ETHYL-O-XYLENE, 4-		**000934-80-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010472

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYLANILINE, N-		**000103-69-5**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005958
ETHYLENE CYANOHYDRIN		**000109-78-4**								
NOEL	30 MG/KG/DAY	RAT								
	ORAL: DRINKING WATER		90 DAYS	HEART	DECREASED WEIGHT		3E-1		3E-1	005780
				BRAIN	DECREASED WEIGHT		100		100	
ETHYLENE DIAMINE		**000107-15-3**								
NOAEL	22.6 MG/KG/DAY	RAT								
	ORAL: DIET		3 MONTHS	HEART	DECREASED WEIGHT		2E-1		2E-2	005796
				BLOOD	HEMATOLOGIC CHANGES		100		1000	
								IRIS		010898
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/18/90) BY THE RfD/RfC WORK GROUP.										
ETHYLENE GLYCOL		**000107-21-1**								
									IRIS	005454
NOEL	200 MG/KG/DAY	RAT								
	ORAL: DIET			FETUS	FETOTOXICITY		2E+0			005452
							100			
SUBCHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION.										
ETHYLENE GLYCOL MONOBUTYL ETHER		**000111-76-2**								
NOAEL	121 MG/CU M	RAT								
	INHALATION: INTERMITTENT		13 WEEKS	BLOOD	ALTERED HEMATOLOGY	2E-1		2E-2		010353
						100		1000		
CHRONIC [RfC] COMMENT: UNDER REVIEW, CURRENT NUMBER SUBJECT TO CHANGE.										

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ETHYLENE THIOUREA		**000096-45-7**							
LOAEL 0.25 MG/KG/DAY		RAT							
	ORAL: DIET	24 MONTHS	THYROID	HYPERPLASIA		8E-5		IRIS	010397
						3000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010899
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/12/92) BY THE RfD/RfC WORK GROUP.									
ETHYLTOLUENE, M-		**000620-14-4**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005963
ETHYLTOLUENE, O-		**000611-14-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005962
ETHYLTOLUENE, P-		**000622-96-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005964
FLUORANTHENE		**000206-44-0**							
NOAEL 125 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	90 DAYS	KIDNEY	NEPHROPATHY		4E-1		IRIS	010168
			LIVER	WEIGHT CHANGES		300			
			BLOOD	HEMATOLOGICAL CHANGES					
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									010967
FLUORENE		**000086-73-7**							
NOAEL 125 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	13 WEEKS	ERYTHROCYTES	DECREASED COUNTS		4E-1		IRIS	010169
						300			

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
FLUORINE / (SOLUBLE FLUORIDE) 007782-41-4									
NOAEL 0.06 MG/KG/DAY		HUMAN							
	ORAL: DRINKING WATER		TOOTH	FLUOROSIS		6E-2 1		IRIS	005965
FLURIDONE 059756-60-4									
NOEL 200 PPM		RAT							
	ORAL: DIET	2 YEARS	KIDNEY	GLOMERULONEPHRITIS		8E-2		IRIS	005966
			TESTIS	ATROPHY		100			
			WHOLE BODY	DECREASED WEIGHT					
			ORGANS	DECREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
FOLPET 000133-07-3									
NOEL 10 MG/KG/DAY		DOG							
	ORAL: CAPSULE	1 YEAR	WHOLE BODY	ALTERED WEIGHT GAIN		1E-1		IRIS	005967
			BLOOD	ALTERED CHEMISTRY		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
FORMALDEHYDE 000050-00-0									
NOAEL 15 MG/KG/DAY		RAT							
	ORAL: WATER	2 YEARS	GASTRO-INTESTINAL TRACT	LESIONS		2E-1 100		IRIS	010398
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
FORMALDEHYDE CYANOHYDRIN 000107-16-4									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005782

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
FORMIC ACID		**000064-18-6**								
NOAEL 200 MG/KG/DAY		RAT								
	ORAL: WATER	MULTI-GENERATION		WHOLE BODY	DECREASED GROWTH		2E+0 100		2E+0 100	01026B
CHRONIC [RfD] COMMENT: BASED ON A MULTI-GENERATION STUDY. WITHDRAWN FROM IRIS (12/01/90). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.										
FURAN		**000110-00-9**								
NOAEL 1.4 MG/KG/DAY		MOUSE								
	ORAL: GAVAGE	13 WEEKS		LIVER	LESIONS		1E-2 100		IRIS	005462
FURFURAL		**000098-01-1**								
LOAEL 7.9 MG/KG/DAY		RAT								
	ORAL: GAVAGE	13 WEEKS		LIVER	HEPATOTOXICITY		3E-2 300		IRIS	005466
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY) CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
GLYCIDALDEHYDE		**000765-34-4**								
NOAEL 29 MG/CU M		RAT								
	INHALATION: INTERMITTENT	12 WEEKS		WHOLE BODY KIDNEY	DECREASED WEIGHT EFFECTS	1E-2 300	4E-3 300	1E-3 3000	IRIS	00596B
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HEPTACHLOR		**000076-44-8**							
NOEL 0.15 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	INCREASED WEIGHT		5E-4 300		IRIS	005506
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY									
HEPTACHLOR EPOXIDE		**001024-57-3**							
LOAEL 0.0125 MG/KG/DAY		DOG							
	ORAL: DIET	60 WEEKS	LIVER	INCREASED RELATIVE WEIGHT		1.3E-5 1000		IRIS	010399
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
HEPTANE, N-		**000142-82-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005969
HEXABROMOBENZENE		**000087-82-1**							
NOAEL 2 MG/KG/DAY		RAT							
	ORAL: DIET	12 WEEKS	LIVER	INDUCED CARBOXYLESTERASE ACTIVITY		2E-2 100		IRIS	005970
HEXACHLOROBENZENE		**000118-74-1**							
								IRIS	010868
							IRIS		010900
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (11/15/90) BY THE RfD/RfC WORK GROUP.									
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HEXACHLOROBUTADIENE		**000087-68-3**							
LOAEL 0.5 MG/KG/DAY		MOUSE							
	ORAL: DIET	13 WEEKS	RENAL TUBULES	REGENERATION				2E-4 1000	010927
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (05/01/93). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.									
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
HEXACHLOROCYCLOHEXANE, DELTA-		**000319-86-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010495
HEXACHLOROCYCLOHEXANE, EPSILON-		**006108-10-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010496
HEXACHLOROCYCLOHEXANE, GAMMA-		**000058-89-9**							
NOAEL 0.33 MG/KG/DAY		RAT							
	ORAL: DIET	12 WEEKS	LIVER	TOXICITY		3E-3		IRIS	005537
			KIDNEY	TOXICITY		100			
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010903
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (05/27/92) BY THE RfD/RfC WORK GROUP.									
HEXACHLOROCYCLOPENTADIENE		**000077-47-4**							
NOAEL 7.1 MG/KG/DAY		RAT							
	ORAL	13 WEEKS	FORESTOMACH	LESIONS		7E-2 100		IRIS	005299
NOAEL 0.15 PPM		RAT							
	INHALATION: INTERMITTENT	13 WEEKS	NASAL CAVITY	SQUAMOUS METAPLASIA	7E-4 100		7E-5 1000		010445

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HEXACHLOROETHANE		**000067-72-1**							
NOAEL 1 MG/KG/DAY		RAT							
	ORAL: DIET	16 WEEKS	KIDNEY	DEGENERATION		1E-2 100		IRIS	005518
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.								010904
	CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (11/05/92), BY THE RfD/RfC WORK GROUP.								
HEXACHLOROPHENE		**000070-30-4**							
LOAEL 0.75 MG/KG/DAY		DOG							
	ORAL: DIET	13 WEEKS	NERVOUS SYSTEM	EFFECTS		3E-3 300		IRIS	005972
HEXAMETHYLENE DIAMINE		**000124-09-4**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005973
HEXANE, N-		**000110-54-3**							
LOAEL 570 MG/KG/DAY		RAT							
	ORAL		NERVOUS SYSTEM TESTIS	NEUROPATHY ATROPHY		6E-1 1000		6E-2 10000	005974
LOAEL 73 MG/CU M		HUMAN							
	INHALATION: INTERMITTENT		NERVOUS SYSTEM	NEUROTOXICITY	2E-1 300		IRIS		010273
	SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].								
HEXANONE, 2-		**000591-78-6**							
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT								005976

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
HYDROGEN SULFIDE		**007783-06-4**							
NOAEL 3.1 MG/KG/DAY		PIG							
	ORAL: FOOD	105 DAYS	GASTRO-INTESTINAL SYSTEM	DISTURBANCE		3E-2 100		IRIS	010269
NOAEL 42 MG/CU M		MOUSE							
	INHALATION: INTERMITTENT	13 WEEKS	NASAL MUCOSA	INFLAMMATION	9E-3 100		IRIS		010354
HYDROQUINONE		**000123-31-9**							
NOAEL 4.29 MG/KG/DAY		HUMAN							
	ORAL	3-5 MONTHS	BLOOD	HEMATOLOGICAL EFFECTS		4E-1 10		4E-2 100	005526
							IRIS		010905
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (10/01/90) BY THE RfD/RfC WORK GROUP.									
IRON		**007439-89-6**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005527
ISOBUTYL ALCOHOL		**000078-83-1**							
NOEL 316 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	NERVOUS SYSTEM NERVOUS SYSTEM	HYPOACTIVITY ATAXIA		3E+0 100		IRIS	005977
ISOPHORONE		**000078-59-1**							
NOEL 150 MG/KG/DAY		DOG							
	ORAL: CAPSULE	90 DAYS	KIDNEY	LESIONS		2E+0 100		IRIS	005910
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
							IRIS		010906
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (11/15/90) BY THE RfD/RfC WORK GROUP.									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ISOPROPALIN		**033820-53-0**								
NOEL 15 MG/KG/DAY	ORAL: DIET	RAT	90 DAYS	BLOOD	HEMATOLIGICAL EFFECTS		1.5E-1		IRIS	00597B
				ORGANS, UNSPECIFIED	ALTERED WEIGHTS		100			
LACTONITRILE		**000078-97-7**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005783
LEAD		**007439-92-1**								
										010447
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION. SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.										
CHRONIC [RfD] COMMENT: REFER TO IRIS										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
LEAD ALKYLS										
										010448
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION. SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.										
CHRONIC [RfD] COMMENT: REFER TO IRIS										
GENERAL COMMENT: DIMETHYLETHYL LEAD; METHYLTRIETHYL LEAD; TETRABUTYL LEAD; TETRAETHYL LEAD; TETRAMETHYL LEAD; TETRAPROPYL LEAD; TRIETHYL LEAD; TRIMETHYL LEAD; TRIMETHYLETHYL LEAD; TRIPROPYL LEAD										
LINURON		**000330-55-2**								
LOAEL 0.625 MG/KG/DAY	ORAL: DIET	DOG	2 YEARS	BLOOD	HEMATOLOGICAL EFFECTS		2E-3		IRIS	005990
							300			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MALATHION			**000121-75-5**							
NOEL 0.23 MG/KG/DAY		HUMAN								
	ORAL: CAPSULE	47 DAYS		BLOOD	HEMATOLOGICAL EFFECTS		2E-2 10		IRIS	005991
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfC] COMMENT: UNDER REVIEW.										
MALEIC ANHYDRIDE			**000108-31-6**							
NOAEL 10 MG/KG/DAY		RAT								
	ORAL: DIET	2 YEARS		KIDNEY	LESIONS		1E-1 100		IRIS	005992
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
MALEIC HYDRAZIDE			**000123-33-1**							
LOAEL 500 MG/KG/DAY		RAT								
	ORAL: DIET	28 MONTHS		KIDNEY	ALTERED FUNCTION		5E-1 1000		IRIS	005993
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
MALONONITRILE			**000109-77-3**							
LOAEL 0.21 MG/KG/DAY		RAT								
	ORAL: GAVAGE	120 DAYS		LIVER	EFFECTS		2E-4		2E-5	005994
				SPLEEN	EFFECTS		1000		10000	
MANCOZEB			**008018-01-7**							
NOEL 2.9 MG/KG/DAY		RAT								
	ORAL: DIET	90 WEEKS		THYROID	GOITROGENIC EFFECTS		3E-2 100		3E-2 100	005995

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MANEB		**012427-38-2**								
NOEL	5 MG/KG/DAY	MONKEY								
	ORAL: DIET		6 MONTHS	THYRDID	INCREASED WEIGHT		5E-2 100		IRIS	005996
MANGANESE		**007439-96-5**								
NOAEL	0.005 MG/KG/DAY	HUMAN								
	ORAL: DRINKING WATER		CHRONIC	CENTRAL NERVOUS SYSTEM	EFFECTS		5E-3 1		IRIS	010850
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL WATER RfD WAS ADOPTED AS THE SUBCHRONIC ORAL WATER [RfD]. SEE IRIS FOR SPECIFIC DIETARY INFORMATION.									
NOAEL	0.14 MG/KG/DAY	HUMAN								
	ORAL: DIET		CHRONIC	CENTRAL NERVOUS SYSTEM	EFFECTS		1.4E-1 1		IRIS	010851
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL FOOD RfD WAS ADOPTED AS THE SUBCHRONIC ORAL FOOD [RfD]. SEE IRIS FOR SPECIFIC DIETARY INFORMATION.									
								IRIS		010959
	SUBCHRONIC [RfC] COMMENT: A SUBCHRONIC [RfC] HAS NOT BEEN DERIVED FOR MANGANESE.									
MEPHOSFOLAN		**000950-10-7**								
NOEL	0.09 MG/KG/DAY	RAT								
	ORAL: DIET		17 WEEKS	LIVER	ALTERED WEIGHT		9E-4		9E-5	005997
				KIDNEY	ALTERED WEIGHT		100		1000	
				BLOOD	DECREASED CHOLINESTERASE ACTIVITY					
				ERYTHROCYTES	DECREASED CHOLINESTERASE ACTIVITY					
				BRAIN	DECREASED CHOLINESTERASE ACTIVITY					

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MERCURIC CHLORIDE		**007487-94-7**							
	ORAL: PARENTERAL	RAT	KIDNEY	AUTOIMMUNE EFFECTS		3E-4 1000		IRIS	005800
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
MERCURY, ELEMENTAL		**007439-97-6**							
NOAEL 0.009 MG/CU M	INHALATION:	HUMAN	NERVOUS SYSTEM	NEUROTOXICITY	3E-4 30		3E-4 30		010270
CHRONIC [RfC] COMMENT: UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.									
MERPHOS		**000150-50-5**							
NOEL 0.1 MG/KG/DAY	ORAL: CAPSULE	HEN 3 MONTHS	NERVOUS SYSTEM	ATAXIA		3E-4		IRIS	005998
			NERVOUS SYSTEM	DELAYED NEUROTOXICITY		300			
			WHOLE BODY	DECREASED WEIGHT					
									010907
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (06/25/92) BY THE RfD/RfC WORK GROUP. SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].									
MERPHOS OXIDE		**000078-48-8**							
NOEL 0.1 MG/KG/DAY	ORAL: CAPSULE	HEN 3 MONTHS	NERVOUS SYSTEM	ATAXIA		3E-4		IRIS	005999
			NERVOUS SYSTEM	DELAYED NEUROTOXICITY		300			
			WHOLE BODY	DECREASED WEIGHT					
									010908
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (06/25/92) BY THE RfD/RfC WORK GROUP. SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHACRYLONITRILE		**000126-98-7**							
NOAEL 3.2 PPM		DOG							
	INHALATION:	90 DAYS	LIVER	INCREASED SGOT		1E-3		IRIS	005812
	INTERMITTENT		LIVER	INCREASED SGPT		300			
			CENTRAL NERVOUS SYSTEM	LOSS OF HINDLIMB MOTOR CONTROL					
			BRAIN	LESIONS					

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.

METHANOL		**000067-56-1**							
NOEL 500 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	BLOOD	INCREASED ALKALINE PHOSPHATASE		5E+0		IRIS	010271
			BLOOD	INCREASED SGPT		100			
			BRAIN	DECREASED WEIGHT					
METHOMYL		**016752-77-5**							
NOEL 2.5 MG/KG/DAY		DOG							
	ORAL: DIET	24 MONTHS	KIDNEY	LESIONS		2.5E-2		IRIS	005802
						100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfO].

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHOXYCHLOR		**000072-43-5**								
NOEL 5.01 MG/KG/DAY	ORAL: GAVAGE	RABBIT	13 DAYS	REPRODUCTION	LOSS OF LITTERS		5E-3 / 1000		IRIS	010357
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
								IRIS		010909
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (11/07/91) BY THE RfD/RfC WORK GROUP.										
METHOXYETHANOL ACETATE, 2-		**000110-49-6**								
										010497
CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
METHOXYETHANOL, 2-		**000109-86-4**								
NOAEL 93 MG/CU M	INHALATION: INTERMITTENT	RABBIT	13 WEEKS	TESTICLE	EFFECTS	2E-1 / 100		IRIS		010372
SUBCHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METHYL ACETATE		**000079-20-9**								
NOEL 1156 MG/KG/DAY	ORAL: GAVAGE	RAT	90 DAYS	LIVER	INCREASED ALKALINE PHOSPHATASE		1E+1		1E+0	010002
				LIVER	INCREASED SGPT		100		1000	
CHRONIC [RfD] COMMENT: CALCULATED FROM DATA OBTAINED WITH METHANOL BY MULTIPLYING BY THE MOLECULAR WEIGHT RATIO (74.08/32.04).										

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Table 4

Radionuclide Carcinogencity -- Slope Factors (In Units of Picocuries)

JULY 1997

NOTE: To convert radionuclide slope factors into the International System (SI) activity units of becquerels (Bq), multiply each value in Table 4 by 27.03.

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Actinium (89)	Ac-225	014265-85-1	1.00E+01	D	Y	1.00E-03	1.42E-10	4.16E-09	7.81E-09
	Ac-227	014952-40-0	2.18E+01	Y	Y	1.00E-03	3.52E-10	7.08E-08	2.35E-11
	Ac-227+D	014952-40-0(+D)	2.18E+01	Y	Y	1.00E-03	6.26E-10	7.87E-08	5.97E-07
	Ac-228	014331-83-0	6.13E+00	H	Y	1.00E-03	1.62E-12	3.27E-11	3.28E-06
Americium (95)	Am-241	014596-10-2	4.32E+02	Y	W	1.00E-03	3.28E-10	3.85E-08	4.59E-09
	Am-242	013981-54-9	1.60E+01	H	W	1.00E-03	1.47E-12	1.04E-11	5.76E-09
	Am-242m	013981-54-9(m)	1.52E+02	Y	W	1.00E-03	2.92E-10	3.49E-08	8.76E-11
	Am-243	014993-75-0	7.38E+03	Y	W	1.00E-03	3.27E-10	3.82E-08	2.43E-08
	Am-243+D	014993-75-0(+D)	7.38E+03	Y	W	1.00E-03	3.31E-10	3.82E-08	2.66E-07
Antimony (51)	Sb-122	014374-79-9	2.70E+00	D	W	1.00E-01	8.81E-12	5.46E-12	1.61E-06
	Sb-124	014683-10-4	6.02E+01	D	W	1.00E-01	1.07E-11	1.32E-11	7.35E-06
	Sb-125	014234-35-6	2.77E+00	Y	W	1.00E-01	2.97E-12	5.20E-12	1.34E-06
	Sb-125+D	014234-35-6(+D)	2.77E+00	Y	W	1.00E-01	3.54E-12	5.85E-12	1.34E-06
	Sb-126	015756-32-8	1.24E+01	D	W	1.00E-01	9.73E-12	8.41E-12	1.03E-05
	Sb-126m	015756-32-8(m)	1.90E+01	M	W	1.00E-01	7.28E-14	6.43E-14	5.78E-06
	Sb-127	013968-50-8	3.85E+00	D	W	1.00E-01	8.48E-12	6.05E-12	2.40E-06
	Sb-129	014331-88-5	4.40E+00	H	W	1.00E-01	1.86E-12	8.60E-13	5.56E-06
Argon (18)	Ar-41	014163-25-8	1.83E+00	H	*	---	---	4.71E-16	---

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Astatine (85)	At-217	017239-90-6	3.23E-02	S	D	9.50E-01	8.99E-18	5.14E-16	8.71E-10
Barium (56)	Ba-131	014914-75-1	1.18E+01	D	D	1.00E-01	1.70E-12	4.79E-13	1.27E-06
	Ba-133	013981-41-4	1.05E+01	Y	D	1.00E-01	2.70E-12	4.03E-12	9.15E-07
	Ba-133m	013981-41-4(m)	3.89E+01	H	D	1.00E-01	2.76E-12	5.60E-13	1.00E-07
	Ba-137m	013981-97-0(m)	2.55E+00	M	D	1.00E-01	2.43E-15	1.57E-15	2.21E-06
	Ba-139	014378-25-7	8.31E+01	M	D	1.00E-01	3.04E-13	1.53E-13	8.35E-08
	Ba-140	014798-08-4	1.28E+01	D	D	1.00E-01	1.18E-11	3.17E-12	6.00E-07
Beryllium (4)	Be-7	013966-02-4	5.34E+01	D	Y	5.00E-03	8.64E-14	1.78E-13	1.73E-07
Bismuth (83)	Bi-206	015776-19-9	6.24E+00	D	W	5.00E-02	7.11E-12	5.07E-12	1.20E-05
	Bi-207	013982-38-2	3.34E+01	Y	W	5.00E-02	5.05E-12	9.42E-12	5.49E-06
	Bi-210	014331-79-4	5.01E+00	D	W	5.00E-02	7.29E-12	5.12E-11	0.00E+0
	Bi-211	015229-37-5	2.13E+00	M	W	5.00E-02	1.82E-14	1.74E-12	1.48E-07
	Bi-212	014913-49-6	6.06E+01	M	W	5.00E-02	6.20E-13	3.65E-11	6.67E-07
	Bi-213	015776-20-2	4.57E+01	M	W	5.00E-02	4.40E-13	3.09E-11	4.62E-07
	Bi-214	014733-03-0	1.99E+01	M	W	5.00E-02	1.95E-13	1.46E-11	6.02E-06
Bromine (35)	Br-82	014686-69-2	3.53E+01	H	D	9.50E-01	1.42E-12	7.86E-13	1.01E-05
Cadmium (20)	Cd-109	014109-32-1	4.64E+02	D	Y	5.00E-02	8.01E-12	1.85E-11	5.62E-10
	Cd-115	014336-68-6	5.35E+01	H	Y	5.00E-02	7.29E-12	4.93E-12	7.02E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Cd-115m	014336-68-6(m)	4.46E+01	D	Y	5.00E-02	1.42E-11	1.70E-11	8.55E-08
Calcium (20)	Ca-45	013966-05-7	1.63E+02	D	W	3.00E-01	2.02E-12	2.51E-12	3.88E-18
	Ca-47	001439-99-2	4.54E+00	D	W	3.00E-01	6.66E-12	5.22E-12	4.12E-06
Carbon (6)	C-11	014333-33-6	2.05E+01	M	D	9.50E-01	4.49E-14	3.38E-14	3.61E-06
	C-14	014762-75-5	5.73E+03	Y	*	1.00E+00	1.03E-12	6.99E-15	0.00E+0
	C-15	015929-23-4	2.45E+00	S	D	9.50E-01	6.62E-16	8.06E-16	---
Cerium (58)	Ce-141	013967-74-3	3.25E+01	D	Y	3.00E-04	3.91E-12	4.32E-12	1.41E-07
	Ce-143	014119-19-8	3.30E+01	H	Y	3.00E-04	5.91E-12	3.84E-12	7.32E-07
	Ce-144	014762-78-8	2.84E+02	D	Y	3.00E-04	2.96E-11	1.08E-10	2.58E-08
	Ce-144+D	014762-78-8(+D)	2.84E+02	D	Y	3.00E-04	2.97E-11	1.08E-10	1.56E-07
Cesium (55)	Cs-131	014914-76-2	9.69E+00	D	D	9.50E-01	1.80E-13	1.06E-13	2.34E-09
	Cs-134	013967-70-9	2.06E+00	Y	D	9.50E-01	4.73E-11	2.89E-11	5.88E-06
	Cs-134m	013967-70-9(m)	2.90E+00	H	D	9.50E-01	4.54E-14	3.10E-14	1.96E-08
	Cs-135	015726-30-4	2.30E+06	Y	D	9.50E-01	4.53E-12	2.71E-12	0.00E+0
	Cs-136	014234-29-8	1.32E+01	D	D	9.50E-01	7.74E-12	4.65E-12	8.13E-06
	Cs-137	010045-97-3	3.02E+01	Y	D	9.50E-01	3.16E-11	1.91E-11	0.00E+0
	Cs-137+D	010045-97-3(+D)	3.02E+01	Y	D	9.50E-01	3.16E-11	1.91E-11	2.09E-06
	Cs-138	015758-29-9	3.22E+01	M	D	9.50E-01	1.76E-13	1.30E-13	9.45E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Chlorine (17)	Cl-36	013981-43-6	3.01E+05	Y	D	9.50E-01	2.23E-12	1.30E-12	0.00E+0
	Cl-38	014158-34-0	3.72E+01	M	D	9.50E-01	2.07E-13	1.63E-13	6.47E-06
Chromium (24)	Cr-51	014392-02-0	2.77E+01	D	Y	1.00E-01	1.38E-13	1.74E-13	1.02E-07
Cobalt (27)	Co-57	013981-50-5	2.71E+02	D	Y	3.00E-01	9.71E-13	2.88E-12	2.07E-07
	Co-58	01381-38-9	7.08E+01	D	Y	3.00E-01	2.82E-12	5.17E-12	3.73E-06
	Co-58m	01381-38-9(m)	9.15E+00	H	Y	3.00E-01	9.46E-14	8.90E-14	3.21E-11
	Co-60	010198-40-0	5.27E+00	Y	Y	3.00E-01	1.89E-11	6.88E-11	9.76E-06
Copper (29)	Cu-64	013981-25-4	1.27E+01	H	Y	5.00E-01	5.25E-13	4.18E-13	6.72E-07
Curium (96)	Cm-242	015510-73-3	1.63E+02	D	W	1.00E-03	3.83E-11	3.16E-09	2.34E-11
	Cm-243	015757-87-6	2.85E+01	Y	W	1.00E-03	2.51E-10	2.89E-08	1.71E-07
	Cm-243+D	015757-87-6(+D)	2.85E+01	Y	W	1.00E-03	2.52E-10	2.90E-08	1.72E-07
	Cm-244	013981-15-2	1.81E+01	Y	W	1.00E-03	2.11E-10	2.43E-08	2.07E-11
	Cm-245	015621-76-8	8.50E+03	Y	W	1.00E-03	3.35E-10	3.92E-08	5.51E-08
	Cm-246	015757-90-1	4.75E+03	Y	W	1.00E-03	3.32E-10	3.90E-08	1.81E-11
	Cm-247	015758-32-4	1.56E+07	Y	W	1.00E-03	3.09E-10	3.58E-08	1.03E-06
	Cm-248	015758-33-5	3.39E+05	Y	W	1.00E-03	1.31E-09	1.46E-07	1.47E-11
Dysprosium (66)	Dy-165	013967-64-1	2.33E+00	H	W	3.00E-04	3.26E-13	2.24E-13	6.18E-08
	Dy-166	015840-01-4	8.16E+01	H	W	3.00E-04	9.42E-12	7.82E-12	2.72E-08

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Erbium (63)	Er-169	015840-13-8	9.40E+00	D	W	3.00E-04	2.12E-12	1.51E-12	6.52E-12
	Er-171	014391-45-8	7.52E+00	H	W	3.00E-04	1.63E-12	7.50E-13	1.04E-06
Europium (63)	Eu-152	014683-23-9	1.36E+01	Y	W	1.00E-03	5.73E-12	7.91E-11	4.08E-06
	Eu-154	015585-10-1	8.80E+00	Y	W	1.00E-03	9.37E-12	9.15E-11	4.65E-06
	Eu-155	014391-16-3	4.96E+00	Y	W	1.00E-03	1.65E-12	9.60E-12	6.08E-08
	Eu-156	014280-35-4	1.52E+01	D	W	1.00E-03	1.09E-11	9.26E-12	5.40E-06
Fluorine (9)	F-18	013981-56-1	1.10E+02	M	D	9.50E-01	1.09E-13	6.54E-14	3.50E-06
Francium (87)	Fr-221	015756-41-9	4.80E+00	M	D	9.50E-01	1.45E-13	8.02E-12	6.74E-08
	Fr-223	015756-98-6	2.18E+00	M	D	9.50E-01	4.46E-13	5.90E-13	4.17E-08
Gadolinium (64)	Gd-153	014276-65-4	2.42E+02	D	W	3.00E-04	1.32E-12	3.20E-12	7.22E-08
	Gd-159	014041-42-0	1.86E+01	H	W	3.00E-04	2.60E-12	1.24E-12	9.59E-08
Gallium (31)	Ga-67	014119-09-6	3.26E+00	D	W	1.00E-03	8.36E-13	5.14E-13	3.61E-07
	Ga-72	013982-22-4	1.41E+01	H	W	1.00E-03	4.77E-12	2.17E-12	1.12E-05
Germanium (32)	Ge-71	014374-81-3	1.18E+01	D	W	9.50E-01	1.18E-14	5.84E-14	1.56E-11
Gold (79)	Au-196	014914-16-0	6.18E+00	D	Y	1.00E-01	1.30E-12	1.04E-12	1.41E-06
	Au-198	010043-49-0	2.70E+00	D	Y	1.00E-01	5.28E-12	3.64E-12	1.37E-06
Holmium (67)	Ho-166	013967-65-2	2.68E+01	H	W	3.00E-04	7.57E-12	4.06E-12	6.96E-08
Hydrogen (1)	H-3	010028-17-8	1.23E+01	Y	V	1.00E+00	7.15E-14	9.59E-14	0.00E+0

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Indium (49)	In-113m	014885-78-0(m)	1.66E+00	H	W	2.00E-02	8.30E-14	5.77E-14	7.82E-07
	In-114	013981-55-0	7.19E+01	S	W	2.00E-02	4.53E-15	5.81E-15	1.13E-07
	In-114m	013981-55-0(m)	4.95E+01	D	W	2.00E-02	2.06E-11	2.53E-11	2.00E-07
	In-115	014191-71-0	4.60e+15	Y	W	2.00E-02	3.49E-11	2.07E-10	0.00E+0
	In-115m	014191-71-0(m)	4.36E+00	H	W	2.00E-02	3.42E-13	1.75E-13	4.29E-07
Iodine (53)	I-122	018287-75-7	3.62E+00	M	D	9.50E-01	2.16E-14	2.24E-14	3.41E-06
	I-123	015715-08-9	1.31E+01	H	D	9.50E-01	5.42E-13	2.94E-13	2.52E-07
	I-125	014158-31-7	6.01E+01	D	D	9.50E-01	2.58E-11	1.71E-11	2.39E-09
	I-126	014158-32-8	1.29E+01	D	D	9.50E-01	4.82E-11	3.15E-11	1.49E-06
	I-129	015046-84-1	1.57E+07	Y	D	9.50E-01	1.84E-10	1.22E-10	2.69E-09
	I-130	014914-02-4	1.24E+01	H	D	9.50E-01	4.85E-12	2.61E-12	7.93E-06
	I-131	010043-66-0	8.04E+00	D	D	9.50E-01	3.62E-11	2.33E-11	1.25E-06
	I-132	014683-16-0	2.30E+00	H	D	9.50E-01	6.62E-13	3.52E-13	8.75E-06
	I-133	014834-67-4	2.08E+01	H	D	9.50E-01	1.06E-11	6.02E-12	2.20E-06
	I-134	014914-27-3	5.26E+01	M	D	9.50E-01	2.31E-13	1.38E-13	1.02E-05
	I-135	014834-68-5	6.61E+00	H	D	9.50E-01	2.27E-12	1.18E-12	6.23E-06
Iridium (77)	Ir-190	014981-91-0	1.18E+01	D	Y	1.00E-02	4.95E-12	4.49E-12	4.65E-06
	Ir-194	014158-35-1	1.92E+01	H	Y	1.00E-02	7.00E-12	4.18E-12	3.17E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Iron (26)	Fe-55	014681-59-5	2.70E+00	Y	W	1.00E-01	3.51E-13	5.60E-13	0.00E+0
	Fe-59	014596-12-4	4.46E+01	D	W	1.00E-01	5.87E-12	7.08E-12	4.63E-06
Krypton (36)	Kr-83m	013965-98-5(m)	1.83E+00	H	*	---	---	3.48E-17	---
	Kr-85	013983-27-2	1.07E+01	Y	*	---	---	2.87E-16	---
	Kr-85m	013983-27-2(m)	4.48E+00	H	*	---	---	2.75E-16	---
	Kr-87	014809-68-8	7.63E+01	M	*	---	---	1.20E-15	---
	Kr-88	014995-61-0	2.84E+00	H	*	---	---	2.20E-15	---
	Kr-89	016316-03-3	3.16E+00	M	*	---	---	1.61E-15	---
	Kr-90	015741-13-6	3.23E+01	S	*	---	---	1.60E-15	---
Lanthanum (57)	La-140	013981-28-7	4.02E+01	H	W	1.00E-03	9.46E-12	5.10E-12	9.11E-06
Lead (82)	Pb-203	014687-25-3	5.20E+01	H	D	2.00E-01	1.03E-12	3.10E-13	6.40E-07
	Pb-209	014119-30-3	3.25E+00	H	D	2.00E-01	2.09E-13	6.85E-14	0.00E+0
	Pb-210	014255-04-0	2.23E+01	Y	D	2.00E-01	6.75E-10	1.67E-09	1.12E-10
	Pb-210+D	014255-04-0(+D)	2.23E+01	Y	D	2.00E-01	1.01E-09	3.86E-09	1.45E-10
	Pb-211	015816-77-0	3.61E+01	M	D	2.00E-01	3.38E-13	1.03E-11	1.85E-07
	Pb-212	015092-94-1	1.06E+01	H	D	2.00E-01	1.80E-11	3.85E-11	3.00E-07
	Pb-214	015067-28-4	2.68E+01	M	D	2.00E-01	2.94E-13	6.23E-12	7.09E-07
Lutetium (71)	Lu-177	014265-75-9	6.71E+00	D	Y	3.00E-04	2.95E-12	2.20E-12	7.22E-08

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Manganese (25)	Mn-52	014092-99-0	5.59E+00	D	W	1.00E-01	6.01E-12	4.40E-12	1.34E-05
	Mn-54	013966-31-9	3.13E+02	D	W	1.00E-01	1.96E-12	3.69E-12	3.26E-06
	Mn-56	014681-52-8	2.58E+00	H	W	1.00E-01	8.57E-13	5.21E-13	6.95E-06
Mercury (80)	Hg-197	013981-51-6	6.41E+01	H	W	2.00E-02	1.18E-12	6.95E-13	5.47E-08
	Hg-203	013982-78-0	4.66E+01	D	W	2.00E-02	2.64E-12	3.03E-12	6.27E-07
Molybdenum (42)	Mo-99	014119-15-4	6.60E+01	H	Y	8.00E-01	2.27E-12	4.48E-12	5.46E-07
Neodymium (60)	Nd-147	014269-74-0	1.10E+01	D	Y	3.00E-04	5.88E-12	4.84E-12	3.22E-07
	Nd-149	015749-81-2	1.73E+00	H	Y	3.00E-04	4.55E-13	4.22E-13	1.08E-06
Neptunium (93)	Np-236	015700-36-4	1.15E+05	Y	W	1.00E-03	9.31E-13	3.87E-12	9.22E-08
	Np-237	013994-20-2	2.14E+06	Y	W	1.00E-03	2.95E-10	3.45E-08	7.56E-09
	Np-237+D	013994-20-2(+D)	2.14E+06	Y	W	1.00E-03	3.00E-10	3.45E-08	4.62E-07
	Np-238	015766-25-3	2.12E+00	D	W	1.00E-03	4.56E-12	4.68E-12	1.95E-06
	Np-239	013968-59-7	2.36E+00	D	W	1.00E-03	4.27E-12	2.41E-12	2.42E-07
	Np-240	015690-84-3	6.50E+01	M	W	1.00E-03	1.77E-13	1.31E-13	3.65E-06
	Np-240m	015690-84-3(m)	7.40E+00	M	W	1.00E-03	2.42E-14	2.83E-14	1.05E-06
Nickel (28)	Ni-59	014336-70-0	7.50E+04	Y	W	5.00E-02	1.85E-13	4.01E-13	0.00E+0
	Ni-63	013981-37-8	1.00E+02	Y	W	5.00E-02	5.50E-13	1.01E-12	0.00E+0
	Ni-65	014833-49-9	2.52E+00	H	W	5.00E-02	5.62E-13	3.59E-13	2.14E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Niobium (41)	Nb-93m	007440-03-1(m)	1.46E+01	Y	Y	1.00E-02	6.64E-13	4.33E-12	3.64E-11
	Nb-94	014681-63-1	2.03E+04	Y	Y	1.00E-02	6.91E-12	8.20E-11	6.08E-06
	Nb-95	013967-76-5	3.51E+01	D	Y	1.00E-02	2.25E-12	3.11E-12	2.94E-06
	Nb-95m	013967-76-5(m)	8.66E+01	H	Y	1.00E-02	3.06E-12	2.25E-12	8.71E-08
	Nb-97	018496-04-3	7.21E+01	M	Y	1.00E-02	1.75E-13	2.13E-13	2.49E-06
	Nb-97m	018496-04-3(m)	6.00E+01	S	Y	1.00E-02	3.27E-15	3.34E-15	2.78E-06
Osmium (76)	Os-185	015766-50-4	9.36E+01	D	Y	1.00E-02	1.80E-12	4.62E-12	2.45E-06
	Os-191	014119-24-5	1.54E+01	D	Y	1.00E-02	3.04E-12	2.70E-12	8.74E-08
	Os-191m	014119-24-5(m)	1.30E+01	H	Y	1.00E-02	4.95E-13	3.32E-13	3.22E-09
	Os-193	016057-77-5	3.00E+01	H	Y	1.00E-02	4.36E-12	2.68E-12	1.82E-07
Palladium (46)	Pd-100	015690-69-4	3.64E+00	D	Y	5.00E-03	3.74E-12	3.55E-12	---
	Pd-101	015749-54-9	8.48E+00	H	Y	5.00E-03	3.74E-13	2.29E-13	---
	Pd-103	014967-68-1	1.70E+01	D	Y	5.00E-03	1.05E-12	1.08E-12	5.38E-10
	Pd-107	017637-99-9	6.50E+06	Y	Y	5.00E-03	2.09E-13	1.46E-12	0.00E+0
	Pd-109	014981-64-7	1.35E+01	H	Y	5.00E-03	3.33E-12	1.99E-12	2.43E-09
Phosphorus (15)	P-32	014596-37-3	1.43E+01	D	D	8.00E-01	6.11E-12	2.93E-12	0.00E+0
	P-33	015749-66-3	2.54E+01	D	D	8.00E-01	7.81E-13	3.96E-13	0.00E+0
Platinum (78)	Pt-191	015706-36-2	2.71E+00	D	D	1.00E-02	1.50E-12	4.13E-13	6.74E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Pt-193	015735-70-3	5.00E+01	Y	D	1.00E-02	1.62E-13	7.89E-14	0.00E+0
	Pt-193m	015735-70-3(m)	4.33E+00	D	D	1.00E-02	2.51E-12	5.76E-13	7.44E-09
	Pt-197	015735-74-7	1.83E+01	H	D	1.00E-02	2.12E-12	4.54E-13	3.15E-08
	Pt-197m	015735-74-7(m)	9.44E+01	M	D	1.00E-02	3.25E-13	1.00E-13	1.65E-07
Plutonium (94)	Pu-236	015411-92-4	2.85E+00	Y	Y	1.00E-03	7.68E-11	1.34E-08	2.32E-11
	Pu-238	013981-16-3	8.78E+01	Y	Y	1.00E-03	2.95E-10	2.74E-08	1.94E-11
	Pu-239	015117-48-3	2.41E+04	Y	Y	1.00E-03	3.16E-10	2.78E-08	1.26E-11
	Pu-240	014119-33-6	6.57E+03	Y	Y	1.00E-03	3.15E-10	2.78E-08	1.87E-11
	Pu-241	014119-32-5	1.44E+01	Y	Y	1.00E-03	5.20E-12	2.81E-10	0.00E+0
	Pu-241+D	014119-32-5(+D)	1.44E+01	Y	Y	1.00E-03	3.33E-10	3.88E-08	4.59E-09
	Pu-242	013982-10-0	3.76E+05	Y	Y	1.00E-03	3.00E-10	2.64E-08	1.55E-11
	Pu-243	015706-37-3	4.96E+00	H	Y	1.00E-03	3.69E-13	2.67E-13	1.89E-08
	Pu-244	014119-34-7	8.26E+07	Y	Y	1.00E-03	3.13E-10	2.67E-08	1.29E-11
	Pu-244+D	014119-34-7(+D)	8.26E+07	Y	Y	1.00E-03	3.19E-10	2.67E-08	3.65E-06
Polonium (84)	Po-210	013981-52-7	1.38E+02	D	W	1.00E-01	3.26E-10	2.14E-09	3.30E-11
	Po-212	015389-34-1	2.98E-07	S	W	1.00E-01	4.51E-23	5.93E-21	0.00E+0
	Po-213	015756-57-7	4.20E-06	S	W	1.00E-01	6.70E-22	7.80E-20	1.18E-10
	Po-214	015735-67-8	1.64E-04	S	W	1.00E-01	2.12E-20	2.77E-18	3.23E-10

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Po-215	015706-52-2	1.78E-03	S	W	1.00E-01	4.99E-19	4.48E-17	5.11E-10
	Po-216	015756-58-8	1.46E-01	S	W	1.00E-01	8.79E-17	2.95E-15	5.62E-11
	Po-218	015422-24-9	3.05E+00	M	W	1.00E-01	5.08E-14	3.69E-12	0.00E+0
Potassium (19)	K-40	013966-00-2	1.28E+09	Y	D	9.50E-01	1.25E-11	7.46E-12	6.11E-07
	K-42	014378-21-3	1.24E+01	H	D	9.50E-01	1.29E-12	7.56E-13	1.09E-06
Praseodymium (59)	Pr-142	014191-64-1	1.91E+01	H	Y	3.00E-04	6.98E-12	4.16E-12	2.34E-07
	Pr-143	014981-79-4	1.36E+01	D	Y	3.00E-04	6.60E-12	5.60E-12	3.41E-14
	Pr-144	014119-05-2	1.73E+01	M	Y	3.00E-04	8.08E-14	1.31E-13	1.33E-07
	Pr-144m	014119-05-2(m)	7.20E+00	M	Y	3.00E-04	3.23E-14	5.61E-14	1.85E-09
Promethium (61)	Pm-147	014380-75-7	2.62E+00	Y	Y	3.00E-04	1.41E-12	7.49E-12	6.35E-12
	Pm-148	014683-19-3	5.37E+00	D	Y	3.00E-04	1.44E-11	1.05E-11	2.21E-06
	Pm-148m	014683-19-3(m)	4.13E+01	D	Y	3.00E-04	9.93E-12	2.95E-11	7.32E-06
	Pm-149	015765-31-8	5.31E+01	H	Y	3.00E-04	5.52E-12	3.57E-12	3.65E-08
Protactinium (91)	Pa-231	014331-85-2	3.73E+04	Y	Y	1.00E-03	1.49E-10	2.42E-08	2.71E-08
	Pa-233	013981-14-1	2.70E+01	D	Y	1.00E-03	4.69E-12	4.92E-12	4.54E-07
	Pa-234	015100-28-4	6.70E+00	H	Y	1.00E-03	2.13E-12	1.30E-12	6.60E-06
	Pa-234m	015100-28-4(m)	1.17E+00	M	Y	1.00E-03	4.77E-15	6.27E-15	4.05E-08
Radium (88)	Ra-223	015623-45-7	1.14E+01	D	W	2.00E-01	2.34E-10	3.60E-09	2.44E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Ra-224	013233-32-4	3.62E+00	D	W	2.00E-01	1.49E-10	2.25E-09	2.48E-08
	Ra-225	013981-53-8	1.48E+01	D	W	2.00E-01	1.57E-10	2.38E-09	1.71E-09
	Ra-226	013982-63-3	1.60E+03	Y	W	2.00E-01	2.95E-10	2.72E-09	1.31E-08
	Ra-226+D	013982-63-3(+D)	1.60E+03	Y	W	2.00E-01	2.96E-10	2.75E-09	6.74E-06
	Ra-228	015262-20-1	5.75E+00	Y	W	2.00E-01	2.46E-10	9.61E-10	0.00E+0
	Ra-228+D	015262-20-1(+D)	5.75E+00	Y	W	2.00E-01	2.48E-10	9.94E-10	3.28E-06
Radon (86)	Rn-219	014835-02-0	3.96E+00	S	*	---	---	6.91E-14	1.72E-07
	Rn-220	022481-48-7	5.56E+01	S	*	---	---	1.92E-13	1.88E-09
	Rn-222+D[1]	014859-67-7(+D)	3.82E+00	D	*	---	---	7.57E-12	---
Rhodium (45)	Rh-103m	007440-16-6(m)	5.61E+01	M	Y	5.00E-02	8.19E-15	1.28E-14	5.85E-11
	Rh-105	014913-89-4	3.54E+01	H	Y	5.00E-02	1.93E-12	1.22E-12	2.49E-07
	Rh-105m	014913-89-4(m)	4.50E+01	S	Y	5.00E-02	1.08E-15	9.25E-16	2.27E-08
	Rh-106	014234-34-5	2.99E+01	S	Y	5.00E-02	3.63E-15	4.62E-15	7.57E-07

[1] To derive the inhalation slope factor for Rn-222+D, EPA's Office of Radiation and Indoor Air (ORIA) uses a slightly different risk model and set of exposure assumptions, including an inhalation rate of 2.2E+04 L/day; 50% equilibrium for decay products; and a risk coefficient of 2.36E-4 cases per working level month (WLM). A more detailed description of ORIA's radon risk assessment methodology is provided in the EPA CRAVE Summary Sheet, *Inhaled Rn-222 and its Short Half-Life Decay Products.*

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Rubidium (37)	Rb-82	014391-63-0	1.25E+00	M	D	9.50E-01	1.05E-14	1.17E-14	3.89E-06
	Rb-86	014932-53-7	1.87E+01	D	D	9.50E-01	7.12E-12	4.21E-12	3.71E-07
	Rb-87	013982-13-3	4.73e+10	Y	D	9.50E-01	3.68E-12	2.26E-12	0.00E+0
	Rb-88	014928-36-0	1.78E+01	M	D	9.50E-01	1.46E-13	1.36E-13	2.68E-06
	Rb-89	014191-65-2	1.54E+01	M	D	9.50E-01	8.65E-14	6.92E-14	8.47E-06
Ruthenium (44)	Ru-97	015758-35-7	2.90E+00	D	Y	5.00E-02	5.88E-13	4.09E-13	4.52E-07
	Ru-103	013968-53-1	3.94E+01	D	Y	5.00E-02	3.32E-12	4.59E-12	1.70E-06
	Ru-105	014331-95-4	4.44E+00	H	Y	5.00E-02	1.15E-12	8.02E-13	2.88E-06
	Ru-106	013967-48-1	3.68E+02	D	Y	5.00E-02	3.45E-11	1.15E-10	0.00E+0
	Ru-106+D	013967-48-1(+D)	3.68E+02	D	Y	5.00E-02	3.45E-11	1.15E-10	7.57E-07
Samarium (62)	Sm-147	014392-33-7	1.06e+11	Y	W	3.00E-04	2.51E-11	6.93E-09	0.00E+0
	Sm-151	015715-94-3	9.00E+01	Y	W	3.00E-04	4.60E-13	4.63E-12	2.92E-13
	Sm-153	015766-00-4	4.67E+01	H	W	3.00E-04	4.02E-12	2.18E-12	4.65E-08
Scandium (21)	Sc-46	013967-63-0	8.38E+01	D	Y	1.00E-04	5.73E-12	1.31E-11	7.89E-06
	Sc-47	014391-96-9	3.42E+00	D	Y	1.00E-04	2.95E-12	2.01E-12	2.50E-07
	Sc-48	014391-86-7	4.37E+01	H	Y	1.00E-04	6.65E-12	4.20E-12	1.31E-05
Selenium (34)	Se-75	014265-71-5	1.20E+02	D	W	8.00E-01	6.53E-12	4.92E-12	8.89E-07
Silicon (14)	Si-31	014276-49-4	1.57E+02	M	W	1.00E-02	5.04E-13	3.29E-13	3.45E-09

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Silver (47)	Ag-105	014928-14-4	4.13E+01	D	Y	5.00E-02	1.63E-12	2.33E-12	---
	Ag-108	014391-65-2	2.37E+00	M	Y	5.00E-02	6.94E-15	9.43E-15	5.78E-08
	Ag-108m	014391-65-2m	1.27E+02	Y	Y	5.00E-02	6.05E-12	7.02E-11	5.61E-06
	Ag-108m+D	014391-65-2m(+D)	1.27E+02	Y	Y	5.00E-02	6.05E-12	7.02E-11	5.62E-06
	Ag-109m	014378-38-2(m)	3.96E+01	S	Y	5.00E-02	2.71E-16	3.46E-16	1.16E-09
	Ag-110	014391-76-5	2.46E+01	S	Y	5.00E-02	2.44E-15	3.16E-15	1.13E-07
	Ag-110m	014391-76-5(m)	2.50E+02	D	Y	5.00E-02	8.43E-12	3.21E-11	1.05E-05
	Ag-111	157690-04-0	7.46E+00	D	Y	5.00E-02	6.83E-12	5.24E-12	8.51E-08
Sodium (11)	Na-22	013966-32-0	2.60E+00	Y	D	9.50E-01	8.02E-12	4.88E-12	8.18E-06
	Na-24	013982-04-2	1.50E+01	H	D	9.50E-01	1.38E-12	7.51E-13	1.77E-05
Strontium (38)	Sr-82	014809-50-8	2.50E+01	D	D	3.00E-01	2.58E-11	8.87E-12	9.00E-11
	Sr-85	013967-73-2	6.48E+01	D	D	3.00E-01	1.40E-12	1.14E-12	1.54E-06
	Sr-85m	013967-73-2(m)	6.77E+01	M	D	3.00E-01	1.80E-14	7.13E-15	5.24E-07
	Sr-89	014158-27-1	5.06E+01	D	D	3.00E-01	1.03E-11	3.68E-12	5.38E-10
	Sr-90	010098-97-2	2.86E+01	Y	D	3.00E-01	4.09E-11	5.94E-11	0.00E+0
	Sr-90+D	010098-97-2(+D)	2.86E+01	Y	D	3.00E-01	5.59E-11	6.93E-11	0.00E+0
	Sr-91	014331-91-0	9.50E+00	H	D	3.00E-01	2.82E-12	7.79E-13	2.67E-06
	Sr-92	014928-29-1	2.71E+00	H	D	3.00E-01	2.03E-12	4.70E-13	5.20E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Sulfur (16)	S-35	015117-53-0	8.74E+01	D	D	8.00E-01	4.16E-13	1.85E-13	0.00E+0
Tantalum (73)	Ta-182	013982-00-8	1.15E+02	D	Y	1.00E-03	7.03E-12	1.65E-11	4.66E-06
Technetium (43)	Tc-95	014809-56-4	2.00E+01	H	W	8.00E-01	6.81E-14	3.38E-14	2.72E-06
	Tc-95m	014809-56-4(m)	6.10E+01	D	W	8.00E-01	1.24E-12	2.10E-12	2.08E-06
	Tc-96	014808-44-7	4.28E+00	D	W	8.00E-01	2.28E-12	1.94E-12	9.36E-06
	Tc-96m	014808-44-7(m)	5.15E+01	M	W	8.00E-01	2.61E-14	2.26E-14	7.72E-08
	Tc-97	015759-35-0	2.60E+06	Y	W	8.00E-01	1.58E-13	3.44E-13	2.49E-10
	Tc-97m	015759-35-0(m)	8.90E+01	D	W	8.00E-01	1.20E-12	1.96E-12	2.67E-10
	Tc-99	014133-76-7	2.13E+05	Y	W	8.00E-01	1.40E-12	2.89E-12	6.19E-13
	Tc-99m	014133-76-7(m)	6.02E+00	H	W	8.00E-01	5.58E-14	3.49E-14	2.51E-07
Tellurium (52)	Te-125m	014390-73-9(m)	5.80E+01	D	W	2.00E-01	2.51E-12	2.85E-12	2.16E-09
	Te-127	013981-49-2	9.35E+00	H	W	2.00E-01	8.55E-13	4.32E-13	1.62E-08
	Te-127m	013981-49-2(m)	1.09E+02	D	W	2.00E-01	6.01E-12	1.31E-11	7.10E-10
	Te-129	014269-71-7	6.96E+01	M	W	2.00E-01	1.48E-13	1.46E-13	1.46E-07
	Te-129m	014269-71-7(m)	3.36E+01	D	W	2.00E-01	1.17E-11	1.33E-11	6.92E-08
	Te-131	014683-12-6	2.50E+01	M	W	2.00E-01	3.90E-13	2.48E-13	1.35E-06
	Te-131m	014683-12-6(m)	3.00E+01	H	W	2.00E-01	8.81E-12	8.40E-12	5.31E-06
	Te-132	014234-28-7	7.82E+01	H	W	2.00E-01	1.22E-11	8.38E-12	4.31E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Terbium (65)	Tb-158	015759-55-4	1.50E+02	Y	W	3.00E-04	4.20E-12	7.04E-11	---
	Tb-160	013981-29-8	7.23E+01	D	W	3.00E-04	7.62E-12	1.14E-11	4.03E-06
Thallium (81)	Tl-202	015720-57-7	1.22E+01	D	D	9.50E-01	1.01E-12	6.07E-13	1.42E-06
	Tl-204	013968-51-9	3.78E+00	Y	D	9.50E-01	1.97E-12	1.15E-12	8.72E-10
	Tl-208	014913-50-9	3.05E+00	M	D	9.50E-01	1.75E-14	1.36E-14	1.45E-05
	Tl-209	015690-73-0	2.20E+00	M	D	9.50E-01	1.40E-14	1.12E-14	7.83E-06
Thorium (90)	Th-227	015623-47-9	1.87E+01	D	Y	2.00E-04	4.04E-11	4.31E-09	1.74E-07
	Th-228	014274-82-9	1.91E+00	Y	Y	2.00E-04	6.29E-11	9.45E-08	5.28E-10
	Th-228+D	014274-82-9(+D)	1.91E+00	Y	Y	2.00E-04	2.31E-10	9.68E-08	9.94E-07
	Th-229	015594-54-4	7.34E+03	Y	Y	2.00E-04	5.65E-11	7.60E-08	5.94E-08
	Th-229+D	015594-54-4(+D)	7.34E+03	Y	Y	2.00E-04	3.56E-10	8.26E-08	5.99E-07
	Th-230	014269-63-7	7.70E+04	Y	Y	2.00E-04	3.75E-11	1.72E-08	4.40E-11
	Th-231	014932-40-2	2.55E+01	H	Y	2.00E-04	1.79E-12	1.10E-12	2.09E-09
	Th-232	007440-29-1	1.41E+10	Y	Y	2.00E-04	3.28E-11	1.93E-08	1.97E-11
	Th-234	015065-10-8	2.41E+01	D	Y	2.00E-04	1.93E-11	1.90E-11	3.50E-09
Thulium (69)	Tm-170	013981-30-1	1.29E+02	D	W	3.00E-04	7.50E-12	1.10E-11	3.84E-09
	Tm-171	014333-45-0	1.92E+00	Y	W	3.00E-04	5.86E-13	1.84E-12	3.15E-10
Tin (50)	Sn-113	013966-06-8	1.15E+02	D	W	2.00E-02	3.72E-12	6.61E-12	2.96E-09

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Sn-121	014683-06-8	2.71E+01	H	W	2.00E-02	1.22E-12	6.13E-13	---
	Sn-121m	014683-06-8(m)	5.55E+01	Y	W	2.00E-02	2.00E-12	7.46E-12	---
	Sn-125	014683-08-0	9.64E+00	D	W	2.00E-02	1.68E-11	1.19E-11	1.21E-06
	Sn-126	015832-50-5	1.00E+05	Y	W	2.00E-02	2.12E-11	4.26E-11	3.32E-08
Tungsten (74)	W-181	015749-46-9	1.21E+02	D	D	3.00E-01	2.72E-13	8.02E-14	2.11E-08
	W-185	014932-41-3	7.51E+01	D	D	3.00E-01	2.04E-12	4.26E-13	5.03E-11
	W-187	014983-48-3	2.38E+01	H	D	3.00E-01	2.46E-12	5.29E-13	1.63E-06
Uranium (92)	U-232	014158-29-3	7.20E+01	Y	Y	5.00E-02	8.12E-11	5.29E-08	3.42E-11
	U-233	013968-55-3	1.59E+05	Y	Y	5.00E-02	4.48E-11	1.41E-08	3.52E-11
	U-234	013966-29-5	2.45E+05	Y	Y	5.00E-02	4.44E-11	1.40E-08	2.14E-11
	U-235	015117-96-1	7.04E+08	Y	Y	5.00E-02	4.52E-11	1.30E-08	2.63E-07
	U-235+D	015117-96-1(+D)	7.04E+08	Y	Y	5.00E-02	4.70E-11	1.30E-08	2.65E-07
	U-236	013982-70-2	2.34E+07	Y	Y	5.00E-02	4.21E-11	1.32E-08	1.72E-11
	U-237	014269-75-1	6.75E+00	D	Y	5.00E-02	3.98E-12	3.12E-12	1.37E-07
	U-238	007440-61-1	4.47E+09	Y	Y	5.00E-02	4.27E-11	1.24E-08	1.50E-11
	U-238+D	007440-61-1(+D)	4.47E+09	Y	Y	5.00E-02	6.20E-11	1.24E-08	5.25E-08
	U-240	015687-53-3	1.41E+01	H	Y	5.00E-02	5.47E-12	3.35E-12	1.09E-10
Vanadium (23)	V-48	014331-97-6	1.60E+01	D	W	1.00E-02	7.56E-12	6.84E-12	1.12E-05

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Xenon (54)	Xe-122	015151-09-4	2.01E+01	H	*	---	---	3.08E-15	---
	Xe-123	015700-10-4	2.14E+00	H	*	---	---	8.92E-16	---
	Xe-125	013994-18-8	1.68E+01	H	*	---	---	1.20E-15	---
	Xe-127	013994-19-9	3.64E+01	D	*	---	---	4.09E-16	---
	Xe-129m	013965-99-6(m)	8.89E+00	D	*	---	---	5.74E-16	---
	Xe-131m	014683-11-5(m)	1.18E+01	D	*	---	---	4.13E-16	---
	Xe-133	014932-42-4	5.25E+00	D	*	---	---	4.14E-16	---
	Xe-133m	014932-42-4(m)	2.19E+00	D	*	---	---	5.12E-16	---
	Xe-135	014995-62-1	9.11E+00	H	*	---	---	7.45E-16	---
	Xe-135m	014995-62-1(m)	1.54E+01	M	*	---	---	1.88E-16	---
	Xe-137	014835-21-3	3.83E+00	M	*	---	---	1.39E-15	---
	Xe-138	015751-81-2	1.41E+01	M	*	---	---	2.06E-15	---
Yttrium (39)	Y-90	010098-91-6	6.41E+01	H	Y	1.00E-04	1.50E-11	9.90E-12	0.00E+0
	Y-91	014234-24-3	5.85E+01	D	Y	1.00E-04	1.35E-11	1.85E-11	1.41E-08
	Y-91m	014234-24-3(m)	4.97E+01	M	Y	1.00E-04	3.69E-14	2.99E-14	1.90E-06
	Y-92	015751-59-4	3.54E+00	H	Y	1.00E-04	1.95E-12	1.61E-12	9.80E-07
	Y-93	014981-70-5	1.01E+01	H	Y	1.00E-04	5.74E-12	3.48E-12	3.41E-07
Zinc (30)	Zn-65	013982-39-3	2.44E+02	D	Y	5.00E-01	9.93E-12	9.98E-12	2.27E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Zn-69	013982-23-5	5.56E+01	M	Y	5.00E-01	6.19E-14	1.04E-13	2.03E-11
	Zn-69m	013982-23-5(m)	1.38E+01	H	Y	5.00E-01	1.52E-12	1.17E-12	1.43E-06
Zirconium (40)	Zr-93	015751-77-6	1.53E+06	Y	W	2.00E-03	5.21E-13	5.26E-12	0.00E+0
	Zr-95	013967-71-0	6.40E+01	D	W	2.00E-03	3.92E-12	6.48E-12	2.81E-06
	Zr-97	014928-30-4	1.69E+01	H	W	2.00E-03	1.04E-11	4.73E-12	6.85E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

JULY 1997

ENDNOTES:

[a] EPA classifies all radionuclides as Group A (known human) carcinogens. Radionuclide slope factors are calculated by EPA's Office of Radiation and Indoor Air (ORIA) to assist HEAST users with risk-related evaluations and decision-making at various stages of the remediation process. Ingestion and inhalation slope factors are central estimates in a linear model of the age-averaged, lifetime attributable radiation cancer incidence (fatal and nonfatal cancer) risk per unit of activity inhaled or ingested, expressed as risk/picocurie (pCi). External exposure slope factors are central estimates of the lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil, and are expressed as risk/yr per pCi/gram of soil. If required, slope factors in Table 4 can be converted into the International System (SI) units of becquerels (1 Bq = 1 nuclear transformation per second) by dividing each inhalation, ingestion, or external exposure value by 27.03. Users can calculate cancer risks using slope factors expressed in either customary units or SI units with equivalent results, provided that they also use air, water and soil concentration values in the same system of units. For a discussion on the derivation of radionuclide slope factors and guidance on their use, refer to the User's Guide section on radionuclide carcinogenicity.

[b] A curie (Ci), the customary unit of activity, is equal to 3.7×10^{10} nuclear transformations per second. 1 picocurie (pCi) = 10^{12} Ci.

[c] For each radionuclide listed, slope factors correspond to the risks per unit intake or exposure for that radionuclide only, except when marked with a "+D" to indicate that the risks from associated short-lived radioactive decay products (i.e., those decay products with radioactive half-lives less than or equal to 6 months) are also included. Refer to Exhibit 1 in the User's Guide section on radionuclide carcinogenicity for guidance on determining slope factors for partial or complete radioactive decay chains.

[d] Chemical Abstract Service Reference Number (CASRN). For risk calculations involving decay chains, a CASRN should be reported for the parent radionuclide <u>and</u> each chain member.

[e] Radioactive half-life: S = Second, M = Minute, D = Day, Y = Year. For those radionuclides with decay products (+D), half-lives are listed for the parent radionuclide.

[f] Lung clearance classification recommended by the International Commission on Radiological Protection (ICRP): Y = Year, W = Week, D = Day, * = Gas.

[g] Gastrointestinal (GI) absorption factors are the fractional amounts of each radionuclide absorbed across the GI tract into the bloodstream. Lung clearance classifications and GI absorption factors are provided <u>for reference only</u>. <u>Do not</u> use these factors to adjust inhalation or ingestion slope factors. See the User's Guide for instructions.

APPENDIX A: TECHNICAL INFORMATION

I. DATA SOURCES AND SELECTION CRITERIA USED IN HEAST

II. DOSE CONVERSIONS ON HEAST

III. CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE

IV. EFFECT LEVEL DEFINITIONS

V. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

APPENDIX A-I

I. DATA SOURCES AND SELECTION CRITERIA USED IN HEAST

A. Description of Sources and Documents Cited in HEAST

1. The Integrated Risk Information System (IRIS)

IRIS is an on-line data base developed by the EPA for compilation of risk assessment and regulatory information on chemicals and physical agents. IRIS is the primary communications mechanism for distribution of health hazard assessment information derived by the various intra-Agency Work Groups. The primary intent of IRIS is to provide guidance to EPA personnel in making risk management decisions. An IRIS chemical file contains a Work Group verified summary of the available information on hazard and dose-response assessment for noncarcinogenic and/or carcinogenic effects for that chemical and is not an extensive toxicologic data base. Risk assessment values placed on IRIS are considered Agency consensus and take precedence over differing risk assessment values from other EPA sources. Each file includes referenced citations and EPA contacts for obtaining further information on any specific chemical or agent. The IRIS data base was made available to State and local governments, as well as to the public, in April 1988.

* Questions concerning IRIS: Call RISK INFORMATION HOTLINE at (513) 569-7254

2. EPA Work Groups and the IRIS Pilot:

Risk assessment values for chemicals currently being considered by EPA, but not yet on IRIS, are included in HEAST. In the past the EPA Reference Dose/Reference Concentration (RfD/RfC) and the Carcinogen Risk Assessment Verification Endeavor (CRAVE) Work Groups used to validate Agency systemic toxicity and carcinogen risk assessments, respectively. These Work Groups are now replaced by the IRIS Pilot which will be responsible for resolving any conflicts regarding toxicity values developed by various Program Offices. The IRIS Pilot peer review panels represent different EPA offices and external scientists experienced in issues related to both the qualitative and quantitative risk assessment of carcinogenic and toxic agents. Values verified by this system must undergo extensive peer review and represent an Agency consensus. Verified risk assessment values or changes are entered into the IRIS data base monthly.

* Questions concerning the IRIS Pilot: Call Amy Mills, NCEA Washington at (202) 260-0569.

3. Office of Research and Development (ORD/National Center for Environmental Assessment (NCEA) OSWER-OAQPS (Office of Solid Waste and Emergency Response-Office of Air Quality Planning and Standards) Documents:

A listing of most ORD/NCEA OSWER-OAQPS documents can be found in the Chemical Assessments and Related Activities (CARA) list (available through NTIS) or in the CERI (Center for Environmental Research Information) Office of Research and Development publications list. The CARA is produced by the National Center for Environmental Assessment (NCEA). All OSWER-OAQPS documents are subject to a minimum of internal EPA peer review or a maximum of EPA/Peer Review Workshop/Science Advisory Board and public comments prior to finalization.

* Information on the availability of OSWER-OAQPS documents can be obtained from the following sources:

All Documents:

Technical Information Staff
National Center for Environmental Assessment (RD-689)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460
(202) 260-7345

Published Documents:

Technology Transfer and Support Division, National Risk Management Research Laboratory†
Office of Research and Development
U.S. Environmental Protection Agency
26 W. Martin Luther King Drive
Cincinnati, OH 45268
(513) 569-7562
†Formerly, Center for Environmental Research Information (CERI)

Documents Available Through RCRA/Superfund:

Hotline Number 1-800-424-9346

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Documents Available from NTIS:

National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

Health Effects Assessments (HEAs): This document series was prepared by the National Center for Environmental Assessment (NCEA-CIN) for the Office of Emergency and Remedial Response (Superfund). HEAs are intended for use by the OERR in evaluating risk for its preliminary assessment process at uncontrolled sites, and for appraising clean-up alternatives in its remedial investigation/feasibility studies. HEAs are brief, quantitatively oriented, preliminary assessment of relevant health effects data. HEAs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment. Final drafts of HEAs become part of the RCRA and Superfund dockets and are available through NTIS. This series has recently been incorporated into the following HEED series.

Health and Environmental Effects Documents (HEEDs): This document series is prepared by the National Center for Environmental Assessment (NCEA-CIN) for the Office of Solid Waste and Emergency Response (OSWER). HEEDs are intended to support listings under the Resource Conservation and Recovery Act (RCRA) as well as to provide health-related limits and goals for emergency and remedial actions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Within a HEED, both published literature and information within Agency Program Offices are evaluated as they pertain to potential human health, aquatic life and environmental effects of hazardous waste constituents. Quantitative estimates, including reference doses for chronic and subchronic duration for both inhalation and oral exposures, carcinogenic potency factors, unit risk estimates for air and drinking water, and reportable quantities (RQs) based on chronic toxicity and carcinogenicity are determined when sufficient data are available. HEEDs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Pesticides and Toxic Substances. Final drafts of HEEDs become part of the RCRA and Superfund public dockets and are available through NTIS.

Health and Environmental Effects Profiles (HEEPs): This document series was prepared by the National Center for Environmental Assessment (NCEA-CIN) for the Office of Solid Waste and Emergency Response (OSWER). HEEPs have been superseded by HEEDs since mid-FY87. HEEPs are intended to support listings of hazardous constituents of a wide range of waste streams under Section 3001 of the Resource Conservation and Recovery Act (RCRA), as well as to provide health-related limits for emergency actions under Section 010 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). HEEPs are summaries of the

literature concerning health hazards associated with environmental exposures to chemicals or compounds and are very similar to HEEDs as described above. HEEPs were subject to internal EPA review by staff within the Office of Health and Environmental Assessment. HEEPS are part of the RCRA and CERCLA public dockets. Final drafts are available through NTIS.

Air Quality Criteria Documents (AQCDs): This document series is prepared by the National Center for Environmental Assessment (NCEA-RTP) for the Office of Air and Radiation (OAR). AQCDs are intended to support National Ambient Air Quality Standards (NAAQS) set under Sections 108-110 of the Clean Air Act. These documents are evaluations of the available scientific literature on the potential health effects of air pollutants. AQCDs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Air and Radiation. Further review is conducted by the Science Advisory Board/Clean Air Scientific Advisory Committee, and then, these documents are subject to peer review workshops and public comments. The AQCDs are mandated by the Clean Air Act and are revised at 5-year intervals. AQCDs become part of the OAR public docket and final drafts are available through NTIS.

Health Assessment Documents (HADs): This document series is prepared by the National Center for Environmental Assessment (NCEA-RTP and NCEA-CIN) for the Office of Air and Radiation (OAR). HADs are intended for use by the Office of Air Quality Planning and Standards (OAQPS) to determine possible listing of hazardous air pollutants (HAP) under sections 111 and 112 of the Clean Air Act. These documents are evaluations of the available scientific literature on the potential health effects of air pollutants and serve as the scientific data base for establishing relationships between exposure concentrations and potential health risks. HADs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Air and Radiation. Further review is conducted by the Science Advisory Board/Clean Air Scientific Advisory Committee, and then, these documents are subject to peer review workshops and public comments. HADs become part of the OAR public docket and final drafts are available through NTIS.

4. Miscellaneous Documents:

Drinking Water Criteria Documents (DWCDs): The National Center for Environmental Assessment (NCEA-CIN) prepares a portion of this document series for the Office of Water (OW). DWCDs are intended to assist the OW in deriving criteria standards for chemicals in drinking water, as required under Section 412(b)(3)(A) of the Safe Drinking Water Act, as amended in 1986. The DWCDs are comprehensive evaluations of potential health effects, including mechanisms of toxicity, with specific emphasis on data providing dose-response information. DWCDs contain Health Advisories (Has) for 1-day, 10-day and longer-term exposures and drinking water equivalent levels for

lifetime exposures. DWCDs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Water. Selected documents are reviewed by the Science Advisory Board and are subject to peer review workshops and public comments. DWCDs become part of the Safe Drinking Water (SDW) public docket and final drafts are available through NTIS.

B. Selection Criteria and Sources of HEAST Values

Chemicals with derived noncarcinogenic and/or carcinogen risk assessment values that have had some level of peer review (i.e., those in peer reviewed EPA documents or under review by EPA Work Groups) are included in HEAST; this does not include many interim values (values not found in final EPA documents or not being considered by Work Groups) derived for various purposes within Superfund and other Program Offices. In updating the HEAST, the first source that is checked is the Integrated Risk Information System (IRIS) for revised or newly added risk assessment values. Secondly, the status of chemicals under discussion by the RfD/RfC and CRAVE Work Groups is reviewed. The National Center for Environmental Assessment's Chemical Assessments and Related Activities (CARA) list is also reviewed for new Office of Water, Office of Air Quality Planning and Standards, and Office of Solid Waste and Emergency Response risk assessment documents (HEEDs, HEEPs, HEAs, HADs, AQCDs, DWCDs).

The HEAST also contains chemicals commonly found at RCRA (Resource Conservation and Recovery Act) sites as identified by the Office of Solid Waste's Technical Assessment Branch. Questions about RCRA chemicals may be addressed by calling the Health Assessment Section (Office of Solid Waste) at (202) 260-4761. Finally, the Office of Radiation Programs provides data on radionuclides for Table 4 of the HEAST. Radionuclides included are those thought to be most commonly encountered at Superfund sites. Questions concerning radionuclides carcinogenicity should first be addressed by contacting the appropriate Regional Radiation Program Manager. A listing of these managers and several contacts in the Office of Radiation Programs can be found in Exhibit 2 of the User's Guide -Radionuclide Carcinogenicity.

APPENDIX A-II

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APPENDIX A-II

II. DOSE CONVERSIONS ON HEAST

In January 1991, the decision was made to replace inhalation Reference Doses (RfDi) for noncancer toxicity and inhalation slope factors for carcinogenicity, previously available on the IRIS data base, with Reference Concentrations (RFC) and inhalation unit risks, respectively. RfCs and unit risks are expressed in terms of concentration in air (mg/m^3), not in terms of "dose" (mg/kg-day) like the RfDs and the oral and inhalation slope factors. This presents a problem for the Superfund program, since the current Hazard Ranking System (HRS) and the Risk Assessment Guidance for superfund (RAGS): Human Health Evaluation manual, Parts A and B were developed using chronic daily intakes and health criteria expressed in units of mg/kg-day.

The decision to replace inhalation slope factors and RfDi values expressed in mg/kg-day with unit risk and RfC values expressed in mg/m_3 was based on two major factors: 1) the workgroups felt that it was technically more accurate to base toxicity values directly on measured air concentrations instead of making the metabolic pharmacokinetic and/or surface area adjustments required to estimate an "internal dose"; and 2) there are compounds that elicit route-of-entry effects (e.g., sensitizers and irritants) where the toxic effect is to the respiratory system or exchange boundary where a measure of "internal dose" might inappropriately imply effects to other organ systems or effects from other exposure routes.

Superfund recognizes the importance of these issues and is actively working with EPA's Office of Research and Development to evaluate the impact of these changes on its program regulations and guidance. In the short term, however, modification of program regulations and guidance is not a viable option. Therefore, the chairs of the RfD/RfC and CRAVE Work Groups were consulted regarding Superfund's need to make the conversion from a concentration in air to dose. There was agreement that, in many cases, converting the air concentration data to a dose (in mg/kg-day) may not add significant uncertainty to the Superfund risk assessment process, and therefore may be a reasonable use of the data <u>given appropriate circumstances and Superfund program objectives.</u>

Generally, the Superfund Health Risk Technical Support Center will be responsible for making all appropriate conversions and the values will be identified with appropriate highlights or footnotes in the Health Effects Assessment Summary Tables (HEAST). Therefore, <u>HEAST users are strongly advised against making such conversions themselves.</u> However, it is a critical responsibility of the risk assessor to consult the original reports cited in the HEAST and to appropriately characterize or caveat the resulting risk estimates derived from these values so that managers are fully informed of their origin and related uncertainties.

APPENDIX A-III

III. CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE

This section lists chemicals and their respective Chemical Abstracts Service Registry Number (CASRN) for cross referencing. Chemicals may be searched either alphabetically by compound name or numerically by the CASRN.

The list has been updated to only include chemicals that are currently documented in this issue of the HEAST.

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CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE
(LISTED BY NAME)

July 1997

ACENAPHTHENE	000083-32-9
ACENAPTHYLENE	000208-96-8
ACEPHATE	030560-19-1
ACETONE	000067-64-1
ACETONE CYANOHYDRIN	000075-86-5
ACETONITRILE	000075-05-8
ACETOPHENONE	000098-86-2
ACROLEIN	000107-02-8
ACRYLAMIDE	000079-06-1
ACRYLIC ACID	000079-10-7
ACRYLONITRILE	000107-13-1
ADIPONITRILE	000111-69-3
ALACHLOR	015972-60-8
ALDICARB	000116-06-3
ALDRIN	000309-00-2
ALLIDOCHLOR	000093-71-0
ALLYL ALCOHOL	000107-18-6
ALLYL CHLORIDE	000107-05-1
ALUMINUM	007429-90-5
ALUMINUM PHOSPHIDE	020859-73-8
AMETRYN	000834-12-8
AMINO-2-NAPHTHOL, 1-	002834-92-6
AMINO-2-NAPHTOL HYDROCHLORIDE, 1-	001198-27-2
AMINOPHENOL, M-	000591-27-5
AMINOPHENOL, O-	000095-55-6
AMINOPHENOL, P-	000123-30-8
AMINOPYRIDINE, 4-	000504-24-5
AMMONIA	007664-41-7
ANILINE	000062-53-3
ANTHRACENE	000120-12-7
ANTIMONY, METALLIC	007440-36-0
ANTIMONY PENTOXIDE	001314-60-9
ANTIMONY POTASSIUM TARTRATE	000304-61-0
ANTIMONY TETROXIDE	001332-81-6
ANTIMONY TRIOXIDE	001309-64-4
ARAMITE	000140-57-8
AROCLOR 1248	012672-29-6
AROCLOR 1254	011097-69-1
ARSENIC, INORGANIC	007440-38-2
ASBESTOS	001332-21-4
ATRAZINE	001912-24-9
AZOBENZENE	000103-33-3
BARIUM	007440-39-3
BARIUM CYANIDE	000542-62-1
BENEFIN	001861-40-1
BENZAL CHLORIDE	000098-87-3
BENZALDEHYDE	000100-52-7
BENZALDEHYDE CYANOHYDRIN	000532-28-5
BENZENE	000071-43-2
BENZENETHIOL / (THIOPHENOL)	000108-98-5
BENZIDINE	000092-87-5
BENZOIC ACID	000065-85-0
BENZOTRICHLORIDE	000098-07-7
BENZO[A]ANTHRACENE	000056-55-3
BENZO[A]PYRENE	000050-32-8
BENZO[K]FLUORANTHENE	000207-08-9
BENZYL ALCOHOL	000100-51-6
BENZYL CHLORIDE	000100-44-7
BERYLLIUM	007440-41-7
BIPHENYL, 1,1'	000092-52-4
BIS(2-CHLOROETHYL) ETHER	000111-44-4
BIS(2-CHLOROISOPROPYL) ETHER	039638-32-9
BIS(2-CHLORO-1-METHYLETHYL) ETHER	000108-60-1
BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP)	000117-81-7
BIS(CHLOROMETHYL) ETHER	000542-88-1
BISPHENOL A	000080-05-7
BORON, ELEMENTAL	007440-42-8
BORON TRIFLUORIDE	007637-07-2
BROMINATED DIBENZO-P-DIOXINS	NO CASRN
BROMINATED DIBENZOFURANS	NO CASRN
BROMOACETONE	000598-31-2
BROMOCHLOROETHANES	NO CASRN
BROMODICHLOROMETHANE	000075-27-4
BROMOETHENE / (VINYL BROMIDE)	000593-60-2
BROMOFORM	000075-25-2
BROMOMETHANE	000074-83-9
BROMOPHENYL PHENYL ETHER, 4-	000101-55-3
BROMOPHOS	002104-96-3
BROMOXYNIL	001689-84-5
BROMOXYNIL OCTANOATE	001689-99-2
BUSAN 77	031512-74-0
BUSAN 90	002491-38-5
BUTADIENE, 1,3-	000106-99-0
BUTANOL, 1-	000071-36-3
BUTYL BENZYL PHTHALATE, N-	000085-68-7
BUTYLATE	002008-41-5
BUTYLCHLORIDE, T-	000507-20-0
BUTYROLACTONE, GAMMA-	000096-48-0
CACODYLIC ACID	000075-60-5
CADMIUM	007440-43-9
CALCIUM CYANIDE	000592-01-8
CAPROLACTAM	000105-60-2
CAPTAFOL	002425-06-1
CAPTAN	000133-06-2
CARBARYL	000063-25-2
CARBAZOLE	000086-74-8
CARBOFURAN	001563-66-2
CARBON DISULFIDE	000075-15-0
CARBON MONOXIDE	000630-05-0
CARBON TETRACHLORIDE	000056-23-5
CHLORAL	000075-87-6
CHLORANIL	000118-75-2
CHLORDANE	000057-74-9
CHLORINE CYANIDE	000506-77-4
CHLORO-1,3-BUTADIENE, 2- / (CHLOROPRENE)	000126-99-8
CHLORO-2-METHYLANILINE, 4-	000095-69-2
CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4-	003165-93-3
CHLORO-M-CRESOL, P-	000059-50-7
CHLOROACETALDEHYDE	000107-20-0
CHLOROACETIC ACID	000079-11-8
CHLOROANILINE, 2-	000095-51-2
CHLOROANILINE, 3-	000108-42-9
CHLOROANILINE, 4-	000106-47-8
CHLOROBENZENE	000108-90-7
CHLOROBENZILATE	000510-15-6
CHLOROBENZOIC ACID, P-	000074-11-3
CHLOROBENZOTRIFLUORIDE, 4-	000098-56-6
CHLOROBUTANE, 1-	000109-69-3
CHLOROBUTANE, 2-	000078-86-4
CHLOROCYCLOPENTADIENE	041851-50-7
CHLOROFORM	000067-66-3
CHLOROMETHANE / (METHYL CHLORIDE)	000074-87-3
CHLOROMETHYL METHYL ETHER	000107-30-2
CHLORONITROBENZENE, M-	000121-73-3
CHLORONITROBENZENE, O-	000088-73-3
CHLORONITROBENZENE, P-	000100-00-5
CHLOROPHENOL, 2-	000095-57-8
CHLOROPHENOL, 3-	000108-43-0
CHLOROPHENOL, 4-	000106-48-9
CHLOROPRENE	000126-99-8
CHLOROPROPANE, 2-	000075-29-6
CHLOROTHALONIL	001897-45-6
CHLOROTOLUENE, M-	000108-41-8
CHLOROTOLUENE, O-	000095-49-8
CHLOROTOLUENE, P-	000106-43-4
CHLORPYRIFOS	002921-88-2
CHLORPYRIFOS METHYL	005598-13-0
CHLORTHIOPHOS	060238-56-4
CHROMIUM(III)	016065-83-1
CHROMIUM(VI)	018540-29-9
CHRYSENE	000218-01-9
COKE OVEN EMISSIONS	008007-45-2
COPPER	007440-50-8
COPPER CYANIDE	000544-92-3
CREOSOTE, COAL TAR	008001-58-9
CRESOL, M- / (3-METHYLPHENOL)	000108-39-4
CRESOL, O- / (2-METHYLPHENOL)	000095-48-7
CRESOL, P- / (4-METHYLPHENOL)	000106-44-5

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CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE
(LISTED BY NAME) Continued

July 1997

CROTONALDEHYDE	000123-73-9
CUMENE	000098-82-8
CYANAZINE	021725-46-2
CYANIDE	000057-12-5
CYANOGEN	000460-19-5
CYANOGEN BROMIDE	000506-68-3
CYCLOATE	001134-23-2
CYCLOHEXANOL	000108-93-0
CYCLOHEXYLAMINE	000108-91-8
CYCLONITE	000121-82-4
CYCLOPENTADIENE	000542-92-7
DACTHAL	001861-32-1
DALAPON	000075-99-0
2,4-DB	000094-82-6
DDD	000072-54-8
DDE	000072-55-9
DDT	000050-29-3
DECABROMODIPHENYL ETHER	001163-19-5
DEHP	000117-81-7
DI-N-OCTYL PHTHALATE	000117-84-0
DIALLATE	002303-16-4
DIAZINON	000333-41-5
DIBENZOFURAN	000132-64-9
DIBENZO[A,H]ANTHRACENE	000053-70-3
DIBROMO-3-CHLOROPROPANE, 1,2	000096-12-8
DIBROMOBENZENE, 1,4-	000106-37-6
DIBROMOCHLOROMETHANE	000124-48-1
DIBROMOETHANE, 1,2-	000106-93-4
DIBUTYL PHTHALATE	000084-74-2
DICAMBA	001918-00-9
DICHLORO-2-BUTENE, 1,4-	000764-41-0
DICHLOROBENZENE, 1,2-	000095-50-1
DICHLOROBENZENE, 1,3-	000541-73-1
DICHLOROBENZENE, 1,4-	000106-46-7
DICHLOROBENZIDINE, 3,3'-	000091-94-1
DICHLOROBUTENES	NO CASRN
DICHLORODIFLUOROMETHANE	000075-71-8
DICHLOROETHANE, 1,1-	000075-34-3
DICHLOROETHYLENE, 1,1-	000075-35-4
DICHLOROETHYLENE, 1,2- (MIXED ISOMERS)	000540-59-0
DICHLOROETHYLENE, 1,2-C-	000156-59-2
DICHLOROETHYLENE, 1,2-T-	000156-60-5
DICHLOROMETHANE	000075-09-2
DICHLOROPHENOL, 2,3-	000576-24-9
DICHLOROPHENOL, 2,4-	000120-83-2
DICHLOROPHENOL, 2,5-	000583-78-8
DICHLOROPHENOL, 2,6-	000087-65-0
DICHLOROPHENOL, 3,4-	000095-77-2
DICHLOROPHENOL, 3,5-	000591-35-5
DICHLOROPHENOXY ACETIC ACID, 2,4-	000094-75-7
DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4- / (2,4-DB)	000094-82-6
DICHLOROPROPANE, 1,1-	000078-99-9
DICHLOROPROPANE, 1,2-	000078-87-5
DICHLOROPROPANE, 1,3-	000142-28-9
DICHLOROPROPANE, 2,2-	000594-20-7
DICHLOROPROPENE, 1,3- / (TELONE II)	000542-75-6
DICHLORPROP	000120-36-5
DICYCLOPENTADIENE	000077-73-6
DIELDRIN	000060-57-1
DIETHYL-P-NITROPHENYL PHOSPHATE	000311-45-5
DIETHYL PHTHALATE	000084-66-2
DIETHYLANILINE, N,N-	000091-66-7
DIETHYLENE GLYCOL MONOBUTYL ETHER	000112-34-5
DIETHYLENE GLYCOL MONOETHYL ETHER	000111-90-0
DIETHYLFORMAMIDE	000617-84-5
DIETHYLHYDRAZINE, 1,2-	001615-80-1
DIETHYLSTILBESTROL	000056-53-1
DIMETHOATE	000060-51-5
DIMETHOXYBENZIDINE, 3,3'-	000119-90-4
DIMETHYLANILINE, 2,4-	000095-68-1
DIMETHYLANILINE HYDROCHLORIDE, 2,4-	021436-96-4
DIMETHYLANILINE, N,N-	000121-69-7
DIMETHYLBENZIDINE, 3,3'-	000119-93-7
DIMETHYLFORMAMIDE, N,N-	000068-12-2
DIMETHYLHYDRAZINE, 1,1-	000057-14-7
DIMETHYLHYDRAZINE, 1,2-	000540-73-8
DIMETHYLPHENOL, 2,3-	000526-75-0
DIMETHYLPHENOL, 2,4-	000105-67-9
DIMETHYLPHENOL, 2,5-	000095-87-4
DIMETHYLPHENOL, 2,6-	000576-26-1
DIMETHYLPHENOL, 3,4-	000095-65-8
DIMETHYLPHTHALATE	000131-11-3
DIMETHYLSULFATE	000077-78-1
DIMETHYLTEREPHTHALATE	000120-61-6
DIMETHYLUREA, N,N-	000598-94-7
DINITRO-O-CRESOL, 4,6-	000534-52-1
DINITRO-P-CRESOL, 2,6-	000609-93-8
DINITROBENZENE, 1,2-	000528-29-0
DINITROBENZENE, 1,3-	000099-65-0
DINITROBENZENE, 1,4-	000100-25-4
DINITROPHENOL, 2,3-	000066-56-8
DINITROPHENOL, 2,4-	000051-28-5
DINITROPHENOL, 2,5-	000329-71-5
DINITROPHENOL, 2,6-	000573-56-8
DINITROPHENOL, 3,5-	000586-11-8
DINITROTOLUENE, 2,3-	000602-01-7
DINITROTOLUENE, 2,4	000121-14-2
DINITROTOLUENE, 2,5-	000619-15-8
DINITROTOLUENE, 2,6-	000606-20-2
DINITROTOLUENE, 3,4-	000610-39-9
DINOSEB	000088-85-7
DIOXANE, 1,4-	000123-91-1
DIPHENYLAMINE, N,N-	000122-39-4
DIPHENYLHYDRAZINE, 1,2-	000122-66-7
DIPHENYLMETHANE DIISOCYANATE	000101-68-8
DIRECT BLACK 38	001937-37-7
DIRECT BLUE 6	002602-46-2
DIRECT BROWN 95	016071-86-6
DIRECT LIGHTFAST BLUE	004399-55-7
DIRECT SKY BLUE 6B	002610-05-1
DISULFOTON	000298-04-4
ENDOSULFAN	000115-29-7
ENDOTHALL	000145-73-3
ENDRIN	000072-20-8
EPICHLOROHYDRIN	000106-89-8
EPTC	000759-94-4
ETHOPROP	013194-48-4
ETHOXYETHANOL, 2-	000110-80-5
ETHOXYETHANOL ACETATE, 2-	000111-15-9
ETHOXYETHANOL ACRYLATE, 2-	000106-74-1
ETHOXYETHANOL DODECANOATE, 2-	000106-13-8
ETHOXYETHANOL PHOSPHATE, 2-	068554-00-7
ETHOXYETHYL METHACRYLATE, 2-	002370-63-0
ETHYL ACETATE	000141-78-6
ETHYL ACRYLATE	000140-88-5
ETHYL BENZENE	000100-41-4
ETHYL CHLORIDE	000075-00-3
ETHYL ETHER	000060-29-7
ETHYL METHACRYLATE	000097-63-2
ETHYL-O-XYLENE, 4-	000934-80-5
ETHYLANILINE, N-	000103-69-5
ETHYLENE CYANOHYDRIN	000109-78-4
ETHYLENE DIAMINE	000107-15-3
ETHYLENE GLYCOL	000107-21-1
ETHYLENE GLYCOL MONOBUTYL ETHER	000111-76-2
ETHYLENE OXIDE	000075-21-8
ETHYLENE THIOUREA	000096-45-7
ETHYLTOLUENE, M-	000620-14-4
ETHYLTOLUENE, O-	000611-14-3
ETHYLTOLUENE, P-	000622-96-8
FLUORANTHENE	000206-44-0
FLUORENE	000086-73-7
FLUORINE / (SOLUBLE FLUORIDE)	007782-41-4
FLURIDONE	059756-60-4
FOLPET	000133-07-3

CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE
(LISTED BY NAME) Continued

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FORMALDEHYDE	000050-00-0
FORMALDEHYDE CYANOHYDRIN	000107-16-4
FORMIC ACID	000064-18-6
FURAN	000110-00-9
FURAZOLIDONE	000067-45-8
FURFURAL	000098-01-1
FURIUM	000531-82-8
GLYCIDALDEHYDE	000765-34-4
HEPTACHLOR	000076-44-8
HEPTACHLOR EPOXIDE	001024-57-3
HEPTANE, N-	000142-82-5
HEXABROMOBENZENE	000087-82-1
HEXACHLOROBENZENE	000118-74-1
HEXACHLOROBUTADIENE	000087-68-3
HEXACHLOROCYCLOHEXANE, ALPHA-	000319-84-6
HEXACHLOROCYCLOHEXANE, BETA-	000319-85-7
HEXACHLOROCYCLOHEXANE, DELTA-	000319-86-8
HEXACHLOROCYCLOHEXANE, EPSILON-	006108-10-7
HEXACHLOROCYCLOHEXANE, GAMMA-	000058-89-9
HEXACHLOROCYCLOHEXANE-TECHNICAL	000608-73-1
HEXACHLOROCYCLOPENTADIENE	000077-47-4
HEXACHLOROETHANE	000067-72-1
HEXACHLOROPHENE	000070-30-4
HEXAMETHYLENE DIAMINE	000124-09-4
HEXANE, N-	000110-54-3
HEXANONE, 2-	000591-78-6
HYDRAZINE	000302-01-2
HYDRAZINE SULFATE	010034-93-2
HYDROGEN SULFIDE	007783-06-4
HYDROQUINONE	000123-31-9
INDENO[1,2,3-CD]PYRENE	000193-39-5
IRON	007439-89-6
ISOBUTYL ALCOHOL	000078-83-1
ISOPHORONE	000078-59-1
ISOPROPALIN	033820-53-0
LACTONITRILE	000078-97-7
LEAD	007439-92-1
LEAD ALKYLS	NO CASRN
LINURON	000330-55-2
MALATHION	000121-75-5
MALEIC ANHYDRIDE	000108-31-6
MALEIC HYDRAZIDE	000123-33-1
MALONONITRILE	000109-77-3
MANCOZEB	008018-01-7
MANEB	012427-38-2
MANGANESE	007439-96-5
MEPHOSFOLAN	000950-10-7
MERCURIC CHLORIDE	007487-94-7
MERCURY, ELEMENTAL	007439-97-6
MERPHOS	000150-50-5
MERPHOS OXIDE	000078-48-8
METHACRYLONITRILE	000126-98-7
METHANOL	000067-56-1
METHOMYL	016752-77-5
METHOXY-5-NITROANILINE, 2-	000099-59-2
METHOXYCHLOR	000072-43-5
METHOXYETHANOL, 2-	000109-86-4
METHOXYETHANOL ACETATE, 2-	000110-49-6
METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2-	000094-81-5
METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2-	000093-65-2
METHYL-4-CHLOROPHENOXY ACETIC ACID, 2-	000094-74-6
METHYL-5-NITROANILINE, 2-	000099-55-8
METHYL ACETATE	00D079-20-9
METHYL ACRYLATE	000096-33-3
METHYL CHLORIDE	000074-87-3
METHYL CHLOROCARBONATE	000079-22-1
METHYL ETHYL KETONE	000078-93-3
METHYL ETHYL KETONE PEROXIDE	001338-23-4
METHYL HYDRAZINE	000060-34-4
METHYL ISOBUTYL KETONE	000108-10-1
METHYL ISOCYANATE	000624-83-9
METHYL MERCURY	022967-92-6
METHYL METHACRYLATE	000080-62-6
METHYL PARATHION	000298-00-0
METHYL STYRENE (MIXED ISOMERS)	025013-15-4
METHYL STYRENE, ALPHA	000098-83-9
METHYLANILINE, 2-	000095-53-4
METHYLANILINE HYDROCHLORIDE, 2-	000636-21-5
METHYLCYCLOHEXANE	000108-87-2
METHYLENE-BIS(2-CHLOROANILINE), 4,4'-	000101-14-4
METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'-	000101-61-1
METHYLENE BROMIDE	000074-95-3
METHYLENE CHLORIDE / (DICHLOROMETHANE)	000075-09-2
METHYLENE-BIS(BENZENEAMINE), 4,4- / (METHYLENE DIANILINE, 4,4-)	000101-77-9
METHYLENEDIPHENYL ISOCYANATE, 4,4- / (DIPHENYLMETHANE DIISOCYANATE)	000101-68-8
2-METHYLLACTONITRILE	000075-86-5
2-METHYLPHENOL	000095-48-7
3-METHYLPHENOL	000108-39-4
4-METHYLPHENOL	000106-44-5
METOLACHLOR	051218-45-2
METRIBUZIN	021087-64-9
MIREX	002385-85-5
MOLINATE	002212-67-1
MOLYBDENUM	007439-98-7
MONOCHLORAMINE	010599-90-3
NAPHTHALENE	000091-20-3
NAPHTHOQUINONE, 1,4-	000130-15-4
NIAGARA BLUE 4B	002429-74-5
NICKEL CYANIDE	000557-19-7
NICKEL, REFINERY DUST	NO CASRN
NICKEL, SOLUBLE SALTS	Various
NICKEL SUBSULFIDE	012035-72-2
NICOTINONITRILE	000100-54-9
NITRIC OXIDE	010102-43-9
NITRITE	014797-65-0
NITROANILINE, 2-	000088-74-4
NITROANILINE, M-	000099-09-2
NITROANILINE, P-	000100-01-6
NITROBENZENE	000098-95-3
NITROFURANTOIN	000067-20-9
NITROFURAZONE	000059-87-0
NITROGEN DIOXIDE	010102-44-0
NITROGEN OXIDES	NO CASRN
NITROMETHANE	000075-52-5
NITROPHENOLS	NO CASRN
NITROPROPANE, 2-	000079-46-9
NITROSO-DI-N-BUTYLAMINE, N-	000924-16-3
NITROSO-DI-N-PROPYLAMINE, N-	000621-64-7
NITROSO-N-ETHYLUREA, N-	000759-73-9
NITROSO-N-METHYLUREA, N-	000684-93-5
NITROSODIETHANOLAMINE, N-	001116-54-7
NITROSODIETHYLAMINE, N-	000055-18-5
NITROSODIMETHYLAMINE, N-	000062-75-9
NITROSODIPHENYLAMINE, P-	000156-10-5
NITROSODIPHENYLAMINE, N-	000086-30-6
NITROSOMETHYLETHYLAMINE, N-	010595-95-6
NITROSOMETHYLVINYLAMINE, N	004549-40-0
NITROSOPYRROLIDINE, N-	000930-55-2
NITROTOLUENE, M-	000099-08-1
NITROTOLUENE, O-	000088-72-2
NITROTOLUENE, P-	000099-99-0
OCTABROMODIPHENYL ETHER	032536-52-0
OCTAMETHYLPYROPHOSPHORAMIDE	000152-16-9
OSMIUM TETROXIDE	020816-12-0
OZONE	010028-15-6
PARALDEHYDE	000123-63-7
PARATHION	000056-38-2
PARTICULATE MATTER	NO CASRN
PEBULATE	001114-71-2

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PENDIMETHALIN	040487-42-1
PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5-	000087-84-3
PENTABROMODIPHENYL ETHER	032534-81-9
PENTACHLOROBENZENE	000608-93-5
PENTACHLOROCYCLOPENTADIENE	025329-35-5
PENTACHLORONITROBENZENE	000082-68-8
PENTACHLOROPHENOL	000087-86-5
PENTACHLOROPROPENE, 1,1,2,3,3,-	001600-37-9
PENTANE, N-	000109-66-0
PHENANTHRENE	000085-01-8
PHENOL	000108-95-2
PHENYLENEDIAMINE, M-	000108-45-2
PHENYLENEDIAMINE, O-	000095-54-5
PHENYLENEDIAMINE, P-	000106-50-3
PHENYLMERCURIC ACETATE	000062-38-4
PHENYLPHENOL, 2-	000090-43-7
PHORATE	000298-02-2
PHOSGENE	000075-44-5
PHOSPHINE	007803-51-2
PHOSPHORUS, WHITE	007723-14-0
PHOTOCHEMICAL OXIDANTS	NO CASRN
PHTHALIC ACID, M-	000121-91-5
PHTHALIC ACID, O-	000088-99-3
PHTHALIC ACID, P-	00D100-21-0
PHTHALIC ANHYDRIDE	000085-44-9
POLYBROMINATED BIPHENYLS	NO CASRN
POLYCHLORINATED BIPHENYLS	001336-36-3
POTASSIUM CYANIDE	000151-50-8
POTASSIUM SILVER CYANIDE	000506-61-6
PROFLURALIN	026399-36-0
PRONAMIDE	023950-58-5
PROPACHLOR	001918-16-7
PROPAZINE	000139-40-2
PROPIONITRILE	000107-12-0
PROPYL ALCOHOL, N-	000071-23-8
PROPYLENE GLYCOL	000057-55-6
PROPYLENE GLYCOL MONOETHYL ETHER	001569-02-4
PROPYLENE GLYCOL MONOMETHYL ETHER	000107-98-2
PROPYLENE OXIDE	000075-56-9
PYRENE	000129-00-0
PYRIDINE	000110-86-1
QUINOLINE	000091-22-5
RDX / (CYCLONITE)	000121-82-4
RONNEL	000299-84-3
SELENIOUS ACID	007783-00-8
SELENIUM	007782-49-2
SELENIUM SULFIDE	007446-34-6
SELENOUREA	000630-10-4
SILVER	007440-22-4
SILVER CYANIDE	000506-64-9
SIMAZINE	000122-34-9
SODIUM CYANIDE	000143-33-9
SODIUM DIETHYLDITHIOCARBAMATE	000148-18-5
SODIUM METAVANADATE	013718-26-8
STIROPHOS	000961-11-5
STRONTIUM, STABLE	007440-24-6
STRYCHNINE	000057-24-9
STYRENE	000100-42-5
SUCCINONITRILE	000110-61-2
SULFUR DIOXIDE	007446-09-5
SULFUR OXIDES	NO CASRN
SULFURIC ACID	007664-93-9
TCDD, 2,3,7,8-	001746-01-6
TELONE II	000542-75-6
TEMEPHOS	003383-96-8
TERBUFOS	013071-79-9
TEREPHTHALIC ACID	000100-21-0
TETRACHLOROAZOXYBENZENE	021232-47-3
TETRACHLOROBENZENE, 1,2,4,5-	000095-94-3
TETRACHLOROCYCLOPENTADIENE	000695-77-2
TETRACHLOROETHANE, 1,1,1,2-	000630-20-6
TETRACHLOROETHANE, 1,1,2,2-	000079-34-5
TETRACHLOROETHYLENE	000127-18-4
TETRACHLOROHYDRAZOBENZENE	071753-42-9
TETRACHLOROPHENOL, 2,3,4,5-	004901-51-3
TETRACHLOROPHENOL, 2,3,4,6-	000058-90-2
TETRACHLORDPHENOL, 2,3,5,6-	000935-95-5
TETRACHLOROPROPENE, 1,1,2,3-	010436-39-2
TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA-	005216-25-1
TETRACHLOROVINPHOS / (STIROPHOS)	000961-11-5
TETRAETHYL DITHIOPYROPHOSPHATE	003689-24-5
THALLIC OXIDE	001314-32-5
THALLIUM (I) ACETATE	000563-68-8
THALLIUM (I) CARBONATE	006533-73-9
THALLIUM (I) CHLORIDE	007791-12-0
THALLIUM, INSOLUBLE SALTS	NO CASRN
THALLIUM (I) NITRATE	010102-45-1
THALLIUM SELENITE	012039-52-0
THALLIUM (I) SULFATE	007446-18-6
THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(	021564-17-0
THIOFANOX	013196-18-4
THIOPHENOL	000108-98-5
THIRAM	000137-26-8
TIN AND COMPOUNDS	NO CASRN
TOLUENE	000108-88-3
TOLUENE-2,4-DIAMINE	000095-80-7
TOLUENE-2,5-DIAMINE	000095-70-5
TOLUENE-2,6-DIAMINE	000823-40-5
TOLUENEDIAMINE, 2,3-	002687-25-4
TOLUENEDIAMINE, 3,4-	000496-72-0
TOLUIDINE, M-	000108-44-1
TOLUIDINE, P-	000106-49-0
TOXAPHENE	008001-35-2
TRIALLATE	002303-17-5
TRIBROMOBENZENE, 1,2,4-	000615-54-3
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	000076-13-1
TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'-	003380-34-5
TRICHLOROANILINE, 2,4,6-	000634-93-5
TRICHLOROANILINE HYDROCHLORIDE, 2,4,6-	033663-50-2
TRICHLOROBENZENE, 1,2,4-	000120-82-1
TRICHLOROCYCLOPENTADIENE	077323-84-3
TRICHLOROETHANE, 1,1,1-	000071-55-6
TRICHLOROETHANE, 1,1,2-	000079-00-5
TRICHLOROETHYLENE	000079-01-6
TRICHLOROFLUOROMETHANE	000075-69-4
TRICHLOROPHENOL, 2,3,4-	015950-66-0
TRICHLOROPHENOL, 2,3,5-	000933-78-8
TRICHLOROPHENOL, 2,3,6-	000933-75-5
TRICHLOROPHENOL, 2,4,5-	000095-95-4
TRICHLOROPHENOL, 2,4,6-	000088-06-2
TRICHLOROPHENOL, 3,4,5-	000609-19-8
TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5-	000093-72-1
TRICHLOROPHENOXY ACETIC ACID, 2,4,5-	000093-76-5
TRICHLOROPROPANE, 1,1,1-	007789-89-1
TRICHLOROPROPANE, 1,1,2-	000598-77-6
TRICHLOROPROPANE, 1,2,2-	003175-23-3
TRICHLOROPROPANE, 1,2,3-	000096-18-4
TRICHLOROPROPENE, 1,2,3-	000096-19-5
TRICHLOROTOLUENE, 2,3,6-	002077-46-5
TRICHLOROTOLUENE, ALPHA,2,6-	002014-83-7
TRIFLURALIN	001582-09-8
TRIMETHYL PHOSPHATE	000512-56-1
TRIMETHYLBENZENES	NO CASRN
TRINITROBENZENE, 1,3,5-	000099-35-4
TRINITROPHENOLS	NO CASRN
TRINITROPHENYLMETHYLNITRAMINE	000479-45-8

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TRINITROTOLUENE, 2,4,6-	000118-96-7
VANADIUM	007440-62-2
VANADIUM PENTOXIDE	001314-62-1
VANADIUM SULFATE	036907-42-3
VERNAM / (VERNOLATE)	001929-77-7
VERNDLATE	001929-77-7
VINYL-1-CYCLOHEXENE, 4-	000100-40-3
VINYL ACETATE	000108-05-4
VINYL BROMIDE	000593-60-2
VINYL CHLORIDE	000075-01-4
WARFARIN	000081-81-2
XYLENE, M-	000108-38-3
XYLENE, MIXTURE	001330-20-7
XYLENE, O-	000095-47-6
XYLENE, P-	000106-42-3
ZINC (METALLIC)	007440-66-6
ZINC CYANIDE	000557-21-1
ZINC PHOSPHIDE	001314-84-7
ZINEB	012122-67-7

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000050-00-0	FORMALDEHYDE
000050-29-3	DDT
000050-32-8	BENZO[A]PYRENE
000051-28-5	DINITROPHENOL, 2,4-
000053-70-3	DIBENZO[A,H]ANTHRACENE
000055-18-5	NITROSODIETHYLAMINE, N-
000056-23-5	CARBON TETRACHLORIDE
000056-38-2	PARATHION
000056-53-1	DIETHYLSTILBESTROL
000056-55-3	BENZO[A]ANTHRACENE
000057-12-5	CYANIDE
000057-14-7	DIMETHYLHYDRAZINE, 1,1-
000057-24-9	STRYCHNINE
000057-55-6	PROPYLENE GLYCOL
000057-74-9	CHLORDANE
000058-89-9	HEXACHLOROCYCLOHEXANE, GAMMA-
000058-90-2	TETRACHLOROPHENOL, 2,3,4,6-
000059-50-7	CHLORO-M-CRESOL, P-
000059-87-0	NITROFURAZDNE
000060-29-7	ETHYL ETHER
000060-34-4	METHYL HYDRAZINE
000060-51-5	DIMETHOATE
000060-57-1	DIELDRIN
000062-38-4	PHENYLMERCURIC ACETATE
000062-53-3	ANILINE
000062-75-9	NITROSODIMETHYLAMINE, N-
000063-25-2	CARBARYL
000064-18-6	FORMIC ACID
000065-85-0	BENZOIC ACID
000066-56-8	DINITROPHENOL, 2,3-
000067-20-9	NITROFURANTOIN
000067-45-8	FURAZOLIDONE
000067-56-1	METHANOL
000067-64-1	ACETONE
000067-66-3	CHLOROFORM
000067-72-1	HEXACHLOROETHANE
000068-12-2	DIMETHYLFORMAMIDE, N,N-
000070-30-4	HEXACHLOROPHENE
000071-23-8	PROPYL ALCOHOL, N-
000071-36-3	BUTANOL, 1-
000071-43-2	BENZENE
000071-55-6	TRICHLOROETHANE, 1,1,1-
000072-20-8	ENDRIN
000072-43-5	METHOXYCHLOR
000072-54-8	DDD
000072-55-9	DDE
000074-11-3	CHLOROBENZOIC ACID, P-
000074-83-9	BROMOMETHANE
000074-87-3	METHYL CHLORIDE
000074-87-3	CHLOROMETHANE
000074-95-3	METHYLENE BROMIDE
000075-00-3	ETHYL CHLORIDE
000075-01-4	VINYL CHLORIDE
000075-05-8	ACETONITRILE
000075-09-2	METHYLENE CHLORIDE
000075-09-2	DICHLOROMETHANE
000075-15-0	CARBON DISULFIDE
000075-21-8	ETHYLENE OXIDE
000075-25-2	BROMOFORM
000075-27-4	BROMODICHLOROMETHANE
000075-29-6	CHLOROPROPANE, 2-
000075-34-3	DICHLOROETHANE, 1,1-
000075-35-4	DICHLOROETHYLENE, 1,1-
000075-44-5	PHOSGENE
000075-52-5	NITROMETHANE
000075-56-9	PROPYLENE OXIDE
000075-60-5	CACODYLIC ACID
000075-69-4	TRICHLOROFLUOROMETHANE
000075-71-8	DICHLDRODIFLUOROMETHANE
000075-86-5	2-METHYLLACTONITRILE
000075-86-5	ACETONE CYANOHYDRIN
000075-87-6	CHLORAL
000075-99-0	DALAPON
000076-13-1	TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-
000076-44-8	HEPTACHLOR
000077-47-4	HEXACHLOROCYCLOPENTADIENE
000077-73-6	DICYCLOPENTADIENE
000077-78-1	DIMETHYLSULFATE
000078-48-8	MERPHOS OXIDE
000078-59-1	ISOPHORONE
000078-83-1	ISOBUTYL ALCOHOL
000078-86-4	CHLOROBUTANE, 2-
000078-87-5	DICHLOROPROPANE, 1,2-
000078-93-3	METHYL ETHYL KETONE
000078-97-7	LACTONITRILE
000078-99-9	DICHLOROPROPANE, 1,1-
000079-00-5	TRICHLOROETHANE, 1,1,2-
000079-01-6	TRICHLOROETHYLENE
000079-06-1	ACRYLAMIDE
000079-10-7	ACRYLIC ACID
000079-11-8	CHLOROACETIC ACID
000079-20-9	METHYL ACETATE
000079-22-1	METHYL CHLOROCARBONATE
000079-34-5	TETRACHLOROETHANE, 1,1,2,2-
000079-46-9	NITROPROPANE, 2-
000080-05-7	BISPHENOL A
000080-62-6	METHYL METHACRYLATE
000081-81-2	WARFARIN
000082-68-8	PENTACHLORONITROBENZENE
000083-32-9	ACENAPHTHENE
000084-66-2	DIETHYL PHTHALATE
000084-74-2	DIBUTYL PHTHALATE
000085-01-8	PHENANTHRENE
000085-44-9	PHTHALIC ANHYDRIDE
000085-68-7	BUTYL BENZYL PHTHALATE, N-
000086-30-6	NITROSODIPHENYLAMINE, N-
000086-73-7	FLUORENE
000086-74-8	CARBAZDLE
000087-65-0	DICHLOROPHENOL, 2,6-
000087-68-3	HEXACHLOROBUTADIENE
000087-82-1	HEXABROMOBENZENE
000087-84-3	PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5-
000087-86-5	PENTACHLOROPHENOL
000088-06-2	TRICHLOROPHENOL, 2,4,6-
D00088-72-2	NITROTOLUENE, O-
000088-73-3	CHLORONITROBENZENE, O-
000088-74-4	NITROANILINE, 2-
000088-85-7	DINOSEB
000088-99-3	PHTHALIC ACID, O-
000090-43-7	PHENYLPHENOL, 2-
000091-20-3	NAPHTHALENE
000091-22-5	QUINOLINE
000091-66-7	DIETHYLANILINE, N,N-
000091-94-1	DICHLOROBENZIDINE, 3,3'-
000092-52-4	BIPHENYL, 1,1'
000092-87-5	BENZIDINE
000093-65-2	METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2-
000093-71-0	ALLIDOCHLOR
000093-72-1	TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5-
000093-76-5	TRICHLOROPHENOXY ACETIC ACID, 2,4,5-
000094-74-6	METHYL-4-CHLOROPHENOXY ACETIC ACID, 2-
000094-75-7	DICHLOROPHENOXY ACETIC ACID, 2,4-
000094-81-5	METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2-
000094-82-6	2,4-DB
000094-82-6	DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4-
000095-47-6	XYLENE, O-
000095-48-7	CRESOL, O-
000095-48-7	2-METHYLPHENOL
000095-49-8	CHLOROTOLUENE, O-
000095-50-1	DICHLOROBENZENE, 1,2-
000095-51-2	CHLOROANILINE, 2-
000095-53-4	METHYLANILINE, 2-

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000095-54-5	PHENYLENEDIAMINE, O-
000095-55-6	AMINOPHENOL, O-
000095-57-8	CHLOROPHENOL, 2-
000095-65-8	DIMETHYLPHENOL, 3,4-
000095-68-1	DIMETHYLANILINE, 2,4-
000095-69-2	CHLORO-2-METHYLANILINE, 4-
000095-70-5	TOLUENE-2,5-DIAMINE
000095-77-2	DICHLOROPHENOL, 3,4-
000095-80-7	TOLUENE-2,4-DIAMINE
000095-87-4	DIMETHYLPHENOL, 2,5-
000095-94-3	TETRACHLOROBENZENE, 1,2,4,5-
000095-95-4	TRICHLOROPHENOL, 2,4,5-
000096-12-8	DIBROMO-3-CHLOROPROPANE, 1,2
000096-18-4	TRICHLOROPROPANE, 1,2,3-
000096-19-5	TRICHLOROPROPENE, 1,2,3-
000096-33-3	METHYL ACRYLATE
000096-45-7	ETHYLENE THIOUREA
000096-48-0	BUTYROLACTONE, GAMMA-
000097-63-2	ETHYL METHACRYLATE
000098-01-1	FURFURAL
000098-07-7	BENZOTRICHLORIDE
000098-56-6	CHLOROBENZOTRIFLUORIDE, 4-
000098-82-8	CUMENE
000098-83-9	METHYL STYRENE, ALPHA
000098-86-2	ACETOPHENONE
000098-87-3	BENZAL CHLORIDE
000098-95-3	NITROBENZENE
000099-08-1	NITROTOLUENE, M-
0D0099-09-2	NITROANILINE, M-
000099-35-4	TRINITROBENZENE, 1,3,5-
000099-55-8	METHYL-5-NITROANILINE, 2-
000099-59-2	METHOXY-5-NITROANILINE, 2-
000099-65-0	DINITROBENZENE, 1,3-
000099-99-0	NITROTOLUENE, P-
000100-00-5	CHLORONITROBENZENE, P-
000100-01-6	NITROANILINE, P-
000100-21-0	PHTHALIC ACID, P-
000100-21-0	TEREPHTHALIC ACID
000100-25-4	DINITROBENZENE, 1,4-
000100-40-3	VINYL-1-CYCLOHEXENE, 4-
000100-41-4	ETHYL BENZENE
000100-42-5	STYRENE
000100-44-7	BENZYL CHLORIDE
000100-51-6	BENZYL ALCOHOL
000100-52-7	BENZALDEHYDE
000100-54-9	NICOTINONITRILE
000101-14-4	METHYLENE-BIS(2-CHLOROANILINE), 4,4'-
000101-55-3	BROMOPHENYL PHENYL ETHER, 4-
000101-61-1	METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'-
000101-68-8	DIPHENYLMETHANE DIISOCYANATE
000101-68-8	METHYLENEDIPHENYL ISOCYANATE, 4,4-
000101-77-9	METHYLENE-BIS(BENZENEAMINE), 4,4-
000103-33-3	AZOBENZENE
000103-69-5	ETHYLANILINE, N-
000105-60-2	CAPROLACTAM
000105-67-9	DIMETHYLPHENOL, 2,4-
000106-13-8	ETHOXYETHANOL DODECANOATE, 2-
000106-37-6	DIBROMOBENZENE, 1,4-
000106-42-3	XYLENE, P-
000106-43-4	CHLOROTOLUENE, P-
000106-44-5	4-METHYLPHENOL
000106-44-5	CRESOL, P-
000106-46-7	DICHLOROBENZENE, 1,4-
000106-47-8	CHLOROANILINE, 4-
000106-48-9	CHLOROPHENOL, 4-
000106-49-0	TOLUIDINE, P-
000106-50-3	PHENYLENEDIAMINE, P-
000106-74-1	ETHOXYETHANOL ACRYLATE, 2-
000106-89-8	EPICHLOROHYDRIN
000106-93-4	DIBROMOETHANE, 1,2-
000106-99-0	BUTADIENE, 1,3-
000107-02-8	ACROLEIN
000107-05-1	ALLYL CHLORIDE
000107-12-0	PROPIONITRILE
000107-13-1	ACRYLONITRILE
000107-15-3	ETHYLENE DIAMINE
000107-16-4	FORMALDEHYDE CYANOHYDRIN
000107-18-6	ALLYL ALCOHOL
000107-20-0	CHLOROACETALDEHYDE
000107-21-1	ETHYLENE GLYCOL
000107-30-2	CHLOROMETHYL METHYL ETHER
000107-98-2	PROPYLENE GLYCOL MONOMETHYL ETHER
000108-05-4	VINYL ACETATE
000108-10-1	METHYL ISOBUTYL KETONE
000108-31-6	MALEIC ANHYDRIDE
000108-38-3	XYLENE, M-
000108-39-4	3-METHYLPHENOL
000108-39-4	CRESOL, M-
000108-41-8	CHLOROTOLUENE, M-
000108-42-9	CHLOROANILINE, 3-
000108-43-0	CHLOROPHENOL, 3-
000108-44-1	TOLUIDINE, M-
000108-45-2	PHENYLENEDIAMINE, M-
000108-60-1	BIS(2-CHLORO-1-METHYLETHYL) ETHER
000108-87-2	METHYLCYCLOHEXANE
000108-88-3	TOLUENE
000108-90-7	CHLOROBENZENE
000108-91-8	CYCLOHEXYLAMINE
000108-93-0	CYCLOHEXANOL
000108-95-2	PHENOL
000108-98-5	THIOPHENOL
000108-98-5	BENZENETHIOL
000109-66-0	PENTANE, N-
000109-69-3	CHLOROBUTANE, 1-
000109-77-3	MALONONITRILE
000109-78-4	ETHYLENE CYANOHYDRIN
000109-86-4	METHOXYETHANOL, 2-
000110-00-9	FURAN
000110-49-6	METHOXYETHANOL ACETATE, 2-
000110-54-3	HEXANE, N-
000110-61-2	SUCCINONITRILE
000110-80-5	ETHOXYETHANOL, 2-
000110-86-1	PYRIDINE
000111-15-9	ETHOXYETHANOL ACETATE, 2-
000111-44-4	BIS(2-CHLOROETHYL) ETHER
000111-69-3	ADIPONITRILE
000111-76-2	ETHYLENE GLYCOL MONOBUTYL ETHER
000111-90-0	DIETHYLENE GLYCOL MONOETHYL ETHER
000112-34-5	DIETHYLENE GLYCOL MONOBUTYL ETHER
000115-29-7	ENDOSULFAN
000116-06-3	ALDICARB
000117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE
000117-81-7	DEHP
000117-84-0	DI-N-OCTYL PHTHALATE
000118-74-1	HEXACHLOROBENZENE
00011B-75-2	CHLORANIL
000118-96-7	TRINITROTOLUENE, 2,4,6-
000119-90-4	DIMETHOXYBENZIDINE, 3,3'-
000119-93-7	DIMETHYLBENZIDINE, 3,3'-
000120-12-7	ANTHRACENE
000120-36-5	DICHLORPROP
000120-61-6	DIMETHYLTEREPHTHALATE
000120-82-1	TRICHLOROBENZENE, 1,2,4-
000120-83-2	DICHLOROPHENOL, 2,4-
000121-14-2	DINITROTOLUENE, 2,4
000121-69-7	DIMETHYLANILINE, N,N-
000121-73-3	CHLORONITROBENZENE, M-
000121-75-5	MALATHION
000121-82-4	CYCLONITE
000121-82-4	RDX
000121-91-5	PHTHALIC ACID, M-
000122-34-9	SIMAZINE
000122-39-4	DIPHENYLAMINE, N,N-
000122-66-7	DIPHENYLHYDRAZINE, 1,2-

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000123-30-8	AMINOPHENOL, P-
000123-31-9	HYDROQUINONE
000123-33-1	MALEIC HYDRAZIDE
000123-63-7	PARALDEHYDE
000123-73-9	CROTONALDEHYDE
000123-91-1	DIOXANE, 1,4-
000124-09-4	HEXAMETHYLENE DIAMINE
000124-48-1	DIBROMOCHLOROMETHANE
000126-98-7	METHACRYLONITRILE
000126-99-8	CHLORO-1,3-BUTADIENE, 2-
000126-99-8	CHLOROPRENE
000127-18-4	TETRACHLOROETHYLENE
000129-00-0	PYRENE
000130-15-4	NAPHTHOQUINONE, 1,4-
000131-11-3	DIMETHYLPHTHALATE
000132-64-9	DIBENZOFURAN
000133-06-2	CAPTAN
000133-07-3	FOLPET
000137-26-8	THIRAM
000139-40-2	PROPAZINE
000140-57-8	ARAMITE
000140-88-5	ETHYL ACRYLATE
000141-78-6	ETHYL ACETATE
000142-28-9	DICHLOROPROPANE, 1,3-
000142-82-5	HEPTANE, N-
000143-33-9	SODIUM CYANIDE
000145-73-3	ENDOTHALL
000148-18-5	SODIUM DIETHYLDITHIOCARBAMATE
000150-50-5	MERPHOS
000151-50-8	POTASSIUM CYANIDE
000152-16-9	OCTAMETHYLPYROPHOSPHORAMIDE
000156-10-5	NITROSODIPHENYLAMINE, P-
000156-59-2	DICHLOROETHYLENE, 1,2-C-
000156-60-5	DICHLOROETHYLENE, 1,2-T-
000193-39-5	INDENO[1,2,3-CD]PYRENE
000206-44-0	FLUORANTHENE
000207-08-9	BENZO[K]FLUORANTHENE
000208-96-8	ACENAPTHYLENE
000218-01-9	CHRYSENE
000298-00-0	METHYL PARATHION
000298-02-2	PHORATE
000298-04-4	DISULFOTON
000299-84-3	RONNEL
000302-01-2	HYDRAZINE
000304-61-0	ANTIMONY POTASSIUM TARTRATE
000309-00-2	ALDRIN
000311-45-5	DIETHYL-P-NITROPHENYL PHOSPHATE
000319-84-6	HEXACHLOROCYCLOHEXANE, ALPHA-
000319-85-7	HEXACHLOROCYCLOHEXANE, BETA-
000319-86-8	HEXACHLOROCYCLOHEXANE, DELTA-
000329-71-5	DINITROPHENOL, 2,5-
000330-55-2	LINURON
000333-41-5	DIAZINON
000460-19-5	CYANOGEN
000479-45-8	TRINITROPHENYLMETHYLNITRAMINE
000496-72-0	TOLUENEDIAMINE, 3,4-
000504-24-5	AMINOPYRIDINE, 4-
000506-61-6	POTASSIUM SILVER CYANIDE
000506-64-9	SILVER CYANIDE
000506-68-3	CYANOGEN BROMIDE
000506-77-4	CHLORINE CYANIDE
000507-20-0	BUTYLCHLORIDE, T-
000510-15-6	CHLOROBENZILATE
000512-56-1	TRIMETHYL PHOSPHATE
000526-75-0	DIMETHYLPHENOL, 2,3-
000528-29-0	DINITROBENZENE, 1,2-
000531-82-8	FURIUM
000532-28-5	BENZALDEHYDE CYANOHYDRIN
000534-52-1	DINITRO-O-CRESOL, 4,6-
000540-59-0	DICHLOROETHYLENE, 1,2- (MIXED ISOMERS)
000540-73-8	DIMETHYLHYDRAZINE, 1,2-
000541-73-1	DICHLOROBENZENE, 1,3-
000542-62-1	BARIUM CYANIDE
000542-75-6	TELONE II
000542-75-6	DICHLOROPROPENE, 1,3-
000542-88-1	BIS(CHLOROMETHYL) ETHER
000542-92-7	CYCLOPENTADIENE
000544-92-3	COPPER CYANIDE
000557-19-7	NICKEL CYANIDE
000557-21-1	ZINC CYANIDE
000563-68-8	THALLIUM (I) ACETATE
000573-56-8	DINITROPHENOL, 2,6-
000576-24-9	DICHLOROPHENOL, 2,3-
000576-26-1	DIMETHYLPHENOL, 2,6-
000583-78-8	DICHLOROPHENOL, 2,5-
000586-11-8	DINITROPHENOL, 3,5-
000591-27-5	AMINOPHENOL, M-
000591-35-5	DICHLOROPHENOL, 3,5-
000591-78-6	HEXANONE, 2-
000592-01-8	CALCIUM CYANIDE
000593-60-2	VINYL BROMIDE
000593-60-2	BROMOETHENE
000594-20-7	DICHLOROPROPANE, 2,2-
000598-31-2	BROMOACETONE
000598-77-6	TRICHLOROPROPANE, 1,1,2-
000598-94-7	DIMETHYLUREA, N,N-
000602-01-7	DINITROTOLUENE, 2,3-
000606-20-2	DINITROTOLUENE, 2,6-
000608-73-1	HEXACHLOROCYCLOHEXANE-TECHNICAL
000608-93-5	PENTACHLOROBENZENE
000609-19-8	TRICHLOROPHENOL, 3,4,5-
000609-93-8	DINITRO-P-CRESOL, 2,6-
000610-39-9	DINITROTOLUENE, 3,4-
000611-14-3	ETHYLTOLUENE, O-
000615-54-3	TRIBROMOBENZENE, 1,2,4-
000617-84-5	DIETHYLFORMAMIDE
000619-15-8	DINITROTOLUENE, 2,5-
000620-14-4	ETHYLTOLUENE, M-
000621-64-7	NITROSO-DI-N-PROPYLAMINE, N-
000622-96-8	ETHYLTOLUENE, P-
000624-83-9	METHYL ISOCYANATE
000630-05-0	CARBON MONOXIDE
000630-10-4	SELENOUREA
000630-20-6	TETRACHLOROETHANE, 1,1,1,2-
000634-93-5	TRICHLOROANILINE, 2,4,6-
000636-21-5	METHYLANILINE HYDROCHLORIDE, 2-
000684-93-5	NITROSO-N-METHYLUREA, N-
000695-77-2	TETRACHLOROCYCLOPENTADIENE
000759-73-9	NITROSO-N-ETHYLUREA, N-
000759-94-4	EPTC
000764-41-0	DICHLORO-2-BUTENE, 1,4-
000765-34-4	GLYCIDALDEHYDE
000823-40-5	TOLUENE-2,6-DIAMINE
000834-12-8	AMETRYN
000924-16-3	NITROSO-DI-N-BUTYLAMINE, N-
000930-55-2	NITROSOPYRROLIDINE, N-
000933-75-5	TRICHLOROPHENOL, 2,3,6-
000933-78-8	TRICHLOROPHENOL, 2,3,5-
000934-80-5	ETHYL-O-XYLENE, 4-
000935-95-5	TETRACHLOROPHENOL, 2,3,5,6-
000950-10-7	MEPHOSFOLAN
000961-11-5	TETRACHLOROVINPHOS
000961-11-5	STIROPHOS
001024-57-3	HEPTACHLOR EPOXIDE
001114-71-2	PEBULATE
001116-54-7	NITROSODIETHANOLAMINE, N-
001134-23-2	CYCLOATE
001163-19-5	DECABROMODIPHENYL ETHER
001198-27-2	AMINO-2-NAPHTOL HYDROCHLORIDE, 1-
001309-64-4	ANTIMONY TRIOXIDE
001314-32-5	THALLIC OXIDE
001314-60-9	ANTIMONY PENTOXIDE
001314-62-1	VANADIUM PENTOXIDE
001314-84-7	ZINC PHOSPHIDE
001330-20-7	XYLENE, MIXTURE
001332-21-4	ASBESTOS
001332-81-6	ANTIMONY TETROXIDE

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001336-36-3	POLYCHLORINATED BIPHENYLS
001338-23-4	METHYL ETHYL KETONE PEROXIDE
001563-66-2	CARBOFURAN
001569-02-4	PROPYLENE GLYCOL MONOETHYL ETHER
001582-09-8	TRIFLURALIN
001600-37-9	PENTACHLOROPROPENE, 1,1,2,3,3,-
001615-80-1	DIETHYLHYDRAZINE, 1,2-
001689-84-5	001689-99-2BROMOXYNIL OCTANOATE
001746-01-6	TCDD, 2,3,7,8-
001861-32-1	DACTHAL
001861-40-1	BENEFIN
001897-45-6	CHLOROTHALONIL
001912-24-9	ATRAZINE
001918-00-9	DICAMBA
001918-16-7	PROPACHLOR
001929-77-7	VERNOLATE
001929-77-7	VERNAM
001937-37-7	DIRECT BLACK 38
002008-41-5	BUTYLATE
002014-83-7	TRICHLOROTOLUENE, ALPHA,2,6-
002077-46-5	TRICHLOROTOLUENE, 2,3,6-
002104-96-3	BROMOPHOS
002212-67-1	MOLINATE
002303-16-4	DIALLATE
002303-17-5	TRIALLATE
002370-63-0	ETHOXYETHYL METHACRYLATE, 2-
002385-85-5	MIREX
002425-06-1	CAPTAFOL
002429-74-5	NIAGARA BLUE 4B
002491-38-5	BUSAN 90
002602-46-2	DIRECT BLUE 6
002610-05-1	DIRECT SKY BLUE 6B
002687-25-4	TOLUENEDIAMINE, 2,3-
002834-92-6	AMINO-2-NAPHTHOL, 1-
002921-88-2	CHLORPYRIFOS
003165-93-3	CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4-
003175-23-3	TRICHLOROPROPANE, 1,2,2-
003380-34-5	TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'-
003383-96-8	TEMEPHOS
003689-24-5	TETRAETHYL DITHIOPYROPHOSPHATE
004399-55-7	DIRECT LIGHTFAST BLUE
004549-40-0	NITROSOMETHYLVINYLAMINE, N
004901-51-3	TETRACHLOROPHENOL, 2,3,4,5-
005216-25-1	TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA-
005598-13-0	CHLORPYRIFOS METHYL
006108-10-7	HEXACHLOROCYCLOHEXANE, EPSILON-
006533-73-9	THALLIUM (I) CARBONATE
007429-90-5	ALUMINUM
007439-89-6	IRON
007439-92-1	LEAD
007439-96-5	MANGANESE
007439-97-6	MERCURY, ELEMENTAL
007439-98-7	MOLYBDENUM
007440-22-4	SILVER
007440-24-6	STRONTIUM, STABLE
007440-36-0	ANTIMONY, METALLIC
007440-38-2	ARSENIC, INORGANIC
007440-39-3	BARIUM
007440-41-7	BERYLLIUM
007440-42-8	BORON, ELEMENTAL
007440-43-9	CADMIUM
007440-50-8	COPPER
007440-62-2	VANADIUM
007440-66-6	ZINC (METALLIC)
007446-09-5	SULFUR DIOXIDE
007446-18-6	THALLIUM (I) SULFATE
007446-34-6	SELENIUM SULFIDE
007487-94-7	MERCURIC CHLORIDE
007637-07-2	BORON TRIFLUORIDE
007664-41-7	AMMONIA
007664-93-9	SULFURIC ACID
007723-14-0	PHOSPHORUS, WHITE
007782-41-4	FLUORINE / (SOLUBLE FLUORIDE)
007782-49-2	SELENIUM
007783-00-8	SELENIOUS ACID
007783-06-4	HYDROGEN SULFIDE
007789-89-1	TRICHLOROPROPANE, 1,1,1-
007791-12-0	THALLIUM (I) CHLORIDE
007803-51-2	PHOSPHINE
008001-35-2	TOXAPHENE
008001-58-9	CREOSOTE, COAL TAR
008007-45-2	COKE OVEN EMISSIONS
008018-01-7	MANCOZEB
010028-15-6	OZONE
010034-93-2	HYDRAZINE SULFATE
010102-43-9	NITRIC OXIDE
010102-44-0	NITROGEN DIOXIDE
010102-45-1	THALLIUM (I) NITRATE
010436-39-2	TETRACHLOROPROPENE, 1,1,2,3-
010595-95-6	NITROSOMETHYLETHYLAMINE, N-
010599-90-3	MONOCHLORAMINE
011097-69-1	AROCLOR 1254
012035-72-2	NICKEL SUBSULFIDE
012039-52-0	THALLIUM SELENITE
012122-67-7	ZINEB
012427-38-2	MANEB
012672-29-6	AROCLOR 1248
013071-79-9	TERBUFOS
013194-48-4	ETHOPROP
013196-18-4	THIOFANOX
013718-26-8	SODIUM METAVANADATE
014797-65-0	NITRITE
015950-66-0	TRICHLOROPHENOL, 2,3,4-
015972-60-8	ALACHLOR
016065-83-1	CHROMIUM(III)
016071-86-6	DIRECT BROWN 95
016752-77-5	METHOMYL
018540-29-9	CHROMIUM(VI)
020816-12-0	OSMIUM TETROXIDE
020859-73-8	ALUMINUM PHOSPHIDE
021087-64-9	METRIBUZIN
021232-47-3	TETRACHLOROAZOXYBENZENE
021436-96-4	DIMETHYLANILINE HYDROCHLORIDE, 2,4-
021564-17-0	THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(
021725-46-2	CYANAZINE
022967-92-6	METHYL MERCURY
023950-58-5	PRONAMIDE
025013-15-4	METHYL STYRENE (MIXED ISOMERS)
025329-35-5	PENTACHLOROCYCLOPENTADIENE
026399-36-0	PROFLURALIN
030560-19-1	ACEPHATE
031512-74-0	BUSAN 77
032534-81-9	PENTABROMODIPHENYL ETHER
032536-52-0	OCTABROMODIPHENYL ETHER
033663-50-2	TRICHLOROANILINE HYDROCHLORIDE, 2,4,6-
033820-53-0	ISOPROPALIN

036907-42-3	VANADIUM SULFATE
039638-32-9	BIS(2-CHLOROISOPROPYL) ETHER
040487-42-1	PENDIMETHALIN
041851-50-7	CHLOROCYCLOPENTADIENE
051218-45-2	METOLACHLOR
059756-60-4	FLURIDONE
060238-56-4	CHLORTHIOPHOS
068554-00-7	ETHOXYETHANOL PHOSPHATE, 2-
071753-42-9	TETRACHLOROHYDRAZOBENZENE
077323-84-3	TRICHLOROCYCLOPENTADIENE
VARIOUS	BROMINATED DIBENZOFURANS
NO CASRN	BROMINATED DIBENZO-P-DIOXINS
NO CASRN	BROMOCHLOROETHANES
NO CASRN	DICHLOROBUTENES
NO CASRN	LEAD ALKYLS
NO CASRN	NICKEL, REFINERY DUST
VARIOUS	NICKEL, SOLUBLE SALTS
NO CASRN	NITROGEN OXIDES
NO CASRN	NITROPHENOLS
NO CASRN	PARTICULATE MATTER
NO CASRN	PHOTOCHEMICAL OXIDANTS
NO CASRN	POLYBROMINATED BIPHENYLS
NO CASRN	SULFUR OXIDES
NO CASRN	THALLIUM, INSOLUBLE SALTS
NO CASRN	TIN AND COMPOUNDS
NO CASRN	TRIMETHYLBENZENES
NO CASRN	TRINITROPHENOLS

APPENDIX A-IV

APPENDIX A-IV

IV. EFFECT LEVEL DEFINITIONS

Adverse effect. A biochemical change, functional impairment, or pathologic lesion that either singly or in combination adversely affects the performance of the whole organism, or reduces an organism's ability to respond to an additional environmental challenge.

Frank-effect-level (FEL). The exposure level at which there are statistically or biologically significant increases in frequency or severity of severe effects between the exposed population and its appropriate control group. These severe effects produce an unmistakable adverse health effect (such as severe convulsions or death).

Lowest-observed-adverse-effect level (LOAEL). The lowest exposure level at which there are statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control group.

Lowest-observed-effect level (LOEL). The lowest exposure level at which there are statistically or biologically significant increases in frequency or severity of any effects between the exposed population and its appropriate control group. The effects that are seen at this level may or may not be considered as adverse.

No-observed-adverse-effect level (NOAEL). An exposure level at which there are no statistically or biologically significant increases in the frequency or severity of adverse effects between the exposed population and its appropriate control; some effects may be produced at this level, but they are not considered to be adverse.

No-observed-effect level (NOEL). An exposure level at which there are no statistically or biologically significant increases in the frequency or severity of any effect between the exposed population and its appropriate control.

Adapted from: U.S. EPA. 1991. Integrated Risk Information System (IRIS). Online. National Center for Environmental Assessment, Cincinnati, OH.

APPENDIX A-V

APPENDIX A-V

V. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

The Clean Air Act requires that National Ambient Air Quality Standards (NAAQS) be set and ultimately met for any air pollutant which, if present in air, may reasonably be anticipated to endanger public health or welfare and whose presence in the air results from numerous or diverse mobile and/or stationary sources. Since the primary NAAQS and the inhalation RfC serve essentially the same function, and the primary NAAQS have extensive data bases rigorously reviewed, the primary NAAQS with annual averaging times should be used *in lieu* of an inhalation RfC, except for lead. In deriving a risk assessment number for lead (Pb), the Integrated Exposure Uptake Biokinetics (IEUBK) model should be used instead of the RfC. Primary standards are designed to protect public health and secondary standards are designed to protect public welfare. Each primary NAAQS has either one or two averaging times depending on the health effects of the chemical. To date, six NAAQS have been established: Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO_2), Particulate Matter, less than 10 µm in size, (PM_{10}), Ozone (O_3) and Sulfur Dioxide (SO_2). A table of the most recent NAAQS is provided as Table A-V-1.

The process of establishing and revising the NAAQS is detailed by Padgett and Richmond (Journal of the Air Pollution Control Association, 33:13-16, 1983). The primary NAAQS are solely health based and designed to protect the most sensitive group of individuals (but not necessarily the most sensitive members of that group) against adverse health effects. Thus, by definition, the NAAQS primary standards define allowable pollutant concentrations which can be present in the atmosphere without causing adverse effects, and essentially serve the same function as an inhalation RfC in a risk assessment/risk management decision, except for lead. The data bases supporting each of the NAAQS are extensive. More importantly, the NAAQS are set by the USEPA Administrator as mandated by Congress after numerous reviews and a public comment process.

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TABLE A-V-1

NATIONAL AMBIENT AIR QUALITY STANDARDS[a]
(as of December 2, 1991)

Pollutant	Primary Standards[b]	Averaging Time	Secondary Standards[b]
Carbon monoxide (CO)	9 ppm (10 mg/m^3) 35 ppm (40 mg/m^3)	8 hour[c] 1 hour[c]	None
Lead (Pb) (and Lead compounds	1.5 µg/m^3	Quarterly	Same as primary
Nitrogen dioxide (NO_2) (Nitrogen oxide) (Nitric oxide)	0.053 ppm (100 µg/m^3)	Annual	Same as primary
Particulate Matter (PM_{10})	50 µg/m^3 150 µg/m^3	Annual[d] 24 hours[e]	Same as primary
Ozone (O_3)	0.12 ppm (235 µg/m^3)	1 hour[f]	Same as primary
Sulfur dioxide (SO_2) (Sulfur oxide)	0.03 ppm (80 µg/m^3)	Annual	---
	0.14 ppm (365 µg/m^3)	24 hours[c]	---
	---	3 hours[c]	0.5 ppm (1300 µg/m^3)

[a]Source: U.S. EPA 1991. Subchapter C - Air Programs. Part 50 -National Primary and Secondary Ambient Air Quality Standards. Code of Federal Regulations 50: 693-697. Revised 7/1/91.

[b]Primary standards are designed to protect public health; Secondary standards are designed to protect public welfare.

[c]Not to be exceeded more than once per year.

[d]The standard is attained when the expected annual arithmetic mean concentration is less than or equal to 50 µg/m^3.

[e]The standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1.

[f]The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is equal to or less than 1.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE

METHYL ACRYLATE 000096-33-3

010498

CHRONIC [RfD] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

METHYL CHLOROCARBONATE 000079-22-1

CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (05/01/89).
GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

METHYL ETHYL KETONE 000078-93-3

NOAEL 1711 MG/KG/DAY		RAT						
	ORAL: DRINKING WATER	MULTI-GENERATION	FETUS	DECREASED BIRTH WEIGHT		2E+0 1000	IRIS	010853

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS MODIFIED TO ESTIMATE THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: MULTI-GENERATION DEVELOPMENTAL STUDY PERFORMED WHT THE SURROGATE 2-BUTANOL, A METABOLITE OF METHYL ETHYL KETONE.

NOAEL 1010 PPM		MOUSE						
	INHALATION: INTERMITTENT	10 DAYS	FETUS	DECREASED BIRTH WEIGHT	1E+0 3000		IRIS	010845

SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].

METHYL ETHYL KETONE PEROXIDE 001338-23-4

CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP. 010948

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL ISOBUTYL KETONE		**000108-10-1**							
NOAEL 250 MG/(KG-DAY)		RAT							
	ORAL: GAVAGE	13 WEEKS	WHOLE BODY	LETHARGY		8E-1		8E-2	010949
			LIVER	INCREASED RELATIVE WEIGHT IN FEMALES		300		3000	
			LIVER	INCREASED ABSOLUTE WEIGHT IN FEMALES					
			KIDNEY	INCREASED RELATIVE WEIGHT IN FEMALES					
			KIDNEY	INCREASED ABSOLUTE WEIGHT IN FEMALES					
			KIDNEY	INCREASED URINARY PROTEIN LEVELS IN FEMALES					

SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (03/01/91). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.

METHYL ISOCYANATE		**000624-83-9**							
							IRIS		010013

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (12/18/90) BY THE RfD/RfC WORK GROUP.

METHYLMERCURY		**022967-92-6**							
CRITICAL ORAL DOSE		HUMAN							
0.001 MG/KG/DAY			DEVELOPMENTAL NEUROLOGICAL ABNORMALITIES IN HUMAN INFANTS			IE-4 10	IRIS		010970

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: A BENCHMARK DOSE APPROACH WAS USED RATHER THAN A NOAEL/LOAEL TO DERIVE THE RfD.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL METHACRYLATE			**000080-62-6**							
NOEL 7.5 MG/KG/DAY		RAT								
	ORAL: WATER		24 MONTHS	KIDNEY	INCREASED RELATIVE WEIGHT		8E-2 100		8E-2 100	010014
METHYL PARATHION			**000298-00-0**							
									IRIS	010015
NOAEL 2.5 PPM		RAT								
	ORAL: DIET		90 DAYS	ERYTHROCYTES	CHOLINESTERASE INHIBITION		2E-3 100			010846
METHYL STYRENE (MIXED ISOMERS)			**025013-15-4**							
										010500
CHRONIC [RfD] COMMENT: UNDER REVIEW. ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
METHYL STYRENE, ALPHA			**000098-83-9**							
										010499
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2-			**000094-81-5**							
NOEL 12 MG/KG/DAY		RAT								
	ORAL: DIET		13 WEEKS	LIVER	EFFECTS		1E-1		IRIS	010008
				KIDNEY	EFFECTS		100			
		DOG								
	ORAL: DIET		13 WEEKS	LIVER	EFFECTS					
				KIDNEY	EFFECTS					

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2-		**000093-65-2**							
NOEL 3 MG/KG/DAY		RAT							
	ORAL: DIET	90 DAYS	KIDNEY	ALTERED WEIGHT		1E-2		IRIS	010009
						300			
METHYL-4-CHLOROPHENOXYACETIC ACID, 2-		**000094-74-6**							
NOEL 0.15 MG/KG/DAY		DOG							
	ORAL: DIET	52 WEEKS	KIDNEY	EFFECTS		5E-4		IRIS	010007
			LIVER	EFFECTS		300			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
METHYLCYCLOHEXANE		**000108-87-2**							
NOAEL 287 MG/CU M		RAT							
	INHALATION:	1 YEAR	KIDNEY	MINERALIZATION	3E+0		3E+0		010431
	INTERMITTENT		KIDNEY	PAPILLARY HYPERPLASIA	100		100		
METHYLENE BROMIDE		**000074-95-3**							010501
GENERAL COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYLENE CHLORIDE (DICHLOROMETHANE) 000075-09-2									
NOAEL 5.85 MG/KG/DAY	ORAL: DRINKING WATER	RAT 24 MONTHS	LIVER	TOXICITY		6E-2 100		IRIS	005553
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
NOAEL 694.8 MG/CU M	INHALATION: INTERMITTENT	RAT 2 YEARS	LIVER	TOXICITY	3E+0 100		3E+0 100		005552
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4									
LOAEL 7.3 MG/KG/DAY	ORAL	DOG 9 YEARS	LIVER	EFFECTS		7E-4		7E-4	010413
			BLADDER	EFFECTS		10000		10000	
									010933
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE 02/10/93) BY THE RfD/RfC WORK GROUP.									
METHYLENEDIPHENYL ISOCYANATE, 4,4- (DIPHENYLMETHANE DIISOCYANATE) 000101-68-8									
NOAEL 0.2 MG/CU M	INHALATION: INTERMITTENT	RAT 24 MONTHS	NASAL CAVITY	LESIONS	2E-5 300		IRIS		010449
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC ON IRIS WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METOLACHLOR		**051218-45-2**							
NOAEL 300 PPM		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		1.5E-1 100		1.5E-1 100	010950
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUCHRONIC ORAL [RfD].									
METRIBUZIN		**021087-64-9**							
NOAEL 100 PPM		DOG							
	ORAL: DIET	2 YEARS	LIVER	EFFECTS				IRIS	010928
			KIDNEY	EFFECTS					
			WHOLE BODY	MORTALITY					
			WHOLE BODY	DECREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: THE SUBCHRONIC ORAL [RfD] WAS REMOVED BECAUSE THE CHRONIC ORAL RfD UPON WHICH IT WAS BASED IS UNDER REVIEW BY THE RfD/RfC WORK GROUP.									
CHRONIC RfD COMMENT: THE CHRONIC ORAL RfD, WHILE STILL ON IRIS, IS BEING RECONSIDERED BY THE RfD/RfC WORK GROUP.									
MIREX		**002385-85-5**							
NOAEL 0.07 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	CYTOMEGALY		2E-4 300		IRIS	010841
			LIVER	FATTY METAMORPHOSIS					
			LIVER	ANGIECTASIS					
			THYROID	CYSTIC FOLLICLES					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
MOLINATE				**002212-67-1**						
NOEL 0.2 MG/KG/DAY		RAT								
	ORAL: GAVAGE			REPRODUCTIVE SYSTEM	TOXICITY		2E-3 100		IRIS	010017
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
CHRONIC [RfD] COMMENT: BASED ON A REPRODUCTION STUDY.										
MOLYBDENUM				**007439-98-7**						
LOAEL 0.14 MG/KG/DAY		HUMAN								
	ORAL: WATER, DIET			URINE	INCREASED URIC ACID		5E-3		IRIS	010489
				JOINTS	PAIN, SWELLING		30			
				BLOOD	DECREASED COPPER LEVELS					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RFD].										
MONOCHLORAMINE				**010599-90-3**						
NOAEL 9.5 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		2 YEARS	WHOLE BODY	WEIGHT CHANGES		1E-1		IRIS	010517
				LIVER	WEIGHT CHANGES		100			
				KIDNEY	WEIGHT CHANGES					
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
NAPHTHALENE				**000091-20-3**						
CHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
NAPHTHOQUINONE, 1,4-				**000130-15-4**						
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010020
NICKEL CYANIDE				**000557-19-7**						
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/20/93) BY THE RfD/RfC WORK GROUP.										010953

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NICKEL, SOLUBLE SALTS		**VARIOUS**								
NOAEL 100 PPM		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT		2E-2		IRIS	005579
				ORGANS, MAJOR	DECREASED WEIGHT		300			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS DERIVED FROM NICKEL MOIETY OF ADMINISTERED NICKEL CHLORIDE.

NICOTINONITRILE **000100-54-9**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005584

NITRIC OXIDE **010102-43-9**

CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS. 010451
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD HAS BEEN PERMANENTLY WITHDRAWN (09/01/94) FROM IRIS.

NITRITE **014797-65-0**

NOEL 10 PPM		HUMAN								
	ORAL: WATER			BLOOD	METHEMOGLOBINEMIA		1E-1		IRIS	010021
							10			

SUBCHRONIC [RfD] COMMENT: THIS VALUE IS BASED ON NITRATE (NITROGEN) DATA FROM THE MOST SENSITIVE HUMAN POPULATION (INFANTS). THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: THIS VALUE IS BASED ON NITRATE (NITROGEN) DATA FROM THE MOST SENSITIVE HUMAN POPULATION (INFANTS).

NITROANILINE, 2- **000088-74-4**

010936

CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RFD] IS CONSIDERED NOT VERIFIABLE (06/23/92) BY THE RFD/RFC WORK GROUP.

LOAEL 9.8 MG/CU M		RAT								
	INHALATION: INTERMITTENT		4 WEEKS	BLOOD	HEMATOLOGICAL EFFECTS	2E-3 1000		2E-4 10000		010935

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NITROANILINE, M-		**000099-09-2**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010400
NITROANILINE, P-		**000100-01-6**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010024
NITROBENZENE		**00009B-95-3**								
LOAEL 25 MG/CU M		MOUSE								
	INHALATION:	90 DAYS		BLOOD	HEMATOLOGICAL EFFECTS		5E-3		IRIS	005589
	INTERMITTENT			ADRENAL	LESIONS		1000			
				KIDNEY	LESIONS					
				LIVER	LESIONS					
		RAT								
	INHALATION:	90 DAYS		BLOOD	HEMATOLOGICAL EFFECTS					
	INTERMITTENT			ADRENAL	LESIONS					
				KIDNEY	LESIONS					
				LIVER	LESIONS					
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.										
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS SUBCHRONIC AND CHRONICTOXICITY (OTHER THAN CARCINOGENICITY)										
CHRONIC [RfD] COMMENT: THE ORAL RFD, WHILE STILL AVAILABLE ON IRIS, IS BEING RECONSIDERED BY THE RFD WORKGROUP. BASED ON ROUTE TO ROUTE EXTRAPOLATION.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
NITROFURANTOIN		**000067-20-9**								
NOAEL 300 PPM		MOUSE								
	ORAL: DIET	13 WEEKS		TESTIS	DAMAGE		7E-1		7E-2	005593
							100		1000	

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NITROGEN DIOXIDE		**010102-44-0**							
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD HAS BEEN PERMANENTLY WITHDRAWN (09/01/94) FROM IRIS.									010402
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010912
NITROGEN OXIDES									
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010170
NITROMETHANE		**000075-52-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010026
NITROPHENOLS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005594
NITROPROPANE, 2-		**000079-46-9**							
LOAEL 78 MG/CU M		RAT							
	INHALATION: INTERMITTENT	22 MONTHS	LIVER	LESIONS	2E-2 1000		IRIS		010374
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									
NITROSODIPHENYLAMINE, P-		**000156-10-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010027
NITROTOLUENE, M-		**000099-08-1**							
LOAEL 200 MG/KG/DAY		RAT							
	ORAL: GAVAGE	6 MONTHS	SPLEEN	LESIONS		1E-1 1000		1E-2 10000	010029
SUBCHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.									
CHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
NITROTOLUENE, O-			**000088-72-2**							
LOAEL 200 MG/KG/DAY	ORAL: GAVAGE	RAT	6 MONTHS	SPLEEN	LESIONS		1E-1 1000		1E-2 10000	010028
NITROTOLUENE, P-			**000099-99-0**							
LOAEL 200 MG/KG/DAY	ORAL: GAVAGE	RAT	6 MONTHS	SPLEEN	LESIONS		1E-1 1000		1E-2 10000	010030
SUBCHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.										
CHRONIC [RfD] COMMENT: BASED ON DATA OBTAINED WITH O-NITROTOLUENE.										
OCTABROMODIPHENYL ETHER			**032536-52-0**							
NOAEL 2.5 MG/KG/DAY	ORAL: GAVAGE	RAT	90 DAYS	LIVER	HISTOLOGICAL CHANGES		3E-2 100		IRIS	010032
OCTAMETHYLPYROPHOSPHORAMIDE			**000152-16-9**							
NOAEL 0.02 MG/KG/DAY	ORAL	HUMAN	AT LEAST 30 DAYS	BLOOD	DECREASED CHOLINESTERASE ACTIVITY		2E-3 10		2E-3 10	010031
OSMIUM TETROXIDE			**020816-12-0**							
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP.										010954
OZONE*			**010028-15-6**							
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.										010171
PARALDEHYDE			**000123-63-7**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.										010033

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PARATHION		**000056-38-2**							
NOAEL 0.064 MG/KG/DAY		HUMAN							
	ORAL		CHOLINESTERASE	DECREASED CHOLINESTERASE ACTIVITY		6E-3 10		6E-3 10	005598
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PARTICULATE MATTER									
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010034
PEBULATE		**001114-71-2**							
NOEL 5 MG/KG/DAY		RAT							
	ORAL: DIET	SUBCHRONIC	BLOOD	INCREASED CLOTTING TIME		5E-2 100		5E-2 100	010036
PENDIMETHALIN		**040487-42-1**							
NOEL 12.5 MG/KG/DAY		DOG							
	ORAL: CAPSULE	2 YEARS	LIVER	EFFECTS		4E-2 300		IRIS	010037
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
PENTABROMODIPHENYL ETHER		**032534-81-9**							
NOAEL 1.8 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	ALTERED ENZYME ACTIVITIES		2E-2 100		IRIS	010038

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PENTACHLOROBENZENE		**000608-93-5**							
LOAEL 8.3 MG/KG/DAY		RAT							
	ORAL: DIET	100 DAYS	LIVER	TOXICITY		8E-3		IRIS	010039
			KIDNEY	TOXICITY		1000			
PENTACHLOROCYCLOPENTADIENE		**025329-35-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									005302
PENTACHLORONITROBENZENE		**000082-68-8**							
NOEL 0.75 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	LIVER	TOXICITY		3E-3		IRIS	010040
						300			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PENTACHLOROPHENOL		**000087-86-5**							
NOEL 3 MG/KG/DAY		RAT							
	ORAL: GAVAGE	62 DAYS	FETUS	FETOTOXICITY		3E-2		IRIS	005600
						100			
SUBCHRONIC [RfD] COMMENT: BASED ON A TERATOLOGY STUDY WITH EXPOSURE 62 DAYS PRIOR TO MATING AND THROUGHOUT GESTATION AND LACTATION.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PENTACHLOROPROPENE, 1,1,2,3,3,-		**001600-37-9**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010041
PENTANE, N-		**000109-66-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005603

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PHENANTHRENE		**000085-01-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005604
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									
PHENOL		**000108-95-2**							
NOAEL 60 MG/KG/DAY		RAT							
	ORAL: GAVAGE		FETUS	DECREASED WEIGHT		6E-1 100		IRIS	005824
SUBCHRONIC [RfD] COMMENT: BASED ON A DEVELOPMENTAL STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
CHRONIC [RfD] COMMENT: BASED ON A DEVELOPMENTAL STUDY WITH EXPOSURES DURING DAYS 6-15 OF GESTATION.									
							IRIS		010913
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (02/22/90) BY THE RfD/RfC WORK GROUP.									
PHENYLENEDIAMINE, M-		**000108-45-2**							
NOEL 6 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	LESIONS		6E-2 100		IRIS	010044
PHENYLENEDIAMINE, O-		**000095-54-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT. ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									010042
PHENYLENEDIAMINE, P-		**000106-50-3**							
NOAEL 18.7 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	EFFECTS				1.9E-1 100	010043

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PHENYLMERCURIC ACETATE		**000062-38-4**							
NOAEL 0.0084 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	KIDNEY	DAMAGE		8E-5 100		IRIS	010277

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CALCULATED BY ANALOGY TO MERCURY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO MERCURY BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

PHORATE		**000298-02-2**							
NOAEL 0.033 MG/KG/DAY		RAT							
	ORAL: DIET	13 WEEKS	CHOLINESTERASE	INHIBITION		2E-4 200		2E-4 200	010403

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

PHOSGENE		**000075-44-5**							
							IRIS		010045

CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (10/01/90) BY THE RfD/RfC WORK GROUP.

PHOSPHINE		**007803-51-2**							
NOEL 0.026 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS				3E-4 100		IRIS	010174

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].

NOAEL 1.4 MG/CU M		RAT							
	INHALATION: INTERMITTENT	24 WKS	KIDNEY	RENAL EFFECTS	3E-4 1000		3E-5 10000		010173

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PHOSPHORUS, WHITE		**007723-14-0**						IRIS	010452
GENERAL COMMENT: FORMERLY LISTED AS PHOSPHORUS (INORGANIC COMPOUNDS).									
PHOTOCHEMICAL OXIDANTS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010172
PHTHALIC ACID, M-		**000121-91-5**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010047
PHTHALIC ACID, O-		**000088-99-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010046
PHTHALIC ACID, P-		**000100-21-0**							
NOEL	142 MG/KG/DAY	RAT							
	ORAL: DIET	2 YEARS	BLADDER	HYPERPLASIA		1E+0		1E+0	010048
						100		100	
PHTHALIC ANHYDRIDE		**000085-44-9**							
LOAEL	1562 MG/KG/DAY	MOUSE							
	ORAL: DIET	104 WEEKS	LUNG	HISTOPATHOLOGY		2E+0		IRIS	010049
			KIDNEY	HISTOPATHOLOGY		1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
LOAEL	0.1 MG/CU M	HUMAN							
	INHALATION:	12 YEARS	NOSE	RHINITIS	1.2E-1		1.2E-1		010847
	INTERMITTENT		LUNGS	BRONCHITIS	300		300		
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].									

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
POLYBROMINATED BIPHENYLS									
LOAEL 0.07 MG/KG/DAY		RAT							
	ORAL: GAVAGE	25 WEEKS	LIVER	INCREASED WEIGHT		7E-5		7E-6	010050
			LIVER	LESIONS		1000		10000	
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
POTASSIUM CYANIDE		000151-50-8							
NOAEL 27 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		5E-2		IRIS	010278
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
POTASSIUM SILVER CYANIDE		000506-61-6							
NOAEL 82.7 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		2E-1		IRIS	010279
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
PROFLURALIN		026399-36-0							
NOEL 3 MG/KG/DAY		RAT							
	ORAL: DIET	SUBCHRONIC		NONE OBSERVED		6E-3		6E-3	010051
						500		500	

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PRONAMIDE			**023950-58-5**							
NOEL	7.5 MG/KG/DAY	DOG								
	ORAL: DIET		2 YEARS		NONE OBSERVED		7.5E-2 100		IRIS	010280
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
PROPACHLOR			**001918-16-7**							
NOEL	13.3 MG/KG/DAY	RAT								
	ORAL: DIET		90 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		1.3E-1 100		IRIS	010175
PROPAZINE			**000139-40-2**							
NOEL	5 MG/KG/DAY	RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		2E-2 300		IRIS	010052
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
PROPIONITRILE			**000107-12-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										010053
PROPYL ALCOHOL, N-			**000071-23-8**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005627

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PROPYLENE GLYCOL		**000057-55-6**								
NOEL 50000 PPM		DOG								
	ORAL: DIET		2 YEARS	ERYTHROCYTES	DECREASED COUNT				2E+1	005631
				BLOOD	DECREASED HEMATOCRIT				100	
				BLOOD	DECREASED HEMOGLOBIN					
NOEL 6 %		RAT								
	ORAL: DIET		20 WEEKS	KIDNEY	LESIONS		3E+1			005629
							100			
								IRIS		010914
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/25/91) BY THE RfD/RfC WORK GROUP.										
PROPYLENE GLYCOL MONOETHYL ETHER		**001569-02-4**								
NOEL 680 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		30 DAYS	WHOLE BODY	DECREASED WEIGHT GAIN		7E+0		7E-1	005488
							100		1000	
								IRIS		010915
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/25/91) BY THE RfD/RfC WORK GROUP.										
PROPYLENE GLYCOL MONOMETHYL ETHER		**000107-98-2**								
NOEL 947 MG/KG/DAY		RAT								
	ORAL: GAVAGE		35 DAYS	LIVER	HISTOPATHOLOGY		7E+0		7E-1	005486
				KIDNEY	HISTOPATHOLOGY		100		1000	
NOAEL 1000 PPM		RAT, RABBIT								
	INHALATION: INTERMITTENT		13 WEEKS	CENTRAL NERVOUS SYSTEM	EFFECTS	2E+1 30		IRIS		010276

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
PROPYLENE OXIDE		**000075-56-9**							
LOAEL 71 MG/CU M		RAT							
	INHALATION:	2 YEARS	EPITHELIUM	UNSPECIFIED	3E-2		IRIS		010375
	INTERMITTENT				100				
SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RFC].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
PYRENE		**000129-00-0**							
NOAEL 75 MG/KG/DAY		MOUSE							
	ORAL: GAVAGE	13 WKS	KIONEY	EFFECTS		3E-1		IRIS	010176
						300			
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (08/04/94) BY THE RfD/RfC WORK GROUP.									010968
PYRIDINE		**000110-86-1**							
NOAEL 1 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	INCREASED WEIGHT		1E-2		IRIS	010055
			LIVER	INCREASED RELATIVE WEIGHT		100			
RDX / (CYCLONITE)		**000121-82-4**							
NOEL 0.3 MG/KG/DAY		RAT							
	ORAL	105 WEEKS	PROSTATE	INFLAMMATION		3E-3		IRIS	010056
			PROSTATE	HEMOSIDEROSIS		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
RONNEL		**000299-84-3**							
NOAEL 5 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	LIVER	EFFECTS		5E-2		5E-2	010057
						100		100	

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SELENIOUS ACID				**007783-00-8**						
NOAEL 0.046 MG/KG/DAY		HUMAN								
	ORAL: DIET			WHOLE BODY	SELENOSIS, CLINICAL		5E-3 3		IRIS	010504
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
SELENIUM				**007782-49-2**						
NOAEL 0.853 MG/DAY		HUMAN								
	ORAL: DIET			WHOLE BODY	SELENOSIS, CLINICAL		5E-3 3		IRIS	010404
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
SELENOUREA				**000630-10-4**						
NOAEL 0.072 MG/KG/DAY		HUMAN								
	ORAL: DIET			WHOLE BODY	SELENOSIS		5E-3 15		5E-3 15	010473
CHRONIC [RfD] COMMENT: WITHDRAWN FROM IRIS (05/01/91). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.										
SILVER				**007440-22-4**						
LOAEL 0.014 MG/KG/DAY		HUMAN								
	IV		2-9 YEARS	SKIN	ARGYRIA		5E-3 3		IRIS	010453
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD]. CHRONIC [RfD] COMMENT: BASED ON A TOTAL IV DOSE OF 1 GRAM.										

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SILVER CYANIDE		**000506-64-9**								
NOAEL 55.7 MG/KG/DAY		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT		1E-1		IRIS	010283
				THYROID	EFFECTS		500			
				NERVE	MYELIN DEGENERATION					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

SIMAZINE		**000122-34-9**								
NOAEL 0.52 MG/(KG-DAY)		RAT								
	ORAL: DIET		2 YEARS	WHOLE BODY	DECREASED WEIGHT GAIN		5E-3		IRIS	010955
				BLOOD	HEMATOLOGICAL EFFECTS		100			

SUBCHRONIC [RfD] COMMENT: THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY

SODIUM CYANIDE		**000143-33-9**								
NOAEL 20.4 MG/KG/DAY		RAT								
	ORAL: DIET			CENTRAL NERVOUS	EFFECTS		4E-2		IRIS	005640
				SYSTEM			500			

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT. THE ORAL CHRONIC RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.

SODIUM DIETHYLDITHIOCARBAMATE		**000148-18-5**								
NOEL 30 MG/KG/DAY		RAT								
	ORAL		90 DAYS	EYE	CATARACTS		3E-1		IRIS	005644
				WHOLE BODY	DECREASED WEIGHT		100			

GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SODIUM METAVANADATE		**013718-26-8**							
NOAEL 10 PPM		RAT							
	ORAL: DRINKING WATER	3 MONTHS	KIDNEY	IMPAIRED FUNCTION		1E-2 100		1E-3 1000	005735
STRONTIUM, STABLE		**007440-24-6**							
NOAEL 190 MG/KG/DAY		RAT, YOUNG							
	ORAL: DRINKING WATER	20 DAYS	BONE	RACHITIC CHANGES		6E-1 300		IRIS	010842
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
STRYCHNINE		**000057-24-9**							
LOAEL 2.5 MG/KG/DAY		RAT							
	ORAL: GAVAGE	28 DAYS	UNSPECIFIED UNSPECIFIED	TOXICITY HISTOPATHOLOGY		3E-3 1000		IRIS	010285
GENERAL COMMENT: THE LOAEL IS ALSO THE FEL.									
STYRENE		**000100-42-5**							
								IRIS	010059
NOAEL 22 PPM		HUMAN							
	INHALATION: OCCUPATIONAL		CENTRAL NERVOUS SYSTEM	EFFECTS	3E+0 10		IRIS		010511
CHRONIC [RfC] COMMENT: THE MEAN DURATION OF EXPOSURE FOR 50 WORKERS WAS 8.6 YEARS. AIR EXPOSURE CONCENTRATIONS WERE ESTIMATED FROM THE SUMMATION OF THE PRINCIPLE URINARY METABOLITES OF STYRENE, MANDELIC ACID AND PHENYLGLYOXYLIC ACID. SEE IRIS FOR MORE INFORMATION.									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
SUCCINONITRILE		**000110-61-2**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005585

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
SULFUR DIOXIDE		**007446-09-5**							
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010505
SULFUR OXIDES									
CHRONIC [RfC] COMMENT: REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.									010035
SULFURIC ACID		**007664-93-9**							
NOAEL 0.066-0.098 MG/CU M		HUMAN							
	INHALATION		RESPIRATORY SYSTEM	RESPIRATORY EFFECTS					005647
CHRONIC [RfC] COMMENT: REPORTED EFFECTS OCCURRED AT PORTAL OF ENTRY. ESTIMATES OF MG/DAY REFERENCE DOSES ARE INAPPROPRIATE BECAUSE EFFECTS AT PORTAL OF ENTRY DEPEND ON CONCENTRATION IN AIR. AN ACCEPTABLE AIR CONCENTRATION OF 0.07 MG/CU M WAS ESTIMATED BY CARSON ET AL (1981) FROM AVAILABLE DATA.									
TEMEPHOS		**003383-96-8**							
NOAEL 200 PPM		RAT							
	ORAL: DIET	99 DAYS				2E-1 100		2E-2 1000	010060
TERBUFOS		**013071-79-9**							
NOAEL 0.0025 MG/KG/DAY		DOG							
	ORAL: DIET	6 MONTHS	CHOLINESTERASE	INHIBITION		2.5E-5 100		2.5E-5 100	010408
TEREPHTHALIC ACID		**000100-21-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT.									010474
TETRACHLOROAZOXYBENZENE		**021232-47-3**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010064

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TETRACHLOROBENZENE, 1,2,4,5- 000095-94-3										
NOAEL 0.34 MG/KG/DAY		RAT								
	ORAL: DIET		13 WEEKS	KIDNEY	LESIONS		3E-3 100		IRIS	010286
TETRACHLOROCYCLOPENTADIENE 000695-77-2										
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005303
TETRACHLOROETHANE, 1,1,1,2- 000630-20-6										
LOAEL 89.3 MG/KG/DAY		RAT								
	ORAL: GAVAGE		103 WEEKS	LIVER	LESIONS		3E-2		IRIS	010407
				KIDNEY	LESIONS		3000			
	SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
TETRACHLOROETHYLENE 000127-18-4										
NOAEL 14 MG/KG/DAY		MOUSE								
	ORAL		6 WEEKS	LIVER	HEPATOTOXICITY		1E-1 100		IRIS	005650
	GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
TETRACHLOROHYDRAZOBENZENE 071753-42-9										
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010065
TETRACHLOROPHENOL, 2,3,4,5- 004901-51-3										
	GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005324

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TETRACHLOROPHENOL, 2,3,4,6- 000058-90-2									
NOAEL 25 MG/KG/DAY		RAT							
	ORAL: GAVAGE	90 DAYS	LIVER	INCREASED WEIGHT		3E-1		IRIS	005323
			LIVER	CENTRILOBULAR HYPERTROPHY		100			
TETRACHLOROPHENOL, 2,3,5,6- 000935-95-5									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									005325
TETRACHLOROPROPENE, 1,1,2,3- 010436-39-2									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010066
TETRACHLOROVINPHOS / (STIROPHOS) 000961-11-5									
NOEL 3.1 MG/KG/DAY		DOG							
	ORAL: DIET	2 YEARS	LIVER	INCREASED WEIGHT		3E-2		IRIS	010067
			KIDNEY	INCREASED WEIGHT		100			
			WHOLE BODY						
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
TETRAETHYL DITHIOPYROPHOSPHATE 003689-24-5									
NOEL 0.5 MG/KG/DAY		RAT							
	ORAL: DIET	3 MONTHS	ERYTHROCYTES	DECREASED CHOLINESTERASE ACTIVITY		5E-3		IRIS	010287
						100			
			BLOOD	DECREASED CHOLINESTERASE ACTIVITY					
THALLIC OXIDE 001314-32-5									
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP.									010956

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
THALLIUM (I) ACETATE		**000563-68-8**							
NOAEL 0.26 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		9E-4		IRIS	005664
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.

THALLIUM (I) CARBONATE		**006533-73-9**							
NOAEL 0.23 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		8E-4		IRIS	005668
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.

THALLIUM (I) CHLORIDE		**007791-12-0**							
NOAEL 0.23 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		8E-4		IRIS	005672
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.

THALLIUM, INSOLUBLE SALTS

CHRONIC [RfD] COMMENT: REFER TO IRIS FOR OTHER THALLIUM SALTS. 010458

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
THALLIUM (I) NITRATE		**010102-45-1**							
NOAEL 0.26 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		9E-4		IRIS	005676
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					

SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO THALLIUM (I) SULFATE BY CORRECTING FOR MOLECULAR WEIGHT DIFFERENCES.

THALLIUM SELENITE **012039-52-0**

010957

CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS WITHDRAWN FROM IRIS (08/01/93). THE CHRONIC ORAL [RfD] IS CONSIDERED NOT VERIFIABLE (07/22/93) BY THE RfD/RfC WORK GROUP.

THALLIUM (I) SULFATE		**007446-18-6**							
NOAEL 0.25 MG/KG/DAY		RAT							
	ORAL	90 DAYS	LIVER	INCREASED SGOT		8E-4		IRIS	005682
			BLOOD	INCREASED SERUM LDH		300			
			HAIR	ALOPECIA					
THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(		**021564-17-0**							
NOEL 25 MG/KG/DAY.		RAT							
	ORAL: DIET	SUBCHRONIC	STOMACH	LESIONS		3E-1		3E-2	010068
						100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA
CHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
THIOFANOX		**013196-18-4**							
NOAEL 0.025 MG/KG/DAY		DOG							
	ORAL	8 DAYS	CHOLINESTERASE	DECREASED CHOLINESTERASE ACTIVITY		3E-4 100		3E-4 100	010069
SUBCHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA.									
CHRONIC [RfD] COMMENT: BASED ON CONFIDENTIAL BUSINESS INFORMATION DATA.									
THIRAM		**000137-26-8**							
								IRIS	010459
NOAEL 0.61 MG/KG/DAY		FERRET							
	ORAL	24 WEEKS	REPRODUCTION	IMPAIRED		6E-3 100			010070
TIN AND COMPOUNDS									
NOAEL 2000 PPM		RAT							
	ORAL: DIET	2 YEARS	LIVER	LESIONS		6E-1		6E-1	005688
			KIDNEY	LESIONS		100		100	
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO STANNOUS CHLORIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO STANNOUS CHLORIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
TOLUENE		**000108-88-3**							
NOAEL 223 MG/KG/DAY		RAT							
	ORAL: GAVAGE	13 WEEKS	LIVER	ALTERED WEIGHT		2E+0		IRIS	010469
			KIDNEY	ALTERED WEIGHT		100			
							IRIS		010844
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TOLUENE-2,5-DIAMINE		**000095-70-5**							
NOAEL 56 MG/KG/DAY		RAT							
	ORAL: DIET	78 WEEKS				6E-1		6E-1	010073
						100		100	
SUBCHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE SULFATE SALT.									
CHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE SULFATE SALT.									
TOLUENE-2,6-DIAMINE		**000823-40-5**							
NOAEL 16 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS				2E-1		2E-1	010074
						100		100	
SUBCHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE DIHYDROCHLORIDE.									
CHRONIC [RfD] COMMENT: DETERMINED FROM DATA OBTAINED WITH THE DIHYDROCHLORIDE.									
TOLUENEDIAMINE, 2,3-		**002687-25-4**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010071
TOLUENEDIAMINE, 3,4-		**000496-72-0**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010072
TOLUIDINE, M-		**000108-44-1**							
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010075
TRIALLATE		**002303-17-5**							
NOAEL 1.275 MG/KG/DAY		DOG							
	ORAL: DIET	24 MONTHS	SPLEEN	EFFECTS		1.3E-2		IRIS	010076
			LIVER	EFFECTS		100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRIBROMOBENZENE, 1,2,4- 000615-54-3										
NOAEL 5 MG/KG/DAY		RAT								
	ORAL: DIET	45 OR 90 DAYS		LIVER	ALTERED WEIGHT		5E-2		IRIS	010077
				LIVER	ENZYME INDUCTION		100			
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2- 000076-13-1										
									IRIS	010460
NOEL 2000 PPM		RAT								
	INHALATION: INTERMITTENT	24 MONTHS		WHOLE BODY	DECREASED WEIGHT	3E+1 100	3E+0 100	3E+1 100		010376
SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.2.										
TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'- 003380-34-5										
NOEL 500 MG/KG/DAY		RAT								
	ORAL	4 WEEKS		WHOLE BODY	DECREASED WEIGHT		4E+0 100			005492
TRICHLOROBENZENE, 1,2,4- 000120-82-1										
NOAEL 100 PPM		RAT								
	ORAL: DRINKING WATER			ADRENAL	INCREASED WEIGHT		1E-2 1000		IRIS	010506
SUBCHRONIC [RfD] COMMENT: BASED ON A MULTIGENERATION REPRODUCTION STUDY.										
NOAEL 104 PPM		RAT, RABBIT, DOG, MONKEY								
	INHALATION	6 AND 26 WEEKS		LIVER	NON-ADVERSE WEIGHT CHANGES	2E+0 100		2E-1 1000		010958
TRICHLOROCYCLOPENTADIENE 077323-84-3										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005304

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROETHANE, 1,1,1-		**000071-55-6**								
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										
TRICHLOROETHANE, 1,1,2-		**000079-00-5**								
NOAEL 3.9 MG/KG/DAY		MOUSE								
	ORAL: DRINKING WATER		90 DAYS	BLOOD	CLINICAL CHEMISTRY ALTERATIONS		4E-2 100		IRIS	005702
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TRICHLOROFLUOROMETHANE		**000075-69-4**							IRIS	005502
LOAEL 1000 MG/KG/DAY		RAT								
	ORAL		6 WEEKS	WHOLE BODY	INCREASED MORTALITY		7E-1 1000			005500
SUBCHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
CHRONIC [RfC] COMMENT: ALSO SEE HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
TRICHLOROPHENOL, 2,3,4-		**015950-66-0**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005330
TRICHLOROPHENOL, 2,3,5-		**000933-78-B**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005331
TRICHLOROPHENOL, 2,3,6-		**000933-75-5**								
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005332

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROPHENOL, 2,4,5- 000095-95-4										
NOEL 1000 PPM		RAT								
	ORAL: DIET		98 DAYS	LIVER	HEPATOTOXICITY		1E+0		IRIS	005329
				KIDNEY	EFFECTS		100			
								IRIS		010919
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/24/91) BY THE RfD/RfC WORK GROUP.										
TRICHLOROPHENOL, 2,4,6- 000088-06-2										
								IRIS		010461
CHRONIC RfC COMMENT: THE CHRONIC INHALATION RfC IS CONSIDERED NOT VERIFIABLE (04/24/91) BY THE RfD/RfC WORK GROUP.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TRICHLOROPHENOL, 3,4,5- 000609-19-8										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005333
TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5- 000093-72-1										
NOEL 0.75 MG/KG/DAY		DOG								
	ORAL: DIET		2 YEARS	LIVER	HISTOPATHOLOGY		8E-3		IRIS	010284
							100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
TRICHLOROPHENOXYACETIC ACID, 2,4,5- 000093-76-5										
									IRIS	010178
NOEL 10 MG/KG/DAY		RAT								
	ORAL: DIET		90 DAYS	KIDNEY	WEIGHT EFFECTS		1E-1			010179
				LIVER	WEIGHT EFFECTS		100			
TRICHLOROPROPANE, 1,1,1- 007789-89-1										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005705

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROPROPANE, 1,1,2- 000598-77-6										
NOEL 100 MG/L		RAT								
	ORAL: DRINKING WATER		13 WEEKS	LIVER	HISTOPATHOLOGY		5E-2		IRIS	005708
				KIDNEY	HISTOPATHOLOGY		300			
				THYROID	HISTOPATHOLOGY					
TRICHLOROPROPANE, 1,2,2- 003175-23-3										
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT										005706
TRICHLOROPROPANE, 1,2,3- 000096-18-4										
NOAEL 8 MG/KG/DAY		RAT								
	ORAL		120 DAYS	WHOLE BODY	TOXICITY		6E-2		IRIS	005714
				LIVER	LESIONS		100			
				KIDNEY	LESIONS					
				ERYTHROCYTES	DECREASED COUNT					
				BLOOD	DECREASED HEMATOCRIT					
				BLOOD	DECREASED HEMOGLOBIN					
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.										
TRICHLOROPROPENE, 1,2,3- 000096-19-5										
NOEL 18 MG/CU M		DOG								
	INHALATION: INTERMITTENT		66 WEEKS	EYE	IRRITATION		5E-3 100		5E-3 100	010078

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROTOLUENE, 2,3,6-		**002077-46-5**								
LOAEL 0.5 PPM		RAT								
	ORAL: DIET		28 DAYS	LIVER	LESIONS		5E-5			005335
				KIDNEY	LESIONS		1000			
				THYROID	LESIONS					
TRICHLOROTOLUENE, ALPHA,2,6-		**002014-83-7**								
LOAEL 0.5 PPM		RAT								
	ORAL: DIET		28 DAYS	LIVER	LESIONS		5E-5			005339
				KIDNEY	LESIONS		1000			
				THYROID	LESIONS					
TRIFLURALIN		**001582-09-8**								
NOEL 0.75 MG/KG/DAY		DOG								
	ORAL: DIET		12 MONTHS	LIVER	INCREASED WEIGHT		7.5E-3		IRIS	010080
				BLOOD	METHEMOGLOBINEMIA		100			

SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

TRIMETHYLBENZENES

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 005727

TRINITROBENZENE, 1,3,5-		**000099-35-4**								
NOAEL 0.51 MG/KG/DAY		RAT								
	ORAL: WATER		16 WEEKS	SPLEEN	INCREASED WEIGHT		5E-4		IRIS	010081
							1000			

SUBCHRONIC [RfD] COMMENT: CALCULATED FROM DATA OBTAINED WITH 1,3-DINITROBENZENE.
CHRONIC [RfD] COMMENT: CALCULATED FROM DATA OBTAINED WITH 1,3-DINITROBENZENE.

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRINITROPHENOLS									
GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT									010082
TRINITROPHENYLMETHYLNITRAMINE 000479-45-8									
LOAEL 125 MG/KG/DAY		RABBIT							
	ORAL: GAVAGE	9 MONTHS	LIVER	HISTOPATHOLOGICAL EFFECTS		1E-1		1E-2	010377
			KIDNEY	HISTOPATHOLOGICAL EFFECTS		1000		10000	
			SPLEEN	HISTOPATHOLOGICAL EFFECTS					
TRINITROTOLUENE, 2,4,6- 000118-96-7									
LOAEL 0.5 MG/KG/DAY		DOG							
	ORAL: GAVAGE		LIVER	EFFECTS		5E-4		IRIS	010416
						1000			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.									
URANIUM, SOLUBLE SALTS									
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									
VANADIUM 007440-62-2									
NOAEL 5 PPM		RAT							
	ORAL: DRINKING WATER	LIFETIME				7E-3		7E-3	005739
						100		100	
VANADIUM PENTOXIDE 001314-62-1									
NOAEL 17.85 PPM		RAT							
	ORAL: DIET	LIFETIME				9E-3		IRIS	005743
						100			
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
VANADIUM SULFATE		**036907-42-3**								
NOAEL 2.24 MG/KG/DAY		RAT								
	ORAL: DRINKING WATER		LIFETIME				2E-2 100		2E-2 100	005747
VERNAM / (VERNOLATE)		**001929-77-7**								
NOEL 1 MG/KG/DAY		RAT								
	ORAL: DIET			WHOLE BODY	DECREASED WEIGHT		1E-2 100		IRIS	010083
VINYL ACETATE		**000108-05-4**								
NOAEL 100 MG/KG/DAY		RAT								
	ORAL: WATER		2 YEARS	WHOLE BODY	ALTERED WEIGHT		1E+0		1E+0	010417
				KIDNEY	ALTERED WEIGHT		100		100	
NOAEL 176 MG/CU M		MOUSE								
	INHALATION: INTERMITTENT		104 WEEKS	NASAL CAVITY	LESIONS	2E-1 30		IRIS		010418

SUBCHRONIC [RfC] COMMENT: THE CHRONIC INHALATION RfC WAS ADOPTED AS THE SUBCHRONIC INHALATION [RfC].

VINYL CHLORIDE **000075-01-4**

SUBCHRONIC [RfC] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
GENERAL COMMENT: ALSO SEE HEAST TABLE 3: CARCINOGENICITY.

VINYL-1-CYCLOHEXENE, 4- **000100-40-3**

GENERAL COMMENT: DATA INADEQUATE FOR QUANTITATIVE RISK ASSESSMENT 010084

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
WARFARIN			**000081-81-2**							
LOAEL 2 MG/DAY		HUMAN								
	ORAL			BLOOD	INCREASED PROTHROMBIN TIME		3E-4 100		IRIS	010409
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].										
XYLENE, M-			**000108-38-3**							
NOAEL 250 MG/KG		RAT								
	ORAL: GAVAGE		103 WEEKS	CENTRAL NERVOUS SYSTEM	HYPERACTIVITY				2E+0 100	005755
				WHOLE BODY	DECREASED WEIGHT					
				WHOLE BODY						
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										010920
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.										
XYLENE, MIXTURE			**001330-20-7**							
									IRIS	010872
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										010921
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.										
XYLENE, O-			**000095-47-6**							
NOEL 250 MG/KG		RAT								
	ORAL: GAVAGE		103 WEEKS	CENTRAL NERVOUS SYSTEM	HYPERACTIVITY				2E+0 100	005751
				WHOLE BODY	DECREASED WEIGHT					
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.										010922
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.										

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IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
XYLENE, P-		**000106-42-3**							
SUBCHRONIC [RfD] COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									010923
CHRONIC [RfC] COMMENT: THE CHRONIC INHALATION [RfC] IS CONSIDERED NOT VERIFIABLE (12/11/91) BY THE RfD/RfC WORK GROUP.									
ZINC (METALLIC)		**007440-66-6**							
LOAEL 1.0 MG/KG/DAY		HUMAN							
	ORAL: DIET SUPPLEMENT	10 WEEKS	BLOOD	DECREASED BLOOD ENZYME		3E-1 3		IRIS	010937
CHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									
ZINC CYANIDE		**000557-21-1**							
NOAEL 24.3 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	WHOLE BODY	DECREASED WEIGHT		5E-2		IRIS	010289
			THYROID	EFFECTS		500			
			NERVE	MYELIN DEGENERATION					
SUBCHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
CHRONIC [RfD] COMMENT: CALCULATED BY ANALOGY TO FREE CYANIDE BY CORRECTING FOR DIFFERENCES IN MOLECULAR WEIGHT.									
ZINC PHOSPHIDE		**001314-84-7**							
LOAEL 3.48 MG/KG/DAY		RAT							
	ORAL: DIET	13 WEEKS	WHOLE BODY	DECREASED WEIGHT		3E-3		IRIS	010290
			WHOLE BODY	DECREASED FOOD INTAKE		1000			
ZINEB		**012122-67-7**							
LOAEL 25 MG/KG/DAY		RAT							
	ORAL: DIET	2 YEARS	THYROID	HYPERPLASIA		5E-2 500		IRIS	010085
SUBCHRONIC [RfD] COMMENT: THE CHRONIC ORAL RfD WAS ADOPTED AS THE SUBCHRONIC ORAL [RfD].									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ACENAPHTHENE 000083-32-9

010165 US EPA. 1989. MOUSE ORAL SUBCHRONIC STUDY WITH ACENAPHTHENE. STUDY CONDUCTED BY HAZELTON LABORATORIES, INC., FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

ACENAPHTHYLENE 000208-96-8

005202 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACENAPHTHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

ACEPHATE 030560-19-1

005833 CHEVRON CHEMICAL COMPANY. 1987. CONFIDENTIAL BUSINESS INFORMATION UNPUBLISHED DATA. MRID NO. 40504819

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACEPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

ACETONE 000067-64-1

005204 US EPA. 1986. NINETY-DAY GAVAGE STUDY IN ALBINO RATS USING ACETONE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR ACETONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

ACETONE CYANOHYDRIN / (METHYLLACTONITRILE) 000075-86-5

005776 HAZELTON LABORATORIES AMERICA. 1988. SUBCHRONIC TOXICITY STUDY IN RATS WITH 2-METHYLLACTONITRILE. HLA STUDY NO. 2399-114. REPORT PREPARED FOR DYNAMAC CORPORATION.

US EPA. 1994. RfD/RfC WORK GROUP.

ACETONITRILE 000075-05-8

005210 NATIONAL TOXICOLOGY PROGRAM (NTP). 1983. 90-DAY SUBCHRONIC TOXICITY STUDIES OF ACETONITRILE IN RATS AND MICE. REPORT TO NATIONAL TOXICOLOGY PROGRAM.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACETONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ACETOPHENONE 000098-86-2

005212 HAGAN, EC, WH HANSEN, DG FITZHUGH, ET AL. 1967. FOOD FLAVORINGS AND COMPOUNDS OF RELATED STRUCTURE. II. SUBACUTE AND CHRONIC TOXICITY. FOOD COSMET. TOXICOL. 5(2): 141-157.

US EPA. 1987. RfD/RfC WORK GROUP.

010874 US EPA. 1992. RfD/RfC WORK GROUP.

ACROLEIN 000107-02-8

010390 NEWELL GW. 1958. ACUTE AND SUBACUTE TOXICITY OF ACROLEIN. STANFORD RESEARCH INSTITUTE. SRI PROJECT NO. 5-868-2.

NAS (NATIONAL ACADEMY OF SCIENCES). 1977. DRINKING WATER AND HUMAN HEALTH. WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACROLEIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010856 FERON VJ, A KRUYSSE, HP TIL, AND HR IMMEL. 1978. REPEATED EXPOSURE TO ACROLEIN VAPOR: SUBACUTE STUDIES IN HAMSTERS, RATS AND RABBITS. TOXICOLOGY. 9: 47-57.

US EPA. 1991. RfD/RfC WORK GROUP.

ACRYLAMIDE 000079-06-1

005835 BUREK JD, RR ALBEE, JE BEYER, ET AL. 1980. SUBCHRONIC TOXICITY OF ACRYLAMIDE ADMINISTERED TO RATS IN THE DRINKING WATER FOLLOWED BY UP TO 144 DAYS OF RECOVERY. J ENVIRON PATHOL TOXICOL. 4: 157-182.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACRYLAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RFD/RFC WORK GROUP.

010876 US EPA. 1990. RfD/RfC WORK GROUP.

956

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ACRYLIC ACID 000079-10-7

005836 BASF. 1993. REPRODUCTION TOXICITY STUDY WITH ACRYLIC ACID IN RATS: CONTINUOUS ADMINISTRATION IN THE DRINKING WATER OVER 2 GENERATIONS (1 LITTER IN THE FIRST AND 1 LITTER IN THE SECOND GENERATION). PROJECT NO. 71R0114/92011. BASF AKTIENGELLSCHAFT, DEPT. OF TOXICOLOGY, RHEIN, FRG.

US EPA. 1994. RfD/RfC WORK GROUP.

010346 MILLER, RR, JA AYERS, GC JERSEY AND MJ MCKENNA. 1981. INHALATION TOXICITY OF ACRYLIC ACID. FUND APPL TOXICOL. 1(3): 271-277.

MILLER, RR, JA AYERS, GC JERSEY. 1979. ACRYLIC ACID 90-DAY VAPOR INHALATION STUDY WITH RATS AND MICE. FINAL REPORT #79RC-1024. TOXICOLOGY RESEARCH LABORATORY, HEALTH AND ENVIRONMENTAL SCIENCE, DOW CHEMICAL COMPANY, MIDLAND, MI.

US EPA. 1990. RfD/RfC WORK GROUP.

ACRYLONITRILE 000107-13-1

010939 TANDON R, DK SAXENA, SV CHANDRA, PK SETH, SP SRIVASTAVA. 1988. TESTICULAR EFFECTS OF ACRYLONITRILE IN MICE. TOXICOLOGY LETTERS. 42: 55-63.

BIODYNAMICS. 1980. A TWENTY-FOUR MONTH ORAL TOXICITY/CARCINOGENICITY STUDY OF ACRYLONITRILE ADMINISTERED TO SPARTAN RATS IN THE DRINKING WATER. VOL 1-2. PREPARED BY BIODYNAMICS, INC., DIVISION OF BIOLOGY AND SAFETY EVALUATION, EAST MILLSTONE, NJ, FOR MONSANTO COMPANY, ST. LOUIS, MO.

US EPA. 1993. RfD/RfC WORK GROUP.

ADIPONITRILE 000111-69-3

005157 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ADIPONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ALACHLOR 015972-60-8

005837 MONSANTO CO. 1984. MRID NO 00148923. AVAILABLE FROM EPA, WRITE TO FOI, EPA, WASHINGTON, DC, 20460.

US EPA. 1992. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ALACHLOR. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE OF THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ALDICARB 000116-06-3

010960 RHONE-POULENC AG COMPANY. 1992. MRID NO 423730-01. HED DOC NO 010459. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

UNION CARBIDE CORP. 1971. R HAINES, JB DERNEHL, JB BLOCK, SUPERVISING PHYSICIANS. INGESTION OF ALDICARB BY HUMAN VOLUNTEERS: A CONTROLLED STUDY OF THE EFFECTS OF ALDICARB ON MAN. ALD-03-77-2215. FEB 11, 1971. MRID NO 00101911. HED DOC NO 010450. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

GOLDMAN LR, M BELLER, RJ JACKSON. 1990. ALDICARB FOOD PDISONING IN CALIFORNIA, 1985-198B: TOXICITY ESTIMATES FOR HUMANS. ARCH ENVIRON HEALTH. 45(3): 141-147. HED DOC NO 010451, 010455, 010458. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

GOLDMAN, LR, DF SMITH, RR NEUTRA ET AL. 1990. PESTICIDE FOOD POISONING FROM CONTAMINATED WATERMELONS IN CALIFORNIA, 1985. ARCH ENVIRON HEALTH. 45(4): 229-236.

HIRSCH GH, BT MORI, GB MORGAN, PR BENNET, BC WILLIAMS. 1987. REPORT OF ILLNESSES CAUSED BY ALDICAR8-CONTAMINATED CUCUMBERS. FOOD ADDITIVES AND CONTAMINANTS. 5(2): 155-60. HED DOC NO 010455, 01045B. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 020460.

US EPA. 1992. RfD/RfC WORK GROUP.

ALDRIN 000309-00-2

005159 FITZHUGH OG, AA NELSON AND ML QUAIFE. 1964. CHRONIC ORAL TOXICITY OF ALDRIN AND DIELDRIN IN RATS AND DOGS. FOOD COSMET TOXICOL. 2: 551-562.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ALDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

ALLIDOCHLOR 000093-71-0

005838 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALLIDOCHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ALLYL ALCOHOL 000107-18-6

005B39 CARPANINI FMB, IF GAUNT, J HARDY, ET AL. 1978. SHORT-TERM TOXICITY OF ALLYL ALCOHOL IN RATS. TOXICOLOGY. 9: 29-45.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALLYL ALCOHOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ALLYL CHLORIDE 000107-05-1

010369 BOQUIN, L, D SHUWEI, Y AIRU, ET AL. 1982. STUDIES ON THE TOXICITY OF ALLYL CHLORIDE. ECOTOXICOL ENVIRON SAF. 6: 19-27.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALLYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ALUMINUM 007429-90-5

005162 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ALUMINUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

ALUMINUM PHOSPHIDE 020859-73-8

010255 HACKENBURG U. 1972. CHRONIC INGESTION BY RATS OF STANDARD DIET TREATED WITH ALUMINUM PHOSPHIDE. TOXICOL APPL PHARMACOL. 23(1): 147-158.

US EPA. 1985. RfD/RfC WORK GROUP.

AMETRYN 000834-12-8

005841 CIBA-GEIGY CORPORATION. 1961. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00034843. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMETRYN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

AMINO-2-NAPHTHOL, 1- 002834-92-6

005842 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1-AMINO-2-NAPHTOL AND 1-AMINO-2-NAPHTOL HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMINO-2-NAPHTOL HYDROCHLORIDE, 1- 001198-27-2

005843 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1-AMINO-2-NAPHTOL AND 1-AMINO-2-NAPHTOL HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

AMINOPHENOL, M- 000591-27-5

005844 RE TA, RF LOEHR, SC RODRIGUEZ, ET AL. 1984. RESULTS OF TERATOGENICITY TESTING OF M-AMINOPHENOL IN SPRAGUE-DAWLEY RATS. FUND APPL TOXICOL. 4(1): 98-104.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMINOPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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AMINOPHENOL, O- 000095-55-6

005845 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMINOPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMINOPHENOL, P- 000123-30-8

005846 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AMINOPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMINOPYRIDINE, 4- 000504-24-5

005847 KOHN FE. 1968. FOUR-WEEK SUBACUTE ORAL TOXICITY OF COMPOUND 1861 HYDROCHLORIDE --ALBINO RATS. (UNPUBLISHED STUDY). PREPARED BY INDUSTRIAL BIOTEST LABORATORIES, INC. UNDER 224-12. SUBMITTED BY PHILLIPS PETROLEUM CO., BARTLESVILLE, OK. CDL: 229844-E.

US EPA. 1980. 4-AMINOPYRIDINE. AVITROL PESTICIDE REGISTRATION STANDARD. PREPARED BY THE OFFICE OF PESTICIDE PROGRAMS, US EPA, WASHINGTON, DC. NTIS PB84-209907.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4-AMINOPYRIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AMMONIA 007664-41-7

005166 CAMPBELL CL, RK DAWES, S DEOLALKAR AND MC MERRITT. 1958. EFFECT OF CERTAIN CHEMICALS IN WATER ON THE FLAVOR OF BREWED COFFEE. FOOD RES. 23: 575-579. CITED IN US EPA, 1981.

WHO (WORLD HEALTH ORGANIZATION). 1986. ENVIRONMENTAL HEALTH CRITERIA. 54. AMMONIA. WHO. GENEVA, SWITZERLAND.

US EPA. 1981. AMBIENT WATER QUALITY CRITERION FOR THE PROTECTION OF HUMAN HEALTH: AMMONIA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR AMMONIA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

010392 HOLNESS DL, JT PURDHAM AND JR NETHERCOTT. 1989. ACUTE AND CHRONIC RESPIRATORY EFFECTS OF OCCUPATIONAL EXPOSURE TO AMMONIA. AMIND HYG ASSOC J. 50: 646-650.

BRODERSON JR, JR LINDSEY AND JE CRAWFORD. 1976. THE ROLE OF ENVIRONMENTAL AMMONIA IN RESPIRATORY MYCOPLASMOSIS OF RATS. AM J PATHOL. 85: 115-130.

US EPA. 1991. RfD/RfC WORK GROUP.

560

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ANILINE 000062-53-3

010370 OBERST FW, E HACKLEY, C COMSTOCK. 1956. CHRONIC TOXICITY OF ANILINE VAPOR (5PPM) BY INHALATION. ARCH IND HEALTH 13:379-384.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

ANTHRACENE 000120-12-7

010166 US EPA. 1989. SUBCHRONIC TOXICITY IN MICE WITH ANTHRACENE. FINAL REPORT. HAZELTON LABORATORIES AMERICA, INC. PREPARED FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR ANTHRACENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010964 US EPA. 1994. RfD/RfC WORK GROUP.

ANTIMONY PENTOXIDE 001314-60-9

005174 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-66.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ANTIMONY POTASSIUM TARTRATE 000304-61-0

005234 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ANTIMONY TETROXIDE 001332-81-6

005238 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ANTIMONY TRIOXIDE 001309-64-4

005242 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ANTIMONY, METALLIC 007440-36-0

005170 SCHROEDER HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-66.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ANTIMONY AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANTIMONY OXIDES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ARAMITE 000140-57-8

005849 OSER BL, M OSER. 1962. 2-(P-TERT-8UTYLPHENOXY)ISOPROPYL 2-CHLOROETHYL SULFITE (ARAMITE) II. CARCINOGENICITY. TOXICOL APPL PHARMACOL. 4: 70-8B.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ARAMITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005850 POPPER H, SS STERNBERG, BL OSER AND M OSER. 1960. THE CARCINOGENIC EFFECT OF ARAMITE IN RATS. CANCER. 13(5): 1035-1046.

OSER BL AND M OSER. 1962. 2-(P-TERT-BUTYLPHENOXY)ISOPROPYL 2-CHLOROETHYL SULFITE (ARAMITE). CARCINOGENICITY. TOXICOL APPL PHARMACOL. 4: 70-88.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ARAMITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

AROCLOR 1248 012672-29-6

010940 US EPA. 1993. RfD/RfC WORK GROUP.

AROCLOR 1254 011097-69-1

010963 US EPA. 1994. RfD/RfC WORK GROUP.

ARSENIC, INORGANIC 007440-38-2

010434 TSENG WP. 1977. EFFECTS AND DOSE-RESPONSE RELATIONSHIPS OF SKIN CANCER AND BLACKFOOT DISEASE WITH ARSENIC. ENVIRON. HEALTH PERSPECT. 19: 109-119.

TSENG, WP, HM CHU, SW HOU, JM FONG, CS LIN, S YEH. 1968. PREVALENCE OF SKIN CANCER IN AN ENDEMIC AREA OF CHRONIC ARSENICISM IN TAIWAN. J. NATL. CANCER INST. 40: 453-463.

US EPA. 1990. RfD/RfC WORK GROUP.

ATRAZINE 001912-24-9

010855 CIBA-GEIGY CORP. 1986. MRID NO 00141874, 00157875, 00158930, 40629302. HED DOC NO 005940, 006937. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

CIBA-GEIGY CORP. AGRICULTURAL DIVISION. 1987. MRID NO 40431301, 41293801.HED DOC NO 006718, 006937, 007647. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1992. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

BARIUM 007440-39-3

010348 WONES, RG, BL STADLER, LA FROHMAN. 1990. LACK OF EFFECT OF DRINKING WATER BARIUM ON CARDIOVASCULAR RISK FACTOR. ENVIRON HEALTH PERSPECT. 85: 1-13.

BRENNIMAN, GR, PS LEVY. 1984. HIGH BARIUM LEVELS IN PUBLIC DRINKING WATER AND ITS ASSOCIATION WITH ELEVATED BLOOD PRESSURE. IN: ADVANCES IN MODERN TOXICOLOGY IX, EJ CLALBRESE, ED. PRINCETON SCIENTIFIC PUBLICATIONS, PRINCETON, NJ. P231-249.

US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT FOR BARIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC. EXT REVIEW DRAFT. FINAL DRAFT (ON PUBLIC COMMENT). NTIS PB 86-118031/AS.

US EPA. 1990. RfD/RfC WORK GROUP.

BARIUM CYANIDE 000542-62-1

010941 US EPA. 1993. RfD/RfC WORK GROUP.

BENEFIN 001861-40-1

005852 ELI LILLY AND CO. 1972. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO. 00037678. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENEFIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

BENZAL CHLORIDE 000098-87-3

005853 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZAL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BENZALDEHYDE 000100-52-7

005854 KLUWE WM, CA MONTGOMERY, HD GILES AND JD PREJEAU. 1983. ENCEPHALOPATHY IN RATS AND NEPHROPATHY IN RATS AND MICE AFTER SUBCHRONIC ORAL EXPOSURE TO BENZALDEHYDE. FOOD CHEM TOXICOL. 21(3): 245-250.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

BENZALDEHYDE CYANOHYDRIN 000532-28-5

005781 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BENZO[A]ANTHRACENE 000056-55-3

010965 US EPA. 1994. RfD/RfC WORK GROUP.

BENZENE 000071-43-2

010857 US EPA. 1989. RfD/RfC WORK GROUP.

BENZENETHIOL / (THIOPHENOL) 000108-98-5

010942 AMERICAN BIOGENICS CORP. 1989. NINETY-DAY GAVAGE STUDY IN ALBINO RATS USING THIOPHENOL. PREPARED BY DYNAMAC CORP OF ROCKVILLE, MD FOR THE US EPA OFFICE OF SOLID WASTE.

FAIRCHILD EJ AND HE STOKINGER. 1958. TOXICOLOGIC STUDIES ON ORGANIC SULFUR COMPOUNDS. 1. ACUTE TOXICITY OF SOME ALIPHATIC AND AROMATIC THIOLS (MERCAPTANS). AM IND HYG ASSOC J. 19: 171-189.

US EPA. 1993. RfD/RfC WORK GROUP.

BENZIDINE 000092-87-5

005830 LITTLEFIELD NA, CJ NELSON AND CH FRITH. 1983. BENZIDINE DIHYDROCHLORIDE: TOXICOLOGICAL ASSESSMENTS IN MICE DURING CHRONIC EXPOSURE. J. TOXICOL. ENVIRON. HEALTH. 12: 671-685.

US EPA. 1987. RfD/RfC WORK GROUP.

010877 US EPA. 1991. RfD/RfC WORK GROUP.

BENZOIC ACID 000065-85-0

005260 FDA (FOOD AND DRUG ADMINISTRATION). 1973. EVALUATION OF THE HEALTH ASPECTS OF BENZOIC ACID AND SODIUM BENZOATE AS FOOD INGREDIENTS. DHEW, WASHINGTON, DC. REPORT NO. SCOGS-7 NTIS PB-223 837/6. P.17.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BENZOIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

BENZYL ALCOHOL 000100-51-6

005855 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. TOXICOLOGY AND CARCINOGENESIS STUDIES OF BENZYL ALCOHOL (CAS NO 100-51-6) IN F344/NRATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECHNICAL REPORT. NTP TR 343. P 1-161.

005856 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. TOXICOLOGY AND CARCINOGENESIS STUDIES OF BENZYL ALCOHOL (CAS NO 100-51-6) IN F344/NRATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECHNICAL REPORT. NTP TR 343. P 1-161.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BENZYL ALCOHOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

BERYLLIUM 007440-41-7

005262 SCHROEDER HA AND M MITCHNER. 1975. LIFE-TERM STUDIES IN RATS: EFFECTS OF ALUMINUM. BARIUM. BERYLLIUM AND TUNGSTEN. J NUTR. 105: 421-427.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR BERYLLIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

BIPHENYL, 1,1' 000092-52-4

005857 AMBROSE AM. AN BOOTH. F DE EDS AND AJ CDS JR. 1960. A TOXICOLOGICAL STUDY OF BIPHENYL. A CITRUS FUNGISTAT. FOOD RES. 25: 328-336.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,1'-BIPHENYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010878 US EPA. 1990. RfD/RfC WORK GROUP.

BIS(2-CHLOROISOPROPYL) ETHER 039638-32-9

010257 MITSUMORI K. T USUI. K TAKAHASHI. AND Y SHIRASU. 1979. TWENTY-FOUR MONTH CHRONIC TOXICITY STUDIES OF DICHLORODIISOPROPYL ETHER IN MICE. NIPPON NOYAKU GAKKAISHI. 4(3): 323-335.

US EPA. 1989. RfD/RfC WORK GROUP.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP) 000117-81-7

010859 CARPENTER, CP, CS WEIL AND HF SMYTH. 1953. CHRONIC ORAL TOXICITY OF DI(2-ETHYLHEXYL) PHTHALATE FOR RATS, GUINEA PIGS AND DOGS. ARCH IND HYG OCC MED. 8: 219-226.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

BISPHENOL A 000080-05-7

005268 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF BISPHENOL A IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REP SER. NO. 80-35 NTIS PB 84-1555308 P. 192.

US EPA. 1988. RfD/RfC WORK GROUP.

005266 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF BISPHENOL A IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REP SER. NO. 80-35 NTIS PB 84-1555308 P. 192.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BISPHENOL A. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BORON TRIFLUORIDE 007637-07-2

010395 RUSCH GM, GM HOFFMAN, RF MCCONNELL ET AL. 1986. INHALATION TOXICITY STUDIES WITH BORON TRIFLUORIDE. TOXICOL APPL PHARMACOL. 83: 69-78.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BORON AND BORON COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BORON, ELEMENTAL 007440-42-8

005272 WEIR RJ, JR AND RS FISHER. 1972. TOXICOLOGIC STUDIES ON BORAX AND BORIC ACID. TOXICOL APPL PHARMACOL. 23(3): 351-364.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BORON AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR BORON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

005269 GARABRANT DH, L BERNSTEIN, JM PETERS ET AL. 1985. RESPIRATORY EFFECTS OF BORAX DUST. BR J IND MED. 42: 831-837.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BORON AND BORON COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMINATED DIBENZO-P-DIOXINS

005858 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZO-P-DIOXINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZOFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMINATED DIBENZOFURANS

005859 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZOFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIBENZO-P-DIOXINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMOACETONE 000598-31-2

005860 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOACETONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

BROMOCHLOROETHANES

005861 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOCHLOROETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMODICHLOROMETHANE 000075-27-4

005715 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICITY AND CARCINOGENICITY STUDIES OF BROMODICHLOROMETHANE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECH REPORT, SER NO 321, NIH PUB NO 87-2537.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

BROMOETHENE / (VINYL BROMIDE) 000593-60-2

010929 BENYA TJ, WM BUSEY, MA DORATO AND PE BERTEAU. 1982. INHALATION CARCINOGENICITY BIOASSAY OF VINYL BROMIDE IN RATS. TOXICOL APPL PHARMACOL. 64(3): 367-379.

BUSEY WM. 1979. ONCOGENIC POTENTIAL OF VINYL BROMIDE DURING CHRONIC INHALATION EXPOSURE -- RATS: PATHOLOGY REPORT. EPA/OTS 8EHQ-0479-0281.

US EPA. 1993. RfD/RfC WORK GROUP.

BROMOFORM 000075-25-2

005722 NTP (NATIONAL TOXICOLOGY PROGRAM). 1989. TOXICOLOGY AND CARCINOGENICITY STUDIES OF TRIBROMOMETHANE AND BROMOFORM IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-350.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BROMOFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010961 US EPA. 1993. RfD/RfC WORK GROUP.

569

BROMOMETHANE 000074-83-9

010861 DANSE LH, FL VAN VELSEN AND CA VAN DER HEIJDEN. 1984. METHYL BROMIDE: CARCINOGENIC EFFECTS IN THE RAT FORESTOMACH. TOXICOL APPL PHARMACOL. 72: 262-271.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BROMOMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL BROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR BROMOMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

010860 REUZEL, PGJ, CF KUPER, HC DREEF-VAN DER MEULEN, VMH HOLLANDERS. 1987. CHRONIC (29 MONTH) INHALATION TOXICITY AND CARCINOGENICITY STUDY OF METHYL BROMIDE IN RATS. REPORT NO. V86.469/221044. NETHERLANDS ORGANIZATION FOR APPLIED SCIENTIFIC RESEARCH, DIVISION FOR NUTRITION AND FOOD RESEARCH, TNO. EPA/OTS DOCUMENT #86-8700001202.

REUZEL, PGJ, HC DREEF-VANDER MEULEN, VMH HOLLANDERS, CF KUPER, VJ FERON, CA VAN DER HEIJDEN. 1991. CHRONIC INHALATION TOXICITY AND CARCINOGENICITY STUDY OF METHYL BROMIDE IN WISTAR RATS. FOOD CHEM. TOXICOL. 29(1): 31-39.

US EPA. 1991. RfD/RfC WORK GROUP.

BROMOPHENYL PHENYL ETHER, 4- 000101-55-3

005864 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-BROMOPHENYL PHENYL ETHER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BROMOPHOS 002104-96-3

005B65 LEUSCHNER F, A LEUSCHNER AND E POPPE. 1967. CHRONISCHER REPRODUKTIONSVERSUCH UBER 3 GENERATIONEN AN WISTAR-RATTEN BEI FORTDAUERNER VERABREICHUNG VON BROMOPHOS. REPORT CH BOEHRINGER SOHN. (UNPUBLISHED).

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

570

BROMOXYNIL 001689-84-5

005866 UNION CARBIDE AGRICULTURE PRODUCTS, INC. 1982. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO. 00096521. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOXYNIL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

BROMOXYNIL OCTANOATE 001689-99-2

005867 UNION CARBIDE AGRICULTURE PRODUCTS, INC. 1982. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO. 00096521. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOXYNIL OCTANOATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

BUSAN 77 031512-74-0

005868 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUSAN 77. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BUSAN 90 002491-38-5

005869 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUSAN 90. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BUTANOL, 1- 000071-36-3

005870 US EPA. 1986. BUTANOL: RAT ORAL SUBCHRONIC TOXICITY STUDY. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1-BUTANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

BUTYL BENZYL PHTHALATE, N- 000085-68-7

005616 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. PROJECT NO 12307-02, -03. HAZELTON LABORATORIES AMERICA, INC. UNPUBLISHED STUDY.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BUTYL BENZYL PHTHALATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

BUTYLATE 002008-41-5

005871 STAUFFER CHEMICAL COMPANY. 1987. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 40289101. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUTYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

BUTYLCHLORIDE, T- 000507-20-0

005810 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

BUTYROLACTONE, GAMMA- 000096-48-0

005872 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BUTYROLACTONE, GAMMA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CACODYLIC ACID 000075-60-5

005873 NEES PO. 1968. REPORT ON CACODYLIC ACID TOXICITY TO ANIMALS. WISCONSIN ALUMNI RES FOUND. EPA PESTICIDE PETITION NO OF 0911.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CACODYLIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

572

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CADMIUM 007440-43-9

005280 US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT ON CADMIUM. OFFICE OF DRINKING WATER, WASHINGTON, DC. FINAL DRAFT.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CADMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC. EPA-440/5-80-025.

US EPA. 1988. RfD/RfC WORK GROUP.

CALCIUM CYANIDE 000592-01-8

010258 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

CAPROLACTAM 000105-60-2

005284 SEROTA DG, AM HOBERMAN AND SC GAD. 1984. A THREE-GENERATION REPRODUCTION STUDY WITH CAPROLACTAM IN RATS. IN: PROCEEDINGS OF A SYMPOSIUM ON AN INDUSTRY APPROACH TO CHEMICAL RISK ASSESSMENT: CAPROLACTAM AND RELATED COMPOUNDS AS A CASE STUDY. INDUSTRY HEALTH FOUND. ARLINGTON, VA., P 191-204.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CAPROLACTAM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

005282 POWERS WJ, JR, JC PECKHAM, KM SIINO AND SC GAD. 1984. EFFECTS OF SUBCHRONIC DIETARY CAPROLACTAM ON RENAL FUNCTION. IN: PROCEEDINGS OF A SYMPOSIUM ON AN INDUSTRY APPROACH TO CHEMICAL RISK ASSESSMENT: CAPROLACTAM AND RELATED COMPOUNDS AS A CASE STUDY. INDUSTRY HEALTH FOUND. ARLINGTON, VA.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CAPROLACTAM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010966 US EPA. 1994. RfD/RfC WORK GROUP.

513

CAPTAFOL 002425-06-1

005874 ORTHO-CHEVRON CHEMICAL COMPANY. 1985. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 260671. MRID NO. 00149488, 00155196. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAFOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. RFD/RFC WORK GROUP.

CAPTAN 000133-06-2

005875 CHEVRON CHEMICAL COMPANY. 1982. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00125293. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

STAUFFER CHEMICAL COMPANY. 1982. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 00120315. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CARBARYL 000063-25-2

005876 CARPENTER CP. CW WEIL. PE POLIN. ET AL. 1961. MAMMALIAN TOXICITY OF 1-NAPHTHYL-N-METHYLCARBAMATE (SEVIN INSECTICIDE). J AGRIC FOOD CHEM. 9: 30-39.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CARBARYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010882 US EPA. 1991. RfD/RfC WORK GROUP.

CARBOFURAN 001563-66-2

005B77 FMC CORPORATION. 1983. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 250740-250755. MRID NO. 00129507. AVAILABLE FROM EPA. WRITE TD FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CARBOFURAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. RfD/RfC WORK GROUP.

574

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CARBON DISULFIDE 000075-15-0

010259 HARDIN BD, GP BOND, MR SIKOR, FD ANDREW, RP BELILES AND RW NIEMEIR. 1981. TESTING OF SELECTED WORKPLACE CHEMICALS FOR TERATOGENIC POTENTIAL. SCAND J WORK ENVIRON HEALTH. 7(SUPPL 4): 66-75.

US EPA. 1985. RfD/RfC WORK GROUP.

010430 TABACDVA S, LA HINKOVA, L BALABAEVA. 1978. CARBON DISULFIDE TERATOGENICITY AND POSTNATAL EFFECTS IN RATS. TOXICOL LETT. 2(3): 129-133.

TABACDVA S, B NIKIFOROV, L BALABAEVA. 1983. CARBON DISLUFIDE INTRAUTERINE SENSITIZATION. J APPL TOXICOL. 3(5): 233-239.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CARBON DISULFIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CARBON MONOXIDE 000630-05-0

010493 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

CARBON TETRACHLORIDE 000056-23-5

010862 BRUCKNER, JV, WF MACKENZIE, S MURALIDHARA, ET AL. 1986. ORAL TOXICITY OF CARBON TETRACHLORIDE: ACUTE, SUBACUTE AND SUBCHRONIC STUDIES IN RATS. FUND APPL TOXICOL. 6(1): 16-34.

US EPA. 1985. RfD/RfC WORK GROUP.

CHLORAL 000075-87-6

005290 SANDERS VM, BM KAUFFMANN, KL WHITE, JR. 1982: TOXICOLOGY OF CHLORAL HYDRATE IN THE MOUSE. ENVIRON HEALTH PERSPECT. 44: 146-173.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORAL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

CHLORDANE 000057-74-9

005296 VELSICOL CHEMICAL CORP. 1983. ACC NO 252267, MRID NO. 00138591, 00144313. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1989. RfD/RfC WORK GROUP.

575

CHLORINE CYANIDE 000506-77-4

010261 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS DF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

CHLORO-1,3-BUTADIENE, 2- / (CHLOROPRENE) 000126-99-8

010515 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. SUBCHRONIC INHALATION TOXICITY STUDY DF CHLOROPRENE IN MICE AND RATS. CONDUCTED BY BATELLE PACIFIC NORTHWEST LABORATORY, RICHLAND, WA.

US EPA. 1992. RfD/RfC WORK GROUP.

CHLORO-M-CRESOL, P- 000059-50-7

005366 MADSEN C, PH ANDERSEN, O MEYER AND G WURTZEN. 1986. 4-CHLORO-E-METHYLPHENOL: SALMONELLA/MAMMALIAN-MICRDSOME MUTAGENICITY TEST AND SUBACUTE TOXICITY TEST IN RATS. BULL ENVIRON CONTAM TDXICOL. 37(5): 651-654.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR P-CHLORO-M-CRESOL. PREPARED BY THE DFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE DFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROACETALDEHYDE 000107-20-0

005342 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROACETALDEHYDE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRDNMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPDNSE, WASHINGTON, DC.

CHLOROACETIC ACID 000079-11-8

005346 IRDC (INTERNATIONAL RESEARCH AND OEVELOPMENT CORPORATION). 1982. SUBCHRONIC ORAL TDXICITY TEST WITH MONOCHLOROACETIC ACID IN RATS. NATIONAL TOXICOLOGY PROGRAM, BETHESDA, MD P 1-101.

US EPA. 1988. HEALTH ANO ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROACETIC ACID. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROANILINE, 2- 000095-51-2

005347 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROANILINES. PREPARED BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

576

CHLOROANILINE, 3- 000108-42-9

005348 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROANILINE, 4- 000106-47-8

005349 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF P-CHLOROANILINE FOR POSSIBLE CARCINOGENICITY. NCI CARC. TECH. REP. SER.NO. 189. NTIS PB-295896.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

CHLOROBENZENE 000108-90-7

010863 MONSANTO COMPANY. 1967. 13-WEEK ORAL ADMINISTRATION--DOGS. MONOCHLOROBENZENES. FINAL REPORT. PROJECT NO. 241-105. FEBRUARY 24. PREPARED BY HAZELTON LABORATORIES.

KNAPP, WK, WM BUSEY, AND W KUNDZINS. 1971. SUBACUTE ORAL TOXICITY OF MONOCHLOROBENZINE IN DOGS AND RATS. TOXICOL APPL PHARMACOL. 19: 393 (ABSTRACT).

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR CHLORINATED BENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. EPA 600/8-84-015F. NTIS PB85-150332.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHOLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CHLOROBENZILATE 000510-15-6

010260 CIBA-GEIGY CORPORATION. 1984. MRID NO 00144691. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROBENZILATE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEATH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

US EPA. 1989. RfD/RfC WORK GROUP.

010931 US EPA. 1993. RfD/RfC WORK GROUP.

577

CHLOROBENZOIC ACID, P- **000074-11-3**

005360 KIECKEBUSCH W; W GRIEM AND K LANG. 1960. THE TOLERABILITY OF P-CHLOROBENZOIC ACID. ARZNEIMI HEL-FORSCH. 10: 999-10001.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR P-CHLOROBENZOIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBENZOTRIFLUORIDE, 4- **000098-56-6**

005364 HOOKER CHEMICAL CORP. 1981. MODIFIED 90-DAY GAVAGE AND REPRODUCTION STUDY IN RATS PCBTF. CONDUCTED BY ELARS BIORESEARCH LABORATORIES, INC. FORT COLLINS, CO. US EPA/OPTS PUBLIC FILES. MICROFICHE #OTS0508148.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4-CHLOROBENZOTRIFLUORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBUTANE, 1- **000109-69-3**

005808 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF N-BUTYL CHLORIDE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). CAS NO 109-69-3. NTP-TR-312, 198 P.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005806 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF N-BUTYL CHLORIDE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). CAS NO 109-69-3. NTP-TR-312, 198 P.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBUTANE, 2- **000078-86-4**

005809 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MONOCHLOROBUTANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROCYCLOPENTADIENE **041851-50-7**

005297 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

May 1995

CHLOROFORM 000067-66-3

005372 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTIDIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHLOROMETHANE (METHYL CHLORIDE) 000074-87-3

010005 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHLORONITROBENZENE, M- 000121-73-3

005879 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORONITROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHLOROPHENOL, 2- 000095-57-8

010436 EXON JH. LD KOELLER. 1982. EFFECTS OF TRANSPLACENTAL EXPOSURE TO CHLORINATED PHENOLS. ENVIRON HEALTH PERSPECT. 46: 137-140.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2-CHLOROPHENOL AND 2,4-DICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-CHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

CHLOROPHENOL, 3- 000108-43-0

005309 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHLOROPHENOL, 4- 000106-48-9

005310 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

579

WASHINGTON, DC.

CHLOROPROPANE, 2- **000075-29-6**

010444 GAGE JC. 1970. THE SUBACUTE INHALATION TOXICITY OF 109 INDUSTRIAL CHEMICALS. BR J IND MED. 27(1): 1-18.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-CHLOROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROTHALONIL **001897-45-6**

005883 DIAMOND SHAMROCK CHEMICAL COMPANY. 1970. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. ACCESSION NO 111253. MRID NO. 00057702, 00114034. AVAILABLE FROM EPA. WRITE TO FOI, EPA. WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

CHLOROTOLUENE, M- **000108-41-8**

005880 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROTOLUENE, O- **000095-49-8**

010167 GIBSON, WR, FO GOSSETT, GR KOENIG, F MARROQUIN. 1974. THE TOXICITY OF DAILY ORAL DOSES OF O-CHLOROTOLUENE IN THE RAT. TOXICOLOGY DIVISION, LILLY RESEARCH LABORATORIES. SUBMITTED TO TEST RULES DEVELOPMENT BRANCH, OFFICE OF TOXIC SUBSTANCES, US EPA, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

CHLOROTOLUENE, P- **000106-43-4**

010200 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHOROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORPYRIFOS **002921-88-2**

005881 DOW CHEMICAL COMPANY. 1972. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NO 112118.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORPYRIFOS AND CHLOROPYRIFOS-METHYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

580

CHLORPYRIFOS METHYL 005598-13-0

005882 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORPYRIFOS AND CHLORPYRIFOS-METHYL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHLORTHIOPHOS 060238-56-4

005884 WORTHING CR AND SB WALKER. ED. 1983. THE PESTICIDE MANUAL. 7TH ED. BRITISH CROP PROTECTION COUNCIL. THE LAVENHAM PRESS LTD. SUFFOLK. ENGLAND. P 130.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORTHIOPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

CHROMIUM(III) 016065-83-1

005731 IVANKOVIC S AND R PREUSSMAN. 1975. ABSENCE OF TOXIC AND CARCINOGENIC EFFECTS AFTER ADMINISTRATIONS OF HIGH DOSES OF CHROMIC OXIDE PIGMENT IN SUBACUTE AND LONG-TERM FEEDING EXPERIMENTS IN RATS. FOOD COSMET TOXICOL. 13: 347-351.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR TRIVALENT CHROMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

CHROMIUM(VI) 018540-29-9

005522 MACKENZIE RD. RU BYERRUM. CF DECKER ET AL. 1958. CHRONIC TOXICITY STUDIES. II. HEXAVALENT AND TRIVALENT CHROMIUM ADMINISTERED IN DRINKING WATER TO RATS. AM MED ASSOC ARCH IND HEALTH. 18: 232-234.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXAVALENT CHROMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

CHRYSENE 000218-01-9

005885 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHRYSENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

COPPER 007440-50-8

005374 US EPA. 1987. DRINKING WATER CRITERIA DOCUMENT FOR COPPER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF DRINKING WATER. WASHINGTON. DC.

COPPER CYANIDE **000544-92-3**

010262 US EPA. 1986. 90 DAY ORAL TOXICITY STUDY OF COPPER CYANIDE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

CRESOL, M- / (3-METHYLPHENOL) **000108-39-4**

005380 US EPA. 1986. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC TOXICITY STUDIES IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC NEUROTOXICITY STUDY IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010888 US EPA. 1991. RfD/RfC WORK GROUP.

CRESOL, O- / (2-METHYLPHENOL) **000095-48-7**

005384 US EPA. 1986. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC TOXICITY STUDIES IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. O,M,P-CRESOL. 90-DAY ORAL SUBCHRONIC NEUROTOXICITY STUDY IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010889 US EPA. 1991. RfD/RfC WORK GROUP.

CRESOL, P- / (4-METHYLPHENOL) **000106-44-5**

010516 CMA (CHEMICAL MANUFACTURERS' ASSOCIATION). 1988. DEVELOPMENTAL TOXICITY EVALUATION OF O-, M- OR P-CRESOL ADMINISTERED BY GAVAGE TO NEW ZEALAND WHITE RABBITS. FINAL PROJECT REPORT 51-508. FICHE NO. OTS0517695.

DEITZ D, AND LT MULLIGAN. 1988. SUBCHRONIC TOXICITY OF P-CRESOL IN SPRAGUE-DAWLEY RATS: MBA CHEMICAL NO 25. PREPARED BY RESEARCH TRIANGLE INSTITUTE, RESEARCH TRIANGLE PARK, NC. PREPARED FOR EPA, WASHINGTON, DC.

US EPA. 1993. RfD/RfC WORK GROUP.

010890 US EPA. 1991. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CUMENE 000098-82-8

005392 WOLF MA, VK ROWE, DD MCCOLLISTER, RL HOLLINGSWORTH AND F OYEN. 1956. TOXICOLOGICAL STUDIES OF CERTAIN ALKYLATED BENZENE AND BENZENES. AMA ARCH IND HEALTH. 14: 387-398.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CUMENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

005908 MONSANTO COMPANY. 1986. ONE MONTH STUDY OF CUMENE VAPOR ADMINISTERED TO MALE AND FEMALE SPRAGUE-DAWLEY RATS BY INHALATION. US EPA/OTS PUBLIC FILES, 8D SUBMISSION. MICROFICHE# OTS 0513229.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CUMENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CYANAZINE 021725-46-2

010411 EI DU PONT DE NEMOURS AND COMPANY, INC. 1986. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO. 40081901 AND 40229001. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CYANAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR CYANAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

CYANIDE 000057-12-5

005396 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. J AGRIC FOOD CHEM. 3: 325-329.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR CYANIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR CYANIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

583

CYANOGEN 000460-19-5

010263 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

US EPA. 1985. RfD/RfC WORK GROUP.

CYANOGEN BROMIDE 000506-68-3

010264 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

US EPA. 1987. RfD/RfC WORK GROUP.

CYCLOATE 001134-23-2

005886 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CYCLOATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CYCLOHEXANOL 000108-93-0

005887 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CYCLOHEXANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CYCLOHEXYLAMINE 000108-91-8

005400 GAUNT IF, J HARDY, P GRASSO, SD GANGOLLI AND KR BUTTERWORTH. 1976. LONG-TERM TOXICITY OF CYCLOHEXYLAMINE HYDROCHLORIDE IN THE RAT. FOOD COSMET TOXICOL. 14(4): 255-268.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOHEXYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

005398 GAUNT IF, M SHARRATT, PG GRASSO, AB LANSDOWN AND SD GANGOLLI. 1974. SHORT-TERM TOXICITY OF CYCLOHEXYLAMINE HCL IN THE RAT. FOOD COSMET TOXICOL. 12: 609-624.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOHEXYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

584

CYCLOPENTADIENE 000542-92-7

010494 DOW. 1987. UNPUBLISHED DATA. DOW CHEMICAL. USA, MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DACTHAL 001861-32-1

005888 ISK BIOTECH CORPORATION. 1993. MRID NO. 42731001, 42998401. HED DOC NO 010513. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1994. RfD/RfC WORK GROUP.

DALAPON 000075-99-0

005889 PAYNTER OE, TW TUSING, DD MCCOLLISTER AND VK ROWE. 1960. TOXICOLOGY OF DALAPON SODIUM (2,2-DICHLOROPROPIONIC ACID, SODIUM SALT). J AGRIC FOOD CHEM. 8: 47-51.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DALAPON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DDT 000050-29-3

005408 LAUG, EP, AA NELSON, OG FITZHUGH AND FM KUNZE. 1950. LIVER CELL ALTERATION AND DDT STORAGE IN THE FAT OF THE RAT INDUCED BY DIETARY LEVELS OF 1-50 PPM DDT. J PHARMACOL EXP THERAP. 98: 268-273.

US EPA. 1985. RfD/RfC WORK GROUP.

585

DECABROMODIPHENYL ETHER 001163-19-5

005891 KOCIBA RJ, LO FRAUSON, CG HUMISTON, ET AL. 1975. RESULTS OF A TWO-YEAR DIETARY FEEDING STUDY WITH DECABROMODIPHENYL OXIDE (DCDPO) IN RATS. COMBUST TOXICOL. 2(4): 267-285.

NORRIS JM, JW EHRMANTRAUT, CL GIBBONS, ET AL. 1975. TOXICOLOGY OF OCTABROMOBIPHENYL AND DECABROMODIPHENYL OXIDE. ENVIRON HEALTH PERSPECT. 11:153-161.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIPHENYL ETHER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

DI-N-OCTYL PHTHALATE 000117-84-0

010275 PIEKACZ H. 1971. EFFECT OF DIOCTYL AND DIBUTYL PHTHALATES ON THE ORGANISM OF RATS AFTER ORAL ADMINISTRATION IN PROLONGED EXPERIMENT. II. SUBACUTE AND CHRONIC TOXICITY. ROCZ PANSTW ZAKL HIG. 22(3): 295-307.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACID, ALKYL, ARYL, AND ALKYL/ARYL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

DIAZINON 000333-41-5

005892 DAVIES DB AND BJ HOLUB. 1979. COMPARATIVE SUSCEPTIBILITY OF MALE AND FEMALE RATS TO DIETARY DIAZINON TOXICITY. J NUTR. 109(6): XXVIII.

DAVIES DB AND BJ HOLUB. 1980. COMPARATIVE SUBACUTE TOXICITY OF DIETARY DIAZINON IN THE MALE AND FEMALE RAT. TOXICOL APPL PHARMACOL. 54(3): 359-367.

DAVIES DB AND BJ HOLUB. 1980. TOXICOLOGICAL EVALUATION OF DIETARY DIAZINON IN THE RAT. ARCH ENVIRON CONTAM TOXICOL. 9(6): 637-650.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIAZINON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

DIBENZOFURAN 000132-64-9

005409 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIBENZOFURAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

DIBROMOBENZENE, 1,4- 000106-37-6

005893 CARLSON GP AND RG TARDIFF. 1977. EFFECT OF 1,4-DIBROMOBENZENE AND 1,2,4-TRIBROMOBENZENE ON XENOBIOTIC METABOLISM. TOXICOL APPL PHARMACOL. 42(1): 189-196.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DIBROMOCHLOROMETHANE 000124-48-1

005894 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHLORODIBROMOMETHANE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TR282. NTIS PB86-166675.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOCHLOROMETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DIBROMOCHLOROMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

DIBROMOETHANE, 1,2- 000106-93-4

010854 RATCLIFFE JM, SM SCHRADER, K STEENLAND, DE CLAPP, T TURNER AND RW HORNUNG. 1987. SEMEN QUALITY IN PAPAYA WORKERS WITH LONG-TERM EXPOSURE TO ETHYLENE BROMIDE. BR J IND MED. 44: 317-326.

SCHRADER SM, TW TURNER AND JM RATCLIFFE. 1988. THE EFFECTS OF ETHYLENE BROMIDE ON SEMEN QUALITY: A COMPARISON OF SHORT-TERM AND CHRONIC EXPOSURE. REPROD TOXICOLOGY. 2: 191-198.

US EPA. 1992. RFD/RFC WORK GROUP.

587

DIBUTYL PHTHALATE **000084-74-2**

005622 SMITH CC. 1953. TOXICITY OF BUTYL STEARATE, DIBUTYL SEBACATE, DIBUTYL PHTHALATE AND METHOXYETHYL OLEATE. ARCH HYG OCCUP MED. 7: 310-318.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH. FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

010892 US EPA. 1990. RfD/RfC WORK GROUP.

DICAMBA **001918-00-9**

010945 GOLDENTHAL, EI, DC JESSUP AND DE RODWELL. 1978. TERATOLOGY STUDY IN RABBITS: IRDC NO. 163-436. (UNPUBLISHED STUDY RECEIVED MARCH 6, 1979 UNDER 876-36. PREPARED BY INTERNATIONAL RESEARCH AND DEVELOPMENT CORP., SUBMITTED BY VELSICOL CHEMICAL CORP., CHICAGO, IL. CDL:237995-E). CITED AS VELSICOL CHEMICAL CORPORATION (1978) IN U.S. EPA (1993). MRID 00028236. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR DICAMBA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DICHLOROBENZENE, 1,2- **000095-50-1**

010864 US EPA. 1989. RfD/RfC WORK GROUP.

DICHLOROBENZENE, 1,3- **000541-73-1**

005414 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DICHLOROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

885

DICHLOROBENZENE, 1,4- **000106-46-7**

010840 CHLOROBENZENE PRODUCERS ASSN. 1986. PARADICHLOROBENZENE: TWO-GENERATION REPRODUCTION STUDY IN SPRAGUE-DAWLEY RATS. STUDY NO86-81-90605. MRID NO 411088-1. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1987. TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,4-DICHLOROBENZENE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TR 319. NIH PUBL NO 87-2575.

US EPA. 1992. RfD/RfC WORK GROUP.

DICHLOROBUTENES

005415 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DICHLOROBUTENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLORODIFLUOROMETHANE **000075-71-8**

005498 SHERMAN H. 1974. LONG-TERM FEEDING STUDIES IN RATS AND DOGS WITH DICHLORODIFLUOROMETHANE (FREON 12 FOOD FREEZANT). HASKELL LABORATORY REPORT NO 24-74, UNPUBLISHED, COURTESY DU PONT DE NEMOURS CO.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

005496 CLAYTON WJ, JR. 1967. FLUOROCARBON TOXICITY AND BIOLOGICAL ACTION. FLUORINE CHEM REV. 1(2): 197-252.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLOROETHANE, 1,1- **000075-34-3**

005790 HOFMANN HT, H BIRNSTIEL AND P JOBST. 1971. ON THE INHALATION TOXICITY OF 1,1- AND 1,2-DICHLOROETHANE. ARCH TOXIKOL. 27: 248-265.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

May 1995

DICHLOROETHYLENE, 1,1- 000075-35-4

005419 QUAST JF, CG HUMISTON, CE WADE, ET AL. 1983. A CHRONIC TOXICITY AND ONCOGENICITY STUDY IN RATS AND SUBCHRONIC TOXICITY STUDY IN DOGS ON INGESTED VINYLIDENE CHLORIDE. FUND APPL TOXICOL. 3(1): 55-62.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHYLENE (VINYLIDINE CHLORIDE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

DICHLOROETHYLENE, 1,2- (MIXED ISOMERS) 000540-59-0

010509 QUAST, JF, CG HUMISTON, CE WADE, ET AL. 1983. A CHRONIC TOXICITY AND ONCOGENICITY STUDY IN RATS AND SUBCHRONIC TOXICITY STUDY IN DOGS ON INGESTED VINYLIDINE CHLORIDE. FUND APPL TOXICOL. 3: 55-62.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,2-DICHLOROETHYLENE (MIXED ISOMERS). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROETHYLENE, 1,2-C- 000156-59-2

005420 MCCAULEY PT, M ROBINSON, LW CONDIE, ET AL. NO DATE. THE EFFECTS OF SUBACUTE AND SUBCHRONIC ORAL EXPOSURE TOCIS-1,2-DICHLOROETHYLENE IN RATS. HEALTH EFFECTS RESEARCH LABORATORY, US EPA, CINCINNATI, OH.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,2-C-DICHLOROETHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

DICHLOROETHYLENE, 1,2-T- 000156-60-5

005895 BARNES DW, WM SANDERS, KL SHITE JR, ET AL. 1985. TOXICOLOGY OF TRANS-1,2-DICHLOROETHYLENE IN THE MOUSE. DRUG CHEM TOXICOL. 8: 373-392.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,2-T-DICHLOROETHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLOROPHENOL, 2,3- 000576-24-9

005315 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

590

DICHLOROPHENOL, 2,4- **000120-83-2**

005314 EXON JH, AND LD KOLLER. 1985. TOXICITY OF 2-CHLOROPHENOL,2,4-DICHLOROPHENOL AND 2,4,6-TRICHLOROPHENOL. IN: WATER CHLORINATION: CHEM. ENVIRON IMPACT AND HEALTH EFF. JOLLEY ET AL., ED. VOL. 5.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2-CHLOROPHENOL AND 2,4-DICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DICHLOROPHENOL, 2,5- **000583-78-8**

005316 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPHENOL, 2,6- **000087-65-0**

005317 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DICHLOROPHENOL, 3,4- **000095-77-2**

005318 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPHENOL, 3,5- **000591-35-5**

005319 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPHENOXY ACETIC ACID, 2,4- **000094-75-7**

010265 DOW CHEMICAL CO. 1983. ACC NO. 251473.

US EPA. 1988. RfD/RfC WORK GROUP.

591

DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4- / (2,4-DB) 000094-82-6

005890 RHODIA INC. 1969. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO. 0092165. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-DB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPROPANE, 1,1- 000078-99-9

005897 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPROPANE, 1,2- 000078-87-5

005898 NITSCHKE KD, KA JOHNSON, DL WACKERLE, JE PHILLIPS, DA DITTENBER. 1988. PROPYLENE DICHLORIDE: A 13 WEEK INHALATION TOXICITY STUDY WITH RATS, MICE AND RABBITS. DOW CHEMICAL CO. MAMMALIAN AND ENVIRONMENTAL TOXICOLOGY RESEARCH LABORATORY, MIDLAND, MI.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

DICHLOROPROPANE, 1,3- 000142-28-9

005899 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROPROPANE, 2,2- 000594-20-7

005900 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROPANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

592

DICHLOROPROPENE, 1,3- / (TELONE II) 000542-75-6

005901 DOW CHEMICAL CO. 1973. MRID NOS. 00067977, 0039684. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, OC 20460.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

010351 LOMAX, LG, WT STOTT, KA JOHNSON, ET AL. 1989. THE CHRONIC TOXICITY AND ONCOGENICITY OF INHALED TECHNICAL-GRADE 1,3-DICHLOROPROPENE IN RATS AND MICE. FUND APPL TOXICOL. 10: 214.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

DICHLORPROP 000120-36-5

005896 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DICHLOROPROP. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICYCLOPENTADIENE 000077-73-6

005425 LITTON BIONETICS, INC. 1980. MAMMALIAN TOXICOLOGICAL EVALUATION OF DIMP AND DCPD. (PHASE 2). LITTON BIONETICS, INC., KENSINGTON, MD CONTRACT DAMB. 17-77-C-7003. NTIS AD-A082685.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIELDRIN 000060-57-1

005429 WALKER AIT, DE STEVENSON, J ROBINSON, ET AL. 1969. THE TOXICOLOGY AND PHARMACODYNAMICS OF DIELDRIN (HEOD): TWO-YEAR ORAL EXPOSURE OF RATS AND DOGS. TOXICOL APPL PHARMACOL. 15: 345-373.

US EPA. 1987. RfD/RfC WORK GROUP.

593

DIETHYL PHTHALATE 000084-66-2

005620 BROWN D. KR BUTTERWORTH. IF GAUNT ET AL. 1978. SHORT-TERMORAL TOXICITY STUDY OF DIETHYL PHTHALATE IN THE RAT. FOOD COSMET TOXICOL. 16: 415-422.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

U.S. EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH, FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

DIETHYL-P-NITROPHENYL PHOSPHATE 000311-45-5

005922 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DIETHYL-P-NITROPHENYL PHOSPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIETHYLANILINE, N,N- 000091-66-7

005903 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIETHYLANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIETHYLENE GLYCOL MONOBUTYL ETHER 000112-34-5

005482 US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

US EPA. 1992. RfD/RfC WORK GROUP.

DIETHYLENE GLYCOL MONOETHYL ETHER 000111-90-0

005478 SMYTH HF, CP CARPENTER AND CB SHAFFER. 1964. A 2-YEAR STUDY OF DIETHYLENE GLYCOL MONOETHYL ETHER IN RATS. FOOD COSMET TOXICOL. 2: 641-642.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

005476 HALL DE, FS LEE, P AUSTIN AND FA FAIRWEATHER. 1966. SHORT-TERM FEEDING STUDY WITH DIETHYLENE GLYCOL MONOETHYL ETHER IN RATS. FOOD COSMET TOXICOL. 4: 263.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

594

DIETHYLFORMAMIDE 000617-84-5

010437 ARGUS MF, JC ARCOS AND C HOCH-LIGETI. 1965. THE CARCINOGENIC ACTIVITY OF PROTEIN-DENATURING AGENTS: HEPATOCARCINOGENICITY OF DIOXANE. J. NATL CANCER INST. 35: 949-958.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIETHYLFORMAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIETHYLHYDRAZINE, 1,2- 001615-80-1

005921 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2-DIETHYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHOATE 000060-51-5

005923 AMERICAN CYANAMID COMPANY. 1986. MRID NO 00164177. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHOATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

DIMETHYLANILINE, N,N- 000121-69-7

005924 ABDO K, M WOLFE AND R HILES. 1984. SUBCHRONIC TOXICITY OF N,N-DIMETHYLANILINE TO F-344 RATS AND B6C3F1 MICE. FED PROC. 43(3): 169B.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIMETHYLANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

595

DIMETHYLFORMAMIDE, N,N- **000068-12-2**

005925 BECCI, PJ, KA VOSS, WD JOHNSON, ET AL. 1983. SUBCHRONIC FEEDING STUDY OF N,N-DIMETHYLFORMAMIDE IN RATS AND MICE. J AM COLL TOXICOL. 2(6): 371-378.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIMETHYLFORMAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010352 CIRLA, AM, G PISATI, E INVERNIZZI ET AL. 1984. EPIDEMIOLOGICAL STUDY ON WORKERS EXPOSED TO LOW DIMETHYLFORMAMIDE CONCENTRATIONS. G ITAL MED LAV. 6: 149-156.

CATENACCI, G, D GRAMPELLA, R TERZI, ET AL. 1984. HEPATIC FUNCTION IN SUBJECTS EXPOSED TO ENVIRONMENTAL CONCENTRATIONS OF DMF LOWER THAN THE ACTUALLY PROPOSED TLV. G ITAL MED LAV. 6: 157-158.

US EPA. 1990. RfD/RfC WORK GROUP.

DIMETHYLPHENOL, 2,3- **000526-75-0**

005926 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLPHENOL, 2,4- **000105-67-9**

010266 US EPA. 1989. NINETY-DAY GAVAGE STUDY IN ALBINO MICE USING 2,4-DIMETHYLPHENOL. STUDY 410-2831, PREPARED BY DYNAMAC CORPORATION, ROCKVILLE, MD, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

DIMETHYLPHENOL, 2,5- **000095-87-4**

005928 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

596

DIMETHYLPHENOL, 2,6- 000576-26-1

005431 VELDRE IA AND HJ JANES. 1979. TOXICOLOGICAL STUDIES OF SHALE OILS, SOME OF THEIR COMPONENTS AND COMMERCIAL PRODUCTS. ENVIRON HEALTH PERSPECT. 30: 141-146.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DIMETHYLPHENOL, 3,4- 000095-65-8

005437 VELDRE IA AND HJ JANES. 1979. TOXICOLOGICAL STUDIES OF SHALE OILS, SOME OF THEIR COMPONENTS AND COMMERCIAL PRODUCTS. ENVIRON HEALTH PERSPECT. 30: 141-146.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIMETHYLPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DIMETHYLPHTHALATE 000131-11-3

010267 US EPA. 1994. RfD/RfC WORK GROUP.

010894 US EPA. 1990. RfD/RfC WORK GROUP.

DIMETHYLTEREPHTHALATE 000120-61-6

005930 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF DIMETHYL TEREPHTHALATE FOR POSSIBLE CARCINOGENICITY. DHEW/PUB/NIH 79-1376, NCI-CG-TR121.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYL AND METHYL TEREPHTHALATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLUREA, N,N- 000598-94-7

005931 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIMETHYLUREA. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITRO-O-CRESOL, 4,6- 000534-52-1

010470 US EPA. 1993. RfD/RfC WORK GROUP.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROCRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

597

DINITRO-P-CRESOL, 2,6- **000609-93-8**

005934 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,6-DINITRO-P-CRESOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROBENZENE, 1,2- **000528-29-0**

010201 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHRISTIAN. 1981. 1,3-DINITROBENZENE: TOXIC EFFECT IN VIVO AND IN VITRO. J TOXICOL ENVIRON HEALTH. 7(5): 829-847.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROBENZENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROBENZENE, 1,3- **000099-65-0**

010471 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHRISTIAN. 1981. 1,3-DINITROBENZENE. TOXIC EFFECT IN VIVO AND IN VITRO. J TOXICOL ENVIRON HEALTH. 7(5): B29-847.

US EPA. RfD/RfC WORK GROUP.

DINITROBENZENE, 1,4- **000100-25-4**

010202 CODY TE, S WITHERUP, L HASTINGS, K STEMMER AND RT CHRISTIAN. 1981. 1,3-DINITROBENZENE: TOXIC EFFECT IN VIVO AND IN VITRO. J TOXICOL ENVIRON HEALTH. 7(5): 829-847.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROBENZENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROPHENOL, 2,3- **000066-56-8**

005936 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

865

DINITROPHENOL, 2,4- **000051-28-5**

010438 HORNER WD. 1942. DINITROPHENOL AND ITS RELATION TO FORMATION OF CATARACTS. ARCH OPHTHALMOL. 27: 1097-1121.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTEO). PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE. WASHINGTON DC.

US EPA. 1991. RfD/RfC WORK GROUP.

010895 US EPA. 1991. RfD/RfC WORK GROUP.

DINITROPHENOL, 2,5- **000329-71-5**

005937 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. DC.

DINITROPHENOL, 2,6- **000573-56-8**

005938 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR OINITROPHENOLS (SELECTEO). PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. DC.

DINITROPHENOL, 3,5- **000586-11-8**

005939 US EPA. 1984. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR DINITROPHENOLS (SELECTED). PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DINITROTOLUENE, 2,3- **000602-01-7**

005940 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PRDFILE FOR DINITROTOLUENE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

DINITROTOLUENE, 2,4 **000121-14-2**

005941 ELLIS HV. CB HONG. CC LEE. ET AL. 1985. SUBCHRONIC AND CHRONIC TOXICITY STUOIES OF 2,4-DINITROTOLUENE. PART I. BEAGLE DOGS. J AM COLLEGE TOXICOL. 4(4): 233-242.

US EPA. 1986. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR OINITROTOLUENE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE. WASHINGTON. OC.

US EPA. 1991. RfD/RfC WORK GROUP.

599

DINITROTOLUENE, 2,4- 000121-14-2

010896 US EPA. 1990. RfC WORK GROUP.

DINITROTOLUENE, 2,5- 000619-15-8

005942 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DINITROTOLUENE, 2,6- 000606-20-2

005943 LEE C-C ET AL. 1976. MAMMALIAN TOXICITY OF MUNITIONS COMPOUNDS. PHASE II: EFFECTS OF MULTIPLE DOSES. PART III: 2,6-DITINROTOLUENE. US ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND, FORT DETRICK, MD.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

DINITROTOLUENE, 3,4- 000610-39-9

005944 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

DINOSEB 000088-85-7

005945 DOW CHEMICAL COMPANY. 1981. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHEO STUDY. MRID NO 00152675. AVAILABLE FROM EPA. WRITE TO FDI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DINOSEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

DIPHENYLAMINE, N,N- 000122-39-4

005946 THOMAS JD, WE RIBELIN, JR WOODWARD ANO F OEEOS. 1967. THE CHRDNIC TOXICITY OF OIPHENYLAMINE FOR DOGS. TOXICOL APPL PHARMACOL. 11: 184-194.

US EPA. 1985. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR N,N-DIPHENYLAMINE. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

May 1995

DIRECT LIGHTFAST BLUE 004399-55-7

005947 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT LIGHTFAST BLUE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DISULFOTON 000298-04-4

010412 MOBAY CHEMICAL COMPANY. 1985. MRID NO. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DISULFDTON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1986. RfD/RfC WORK GROUP.

ENDOSULFAN 000115-29-7

010926 HOECHST CELANESE CORP. 1989. ENDOSULFAN: 2-YEAR FEEDING/ONCOGENICITY STUDY IN RATS. MRID NO. 40256502, 42099502. HED DOC. NO. 007937. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1993. RfD/RfC WORK GROUP.

010938 HOECHST CELANESE CORP. 1989. ENDOSULFAN: I-YEAR FEEDING STUDY IN DOGS. MRID. NO 41099501. HED NO. 007937. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1993. RfD/RfC WORK GROUP.

ENDOTHALL 000145-73-3

005948 PENNWALT AGCHEM. ND MRID NO 00101735. AVAILABLE FROM US EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ENDOTHALL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ENDRIN 000072-20-8

005445 VELSICOL CHEMICAL CORPORATION. 1969. MRID NO. 00030198. AVAILABLE FROM EPA. WRITE FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR ENDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ENDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

EPICHLOROHYDRIN 000106-89-8

010440 LASKIN S, AR SELLAKUMAR, M KUSCHNER, ET AL. 1980. INHALATION CARCINOGENICITY OF EPICHLOROHYDRIN IN NON-INBRED SPRAGUE-DAWLEY RATS. J NATL CANCER INST. 65(4): 751-757.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-83-032F. NTIS PB85-132363.

US EPA. 1991. RfD/RfC WORK GROUP.

010492 QUAST JF, JW HENCK, BJ POSTMA, DJ SCHUETZ AND MJ MCKENNA.1979. EPICHLOROHYDRIN - SUBCHRONIC STUDIES. I. A 90-DAY INHALATION STUDY IN LABORATORY RODENTS. (FISCHER 344 RATS, SPRAGUE-DAWLEY RATS AND B6C3F1 MICE). DOW CHEMICAL USA, MIDLAND, MI.

US EPA. 1991. RfD/RfC WORK GROUP.

EPTC 000759-94-4

005959 PPG INDUSTRIES, INC. 1986. CONFIDENTIAL BUSINESS INFORMATION: UNPUBLISHED STUDY. ACCESSION NO. 263695, 262696. MRID NO. 00161597. AVAILABLE FROM EPA. WRITE FDI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR EPTC. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOPROP 013194-48-4

005951 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHOPROP. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL ACETATE, 2- 000111-15-9

010507 UNION CARBIDE. 1984. A TERATOGENIC EVALUATION OF CELLOSOLVE ACETATE IN FISHER 344 RATS AND NEW ZEALAND WHITE RABBITS FOLLOWING INHALATION EXPOSURE. BUSHY RUN RESEARCH CENTER, EXPORT, PA, OCTOBER 1984. FYI-AX-1184-0360.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL ACRYLATE, 2- 000106-74-1

005953 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

602

ETHOXYETHANOL DODECANOATE, 2- 000106-13-8

005956 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

ETHOXYETHANOL PHOSPHATE, 2- 068554-00-7

005955 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

ETHOXYETHANOL, 2- 000110-80-5

005470 MELNICK RL. 1984. TOXICITIES OF ETHYLENE GLYCOL AND ETHYLENE GLYCOL MONOETHYL ETHER IN FISCHER 344/N RATS AND B6C3F1 MICE. ENVIRON HEALTH PERSPECT. 57: 147-155.

US EPA. 19B5. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXY-ETHANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

005468 STENGER EG. A LISLOTT. D MUELLER ET AL. 1971. TOXICOLOGY OF ETHYLENE GLYCOL MONOETHYL ETHER. ARZNEIM-FORSCH. 21(6): 880-885.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC. EPA 540/1-86-052.

010441 BARBEE SJ. JB TERRILL. DJ DESOUSA AND CC CONAWAY. 1984. SUBCHRONIC INHALATION TOXICOLOGY OF ETHYLENE GLYCOL MONOETHYL ETHER IN THE RAT AND RABBIT. ENVIRON HEALTH PERSPECT. 57: 157-163.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC. EPA 540/1-86-052.

US EPA. 1990. RfD/RfC WORK GROUP.

ETHOXYETHYL METHACRYLATE, 2- 002370-63-0

005954 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

603

ETHYL ACETATE 000141-78-6

005957 US EPA. 1986. RAT ORAL SUBCHRONIC STUDY WITH ETHYL ACETATE. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1986. RfD/RfC WORK GROUP.

ETHYL BENZENE 000100-41-4

010867 WOLF MA. VK ROWE. DD MCCOLLISTER. RL HOLLINGSWORTH AND F OYEN. 1956. TOXICOLOGICAL STUDIES OF CERTAIN ALKYLATED BENZENE AND BENZENES. AMA ARCH IND HEALTH. 14: 387-398. CITED IN US EPA. 1985.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR ETHYLBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYLBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 19B5. RfD/RfC WORK GROUP.

010866 ANDREW FD. RL BUSHCOHBOM. WC CANNON. ET AL. 1981. TERATOLOGIC ASSESSMENT OF ETHYLBENZENE AND 2-ETHOXYETHANOL. BATTELLE PACIFIC NORTHWEST LABORATORY. RICHLAND. WA. NTIS PB83-208074. P 108.

HARDIN BD. GP BOND. MR SIKOV. ET AL. 1981. TESTING OF SELECTED WORKPLACE CHEMICALS FOR TERATOGENIC POTENTIAL. SCANDJ WORK ENVIRON HEALTH. 7: 66-75.

US EPA. 1990. RfD/RfC WORK GROUP.

ETHYL CHLORIDE 000075-00-3

010371 SCORTICHINI BH. KA JOHNSON. JJ MOMANY-PFRUENDER ET AL. 1986. ETHYL CHLORIDE: INHALATION TERATOLOGY STUDY IN CF-1 MICE. DOW CHEMICAL CO. EPA 86-870002248.

US EPA. 1990. RfD/RfC WORK GROUP.

ETHYL ETHER 000060-29-7

010396 AMERICAN BIOGENICS CORP. 1986. 90-DAY GAVAGE STUDY IN RATS USING ETHYL ETHER. STATUS REPORT FOR ABC STUDY NO. 410-23433/1B/86.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ETHYL ETHER. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

409

ETHYL METHACRYLATE 000097-63-2

005961 BORZELLECA JF, PS LARSON, GR HENNIGAR, ET AL. 1964. STUDIES ON THE CHRONIC ORAL TOXICITY OF MONOMERIC ETHYL ACRYLATE AND METHYL METHACRYLATE. TOXICOL APPL PHARMACOL. 6: 29-36.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYL METHACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYL-O-XYLENE, 4- 000934-80-5

010472 US EPA. 1984. HEALTH AND ENVIRONMENTAL PROFILE FOR METHYLETHYL BENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

ETHYLANILINE, N- 000103-69-5

005958 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR N-ETHYLANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLENE CYANOHYDRIN 000109-78-4

005780 SAUERHOFF MW, WH BRAUN, JC RAMSEY ET AL. 1976. TOXICOLOGICAL EVALUATION AND PHARMACOKINETIC PROFILE OF B-HYDROXYPROPIONITRILE IN RATS. J. TOXICOL. ENVIRON. HEALTH. 2(1): 31-44.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLENE DIAMINE 000107-15-3

005796 YANG RS, RH GARMAN, RR MARONPOT, ET AL. 1983. ACUTE AND SUBCHRONIC TOXICITY OF ETHYLENEDIAMINE IN LABORATORY ANIMALS. APPL TOXICOL. 3(6): 512-520.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ETHYLENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010898 US EPA. 1990. RfD/RfC WORK GROUP.

605

ETHYLENE GLYCOL 000107-21-1

005454 DEPASS LR, RH GARMAN, MD WOODSIDE ET AL. 1986. CHRONIC TOXICITY AND ONCOGENICITY STUDIES OF ETHYLENE GLYCOL IN RATS AND MICE. FUND APPL TOXICOL. 7: 547-565.

US EPA. 1987. RfD/RfC WORK GROUP.

005452 MARONPOT RR, JP ZELENAK, EV WEAVER AND NJ SMITH. 1983. TERATOGENICITY STUDY OF ETHYLENE GLYCOL IN RATS. DRUG CHEM TOXICOL. 6(6): 579-594.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ETHYLENE GLYCOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

ETHYLENE GLYCOL MONOBUTYL ETHER 000111-76-2

010353 DODD DE, WM SNELLINGS, RR MAROMPOT, ET AL. 1983. ETHYLENE GLYCOL MONOBUTYL ETHER: ACUTE, 9-DAY AND 90-DAY VAPOR INHALATION STUDIES IN FISCHER 344 RATS. TOXICOL APPL PHARMACOL. 68: 405-414.

US EPA. 1991. RfD/RfC WORK GROUP.

ETHYLENE THIOUREA 000096-45-7

010397 GRAHAM SL, KJ DAVIS, WH HANSEN AND CH GRAHAM. 1975. EFFECTS OF PROLONGED ETHYLENE THIOUREA INGESTION ON THE THYROID OF THE RAT. FOOD COSMET TOXICOL. 13: 493-499.

US EPA. 1991. RfD/RfC WORK GROUP.

010899 US EPA. 1992. RfD/RfC WORK GROUP.

ETHYLTOLUENE, M- 000620-14-4

005963 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ETHYL BENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLTOLUENE, O- 000611-14-3

005962 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ETHYL BENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHYLTOLUENE, P- 000622-96-8

005964 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ETHYL BENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

909

FLUORANTHENE 000206-44-0

01016B US EPA. 1988. 13-WEEK MOUSE ORAL SUBCHRONIC TOXICITY STUDY. PREPARED BY TOXICITY RESEARCH LABORATORIES, LTD, MUSKEGON, MI FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010967 US EPA. 1994. RfD/RfC WORK GROUP.

FLUORENE 000086-73-7

010169 US EPA. 1989. MOUSE ORAL SUBCHRONIC STUDY. PREPARED BY TOXICITY RESEARCH LABORATORIES, LTD, MUSKEGON, MI, FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR FLUORENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

FLUORINE / (SOLUBLE FLUORIDE) 007782-41-4

005965 HODGE HC. 1950. THE CONCENTRATION OF FLUORIDES IN DRINKING WATER TO GIVE THE POINT OF MINIMUM CARIES WITH MAXIMUM SAFETY. J.AM. DENT. ASSOC. 40: 436.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR FLUORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

FLURIDONE 059756-60-4

005966 ELANCO PRODUCTS COMPANY. DIVISION OF ELI LILLY AND COMPANY. 1980. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NOS 070933, 070939. MRID NO. 00103251, 00103305. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FLURIDONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

FOLPET 000133-07-3

005967 CHEVRON CHEMICAL CORPORATION. 1986. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NO 263772. MRID NO. 00161315. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FOLPET. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RFD/RFC WORK GROUP.

FORMALDEHYDE 000050-00-0

010398 TIL HP, RA WOUTERSEN, VJ FERON ET AL. 1989. TWO-YEAR DRINKING WATER STUDY OF FORMALDEHYDE IN RATS. FOOD CHEM TOXICOL. 27: 77-87.

US EPA. 1989. DRAFT DRINKING WATER HEALTH ADVISORY FOR FORMALDEHYDE. OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

FORMALDEHYDE CYANOHYDRIN 000107-16-4

005782 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

FORMIC ACID 000064-18-6

010268 MALORNY G. 1969. ACUTE AND CHRONIC TOXICITY OF FORMIC ACID AND FORMATE. Z ERNACHRUNGSWISS. 9: 332-339.

US EPA. 1990. RfD/RfC WORK GROUP.

FURAN 000110-00-9

005462 SRI (SOUTHERN RESEARCH INSTITUTE). 1982. SUBCHRONIC TOXICITY REPORT ON FURAN (C56202) IN B6C3F1 MICE. PREPARED FOR NATIONAL TOXICOLOGY PROGRAM UNDER CONTRACT NO. 1-CP-95641-01, BETHESDA, MD.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR FURAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

FURFURAL 000098-01-1

005466 SRI (SOUTHERN RESEARCH INSTITUTE). 1981. 90 DAY RAT REPORT. UNPUBLISHED STUDY PERFORMED FOR NTP.

US EPA. 1987. RfD/RfC WORK GROUP.

809

GLYCIDALDEHYDE 000765-34-4

005968 HINE CH, RJ GUZMAN, MK DUNLAP, R LIMA AND GS LOQUVAM. 1961. STUDIES ON THE TOXICITY OF GLYCIDALDEHYDE. ARCH ENVIRON HEALTH. 2: 23-30.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR GLYCIDALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

HEPTACHLOR 000076-44-8

005506 VELSICOL CHEMICAL CORP. 1955. MRID NO 00062599. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. RfD/RfC WORK GROUP.

HEPTACHLOR EPOXIDE 001024-57-3

010399 DOW CHEMICAL CO. 1958. MRID NO 00061912. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

HEPTANE, N- 000142-82-5

005969 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N HEPTANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXABROMOBENZENE 000087-82-1

005970 MENDOZA CE, HM VIJAY, JB SHIELDS AND GW LAVER. 1977. EFFECTS OF HEXABROMOBENZENE ON THE MALE RAT. TOXICOL APPL PHARMACOL. 41: 127-130.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

609

HEXACHLOROBENZENE 000118-74-1

010868 ARNOLD, DL, CA MOODIE, SM CHARBONNEAU ET AL. 1985. LONG-TERM TOXICITY OF HEXACHLOROBENZENE IN THE RAT AND THE EFFECT OF DIETARY VITAMIN A. FOOD CHEM TOXICOL. 23(9): 779-793.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROBENZENE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

010900 US EPA. 1990. RfD/RfC WORK GROUP.

HEXACHLOROBUTADIENE 000087-68-3

010927 NTP (NATIONAL TOXICOLOGY PROGRAM). 1991. NTP REPORT ON THE TOXICITY STUDIES OF HEXACHLORO-1,3-BUTADIENE IN B6C3F1 MICE (FEED STUDIES).

YANG ET AL. 1989. HEXACHLOROBUTADIENE - SUBCHRONIC TOXICOLOGY STUDIES OF HEXACHLORO-1,3-BUTADIENE (HCBD) IN B6C3F1 MICE BY DIETARY INCORPORATION. J ENVIRON PATHOL TOXICOL ONCOL. P. 323-332.

KOCIBA RJ, DG KEYS, GC JERESEY, ET AL. 1977. RESULTS OF A 2-YEAR CHRONIC TOXICITY STUDY WITH HEXACHLOROBUTADIENE IN RATS. AM IND HYG ASSOC J. 38: 589-602.

US EPA. 1993. RfD/RfC WORK GROUP.

HEXACHLOROCYCLOHEXANE, DELTA- 000319-86-8

010495 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXACHLOROCYCLOHEXANE, EPSILON- 006108-10-7

010496 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXACHLOROCYCLOHEXANE, GAMMA- 000058-89-9

005537 ZOECON CORPORATION. 1983. MRID NO 00128356. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

010903 US EPA. 1992. RfD/RfC WORK GROUP.

019

HEXACHLOROCYCLOPENTADIENE 000077-47-4

005299 ABDO, KM, CA MONTGOMERY, WM KLUWE ET AL. 1984. TOXICITY OF HEXACHLOROCYCLOPENTADIENE: SUBCHRONIC (13-WEEK) ADMINISTRATION BY GAVAGE TO F344 RATS AND B6C3F1 MICE. J APPL TOXICOL. 4: 75-B1.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROCYCLOPENTANE. PREPAREO BY THE ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, OC.

US EPA. 1985. RfD/RfC WORK GROUP.

010445 ABDO, KM, CA MONTGOMERY, J ROYCROFT, HA RAGAN, RA RENNE, WE GIDDINS. 1986. SUBCHRONIC (13-WEEK) OINHALATION TOXCICITY OF HEXACHLOROCYCLOPENTADIENE (HCCPD) IN F344 RATS AND B6C3F1 MICE. ABSTRACT SUBMITTED TO THE SOCIETY OF TOXICOLOGY FROM THE 1986 MEETING.

BATTELLE NORTHWEST LABORATORIES. 1984. INHALATION CARCINOGENESIS BIOASSAY STUOY: SUBCHRONIC STUDY REPORT ON HEXACHLOROCYCLOPENTADIENE IN RATS. SUBMITTED TO THE NATIONAL TOXICOLOGY PROGRAM.

US EPA. 1988. HEALTH AND DNVIRONMENTAL EFFECTS DOCUMENT FOR HEXACHLOROCYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROCYCLOPENTADIENE. PREPARED BY THE ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, OC.

HEXACHLOROETHANE 000067-72-1

005518 GORZINSKI, SJ, RJ NOLAN, SB MCCOLLISTER, ET AL. 1985. SUBCHRONIC ORAL TOXICITY, TISSUE DISTRIBUTION ANO CLEARANCE OF HEXACHLOROETHANE IN THE RAT. DRUG CHEM TOXICOL. 8(3): 155-169.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HEXACHLOROETHANE. PREPARED 8Y THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010904 US EPA. 1992. RfD/RfC WORK GROUP.

119

HEXACHLOROPHENE 000070-30-4

005972 NATIONWIDE CHEMICAL CORPORATION. 1974. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO 00055365. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROPHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

HEXAMETHYLENE DIAMINE 000124-09-4

005973 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXAMETHYLENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

HEXANE, N- 000110-54-3

005974 KRASAVAGE WJ, JL O'DONOGHUE, GD DIVINCENZO AND TERHAAR. 1980. RELATIVE NEUROTOXICITY OF METHYL-N-BUTYL KETONE, N-HEXANE AND THEIR METABOLITES. TOXICOL APPL PHARMACOL: 52(3): 433-441.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N-HEXANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010273 SANAGI S, Y SEKI, K SUGIMOTO AND M HIRATA. 1980. PERIPHERAL NERVOUS SYSTEM FUNCTIONS OF WORKERS EXPOSED TO N-HEXANE AT A LOW LEVEL. INT ARCH OCCUP ENVIRON HEALTH. 47: 69-79.

HEXANONE, 2- 000591-78-6

005976 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N-HEXANONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

612

HYDROGEN SULFIDE 007783-06-4

010269 WATTERAU H, W OECKERT AND UG KNAPE. 1964. TESTS FOR THE APPLICATION OF DRIED GREEN FODDER WITH HIGH H2S CONTENT (EXPERIMENTS WITH POULTRY AND FATTENED PIGS). LETTIN FEEDS TESTING CENTER AND FEEDING HALL. FEEDS SCIENCE. FETTERUNG. 5: 383-393.

US EPA. 1985. RfD/RfC WORK GROUP.

010354 CIIT. 1983. 90 DAY VAPOR INHALATION TOXICITY STUDY OF HYDROGEN SULFIDE IN B6C3F1 MICE. EPA OTS PUBLIC FILES. FICHE NO0000255-0. DOCUMENT NO FYI-DTS-0883-0255.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HYDROGEN SULFIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

HYDROQUINONE 000123-31-9

005526 CARLSON, AJ AND NR BREWER. 1953. TOXICITY STUDIES ON HYDROQUINONE. PROC SOC EXP BIOL MED. 84: 684-688.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HYDROQUINONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010905 US EPA. 1990. RfD/RfC WORK GROUP.

IRON 007439-89-6

005527 US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR IRON. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

ISOBUTYL ALCOHOL 000078-83-1

005977 US EPA. 1986. RAT ORAL SUBCHRONIC TOXICITY WITH ISOBUTYL ALCOHOL. OFFICE OF SOLIO WASTE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ISOBUTANOL. PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, OC.

US EPA. 1986. RfD/RfC WORK GROUP.

613

ISOPHORONE 000078-59-1

005910 NOR-AM AGRICULTURAL PRODUCTS, INC. 1972. MRID NO 00123976. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF ISOPHORONE (CAS NO 78-59-1) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECH REPORT SER NO 291, NIH PUBL ND 86-2547.

US EPA. 1993. REVISEO AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR ISOPHORONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010906 US EPA. 1990. RfD/RfC WORK GROUP.

ISOPROPALIN 033820-53-0

005978 ELI LILY CO. 1985. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ISOPROPALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

LACTONITRILE 000078-97-7

005783 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

LEAD 007439-92-1

010447 REFER TO IRIS.

LEAD ALKYLS

010448 REFER TO IRIS.

LINURON 000330-55-2

005990 DU PONT DE NEMOURS AND COMPANY, INC. 1962. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRIO NO 00018374. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR LINURON. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

619

MALATHION 000121-75-5

005991 MOELLER HC AND JA RIDER. 1962. PLASMA AND RED BLOOD CELL-CHOLINESTERASE ACTIVITY AS INDICATIONS OF THE THRESHOLD OF INCIPIENT TOXICITY OF ETHYL-P-NITROPHENOL THIONEBENZENEPHOSPHORATE (EPN) AND MALATHION IN HUMAN BEINGS. TOXICOL APPL PHARMACOL. 4: 123-130.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MALATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

MALEIC ANHYDRIDE 000108-31-6

005992 JESSUP DC, D ALDRIDGE, JL SCHARDEIN AND M BLAIR. 1982. THREE-GENERATION REPRODUCTION STUDY IN RATS (MODIFIED TO A2-GENERATION STUDY). MALEIC ANHYDRIDE IR-79-358. INTERNATIONAL RESEARCH AND DEVELOPMENT CORP. FOR MONSANTO CO., ST. LOUIS,MO. UNPUBLISHED 8D SUBMISSION. MICROFICHE NO OTS 0206655. DOCUMENT ID 878214777

PREACHE M. 1983. CHRONIC DIETARY ADMINISTRATION OF MALEIC ANHYDRIDE. VOL. 1: NARRATIVE. FYI-OTS SUBMISSION 1283-0277. PREPARED BY ITT RESEARCH INSTITUTE FOR CHEMICAL INDUSTRY INSTITUTE OF TECHNOLOGY, RESEARCH TRIANGLE PARK, NC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MALEIC ANHYDRIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

MALEIC HYDRAZIDE 000123-33-1

005993 UNIROYAL CHEMICAL CO. 1981. ACCESSION NO. 250523.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR MALEIC ANHYDRIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

MALONONITRILE 000109-77-3

005994 PANOV I, M ZLATEVA AND G ANTOV. 1972. TOXICOLOGICAL CHARACTERISTICS OF DICYANOMETHANE. CHRONIC EFFECTS IN WHITE RATS. KHIG. ZDRAVEOPAZVANE. 15(6): 553-562.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MALONONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

619

MANCOZEB 008018-01-7

005995 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MANCOZEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

MANEB 012427-38-2

005996 MANEB DATA TASK FORCE. 1986. MRID NO 00161552. (CITED IN US EPA 1987.) AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

ROHM AND HAAS CO. 1977. MRID NO 00129980. (CITED IN US EPA 1987.) AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MANEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

MANGANESE 007439-96-5

010850 KONDAKIS XG, N MAKRIS, M LEOTSINIDIS, M PRINOU AND T PAPAPETROPOULOS. 1989. POSSIBLE HEALTH EFFECTS OF HIGH MANGANESE CONCENTRATION IN DRINKING WATER. ARCH ENVIRON HEALTH. 44: 175-178.

US EPA. 1993. DRINKING WATER CRITERIA DOCUMENT FOR MANGANESE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

010851 WHO (WORLD HEALTH ORGANIZATION). 1973. TRACE ELEMENTS IN HUMAN NUTRITION: MANGANESE. REPORT OF A WHO EXPERT COMMITTEE. TECHNICAL REPORT SERVICE, 532, WHO, GENEVA, SWITZERLAND. PP 34-36.

SCHROEDER HA, JJ BALASSA, IH TIPTON. 1966. ESSENTIAL TRACE METALS IN MAN: MANGANESE, A STUDY IN HOMEOSTASIS. J CHRON DIS. 19: 545-571.

NRC (NATIONAL RESEARCH COUNCIL). 1989. RECOMMENDED DIETARY ALLOWANCES. 10TH EO. FOOD AND NUTRITION BOARD, NATIONAL RESEARCH COUNCIL, NATIONAL ACADEMY PRESS, WASHINGTON, DC. PP 230-235.

US EPA. 1993. DRINKING WATER CRITERIA DOCUMENT FOR MANGANESE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

010959 ROELS HA, P GHYSELEN, JP BUCHET, E CEULEMANS, RR LAUWERYS. 1992. ASSESSMENT OF THE PERMISSIBLE EXPOSURE LEVEL TO MANGANESE IN WORKERS EXPOSED TO MANGANESE DIOXIDE DUST. BR J IND MED. 49: 25-34.

ROELS H, R LAUWERYS, JP BUCHET ET AL. 1987. EPIDEMIOLOGICAL SURVEY AMONG WORKERS EXPOSED TO MANGANESE: EFFECTS ON LUNG, CENTRAL NERVOUS SYSTEM, AND SOME BIOLOGICAL INDICES. AM J IND MED. 11: 307-327.

US EPA. 1993. RfD/RfC WORK GROUP.

616

MEPHOSFOLAN 000950-10-7

005997 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MEPHOSFOLAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

MERCURIC CHLORIDE 007487-94-7

005800 ANDRES. P. 1984. IGA-AGG DISEASE IN THE INTESTINE OF BROWN-NORWAY RATS INGESTING MERCURIC CHLORIDE. CLIN IMMUNOL IMMUNOPATHOL. 20: 488-494.

BERNAUDIN. JF. E DRUET. P DRUET. R MASSE. 1981. INHALATION OR INGESTION OF ORGANIC OR INORGANIC MERCURIALS PRODUCES AUTO-IMMUNE DISEASE IN RATS. CLIN IMMUNOL IMMUNOPATHOL. 20: 129-135.

DRUET. P. E DRUET. F POTDEVIN. C SAPIN. 1978. IMMUNE TYPE GLOMERULONEPHRITIS INDUCED BY HG CL2 IN THE BROWN NORWAY RAT. ANN IMMUNOL. 129C: 777-792.

US EPA. 1987. PEER REVIEW WORKSHOP ON MERCURY ISSUES. OCTOBER 26-27. 1987. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH.

US EPA. 1988. RfD/RfC WORK GROUP.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT. WASHINGTON. DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002Ab.

MERCURY ELEMENTAL 007439-97-6

010270 FAWER RF. V DERIBAUPIERRE. MP GUILLEMIN ET AL. 1983. MEASUREMENT OF HAND TREMOR INDUCED BY INDUSTRIAL EXPOSURE TO METALLIC MERCURY. J IND MED. 40: 204-208.

PIIKIVI L. 1989. CARDIOVASCULAR REFLEXES AND LONG-TERM EXPOSURE TO MERCURY VAPOR. INT ARCH OCCUP ENVIRON HEALTH. 61: 391-395.

PIIKIVI L AND H HANNINEN. 1989. SUBJECTIVE SYMPTOMS AND PSYCHOLOGICAL PERFORMANCE OF CHLORINE-ALKALI WORKERS. SCANDJ WORK ENVIRON HEALTH. 15: 69-74.

PIIKIVI L AND V TOLONEN. 1989. EEG FINDINGS IN CHLOR-ALKALI WORKERS SUBJECTED TO LONG-TERM EXPOSURE TO MERCURY VAPOR. BR J IND MED. 46: 370-375.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR MERCURY. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1990. RfD/RfC WORK GROUP.

017

MERPHOS 000150-50-5

005998 ABOU-DONIA MB, DG GRAHAM PR TIMMONS AND BL REICHERT. 1980. LATE ACUTE, DELAYED NEUROTOXIC AND CHOLINERGIC EFFECTS OF S,S,S-TRIBUTYLPHOSPHOROTRITHIOITE (MERPHOS) IN HENS. TOXICOL APPL PHARMACOL. 53: 439-457.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MERPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010907 US EPA. 1992. RfD/RfC WORK GROUP.

MERPHOS OXIDE 000078-48-8

005999 ABOU-DONIA MB, DG GRAHAM, KM ABDO AND AA KOMEIL. 1979. DELAYED NEUROTOXIC, LATE ACUTE AND CHOLINERGIC EFFECTS OF S,S,S-TRIBUTYLPHOSPHOROTRITHIOATE (DEF): SUBCHRONIC (90 DAYS) ADMINISTRATION IN HENS. TOXICOLOGY. 14: 229-243.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MERPHOS OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

010908 US EPA. 1992. RfD/RfC WORK GROUP.

METHACRYLONITRILE 000126-98-7

005812 POZZANI, UC, CR KINKEAD AND JM KING. 1968. THE MAMMALIAN TOXICITY OF METHACRYLONITRILE. AM IND HYG ASSOC J. 29(3): 202-210.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES, PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE.

US EPA. 1987. RfD/RfC WORK GROUP.

METHANOL 000067-56-1

010271 US EPA. 1986. RAT ORAL SUBCHRONIC TOXICITY STUDY WITH METHANOL. OFFICE OF SOLID WASTE. WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

618

METHOMYL 016752-77-5

005802 E.I. DU PONT DE NEMOURS AND COMPANY, INC. 1968. MRID 0007091, 00009012. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHOMYL. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1986. RFD/RFC WORK GROUP.

METHOXYCHLOR 000072-43-5

010357 KINCAID ENTERPRISES, INC. 1989. MRID NO 0015992. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1990. RfD/RfC WORK GROUP.

010909 US EPA. 1991. RfD/RfC WORK GROUP.

METHOXYETHANOL ACETATE, 2- 000110-49-6

010497 MILLER RR, LL CALHOUN AND BL YANO. 1982. ETHYLENE GLYCOL MONOMETHYL ETHER: 13-WEEK VAPOR INHALATION STUDY IN MALE RABBITS. REPORT PREPARED FOR THE CHEMICAL MANUFACTURERS ASSOCIATION, MARCH 25, 1982.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHOXYETHANOL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHOXYETHANOL, 2- 000109-86-4

010372 MILLER RR, JA AYRES, JL YOUNG ET AL. 1983. ETHYLENE GLYCOL MONOMETHYL ETHER. I. SUBCHRONIC VAPOR INHALATION STUDY WITH RATS AND RABBITS. FUND APPL TOXICOL. 3(1): 49-54.

US EPA. 1990. RfD/RfC WORK GROUP.

METHYL ACETATE 000079-20-9

010002 TOXICITY RESEARCH LABORATORY. 1986. RAT ORAL SUBCHRONIC TOXICITY STUDY WITH METHANOL. SPONSORED BY OFFICE OF SOLID WASTE, US EPA, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

619

METHYL ACRYLATE 000096-33-3

010498 KLIMISCH HJ AND W REININGHAUS. 1984. CARCINOGENICITY OF ACRYLATES: LONG-TERM INHALATION STUDIES ON METHYL ACRYLATE (MA) AND N-BUTYL ACRYLATE (BA) IN RATS. TOXICOLOGIST. 4(1): 53.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL ETHYL KETONE 000078-93-3

010853 COX, GE. 1975. TOXICITY STUDIES IN RATS WITH 2-BUTANOL: INCLUDING GROWTH, REPRODUCTION, AND TERATOGENIC OBSERVATIONS. FOOD AND DRUG RESEARCH LABORATORIES, INC. (91MR R 1673)

US EPA. 1992. RfD/RfC WORK GROUP.

010845 SCHWETZ BA, TJ MAST, RJ WEIGEL, ET AL. 1991. DEVELOPMENTAL TOXICITY OF INHALED METHYL ETHYL KETONE IN MICE. FUND APPL TOXICOL. 16: 742-748.

MAST, TJ, JA DILL, JJ EVANOFF, ET AL. 1989. INHALATION DEVELOPMENTAL TOXICOLOGY STUDIES: TERATOLOGY STUDY OF METHYLETHYL KETONE IN MICE. FINAL REPORT. PREPARED BY PACIFIC NORTHWEST LABORATORY, BATELLE MEMORIAL INSTITUTE, FOR THE NATIONAL TOXICOLOGY PROGRAM, WASHINGTON, DC. PNL-6833 UC-408.

US EPA. 1991. RfD/RfC WORK GROUP.

METHYL ETHYL KETONE PEROXIDE 001338-23-4

010948 US EPA. 1993. RfD/RfC WORK GROUP.

METHYL ISOBUTYL KETONE 000108-10-1

010949 MICROBIOLOGICAL ASSOCIATES. 1986. SUBCHRONIC TOXICITY OF METHYL ISOBUTYL KETONE IN SPRAGUE-DAWLEY RATS. PERFORMED FOR RESEARCH TRIANGLE INSTITUTE, PO BOX 12194, RESEARCH TRIANGLE PARK, NC. 27709. FINAL REPORT. STUDY NO 522104.

US EPA. 1993. RfD/RfC WORK GROUP.

METHYL ISOCYANATE 000624-83-9

010013 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ISOCYANATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

620

METHYLMERCURY 022967-92-6

010970 MARSH, D.O., T.W. CLARKSON, C. COX ET AL. 1987. FETAL METHYLMERCURY POISONING: RELATIONSHIP BETWEEN CONCENTRATION IN SINGLE STRANDS OF MATERNAL HAIR AND CHILD EFFECTS. ARCH. NEUROL. 44: 1017-1022.

SEAFOOD SAFETY. 1991. COMMITTEE ON EVALUATION OF THE SAFETY OF FISHERY PRODUCTS. CHAPTER ON METHYLMERCURY: FDA RISK ASSESSMENT AND CURRENT REGULATIONS. NATIONAL ACADEMY PRESS. WASHINGTON, DC. P. 196-221.

U.S. EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR MERCURY. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATION AND STANDARDS, WASHINGTON, DC. EPA/440/5-80/058. NTIS PB 81-117699.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002Ab.

U.S. EPA. 1994. RfD/RfC WORK GROUP.

METHYL METHACRYLATE 000080-62-6

010014 BORZELLECA JF, PS LARSON, GR HENNIGAR, ET AL. 1964. STUDIES ON THE CHRONIC ORAL TOXICITY OF MONOMERIC ETHYL ACRYLATE AND METHYL METHACRYLATE. TOXICOL APPL PHARMACOL. 6: 29-36.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL METHACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL PARATHION 000298-00-0

010015 MONSANTO CO. 1983. ACCESSION NO 252501-252503, 253346, 253372-253374. MRID NO. 000139023, 00143965, 00145507. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL PARATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

010846 DALY, IW AND WE RINEHART. 1980. A THREE-MONTH FEEDING STUDY OF METHYL PARATHION IN RATS: PROJECT 77-2054. MRID NO. 74299. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL PARATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

621

STYRENE (MIXED ISOMERS) 025013-15-4

010500 FINAL CHRONIC REPORT PERFORMED FOR THE NTP UNDER CONTRACT NO N01-ES-38042.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL STYRENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2- 000094-81-5

010008 RHODIA, INC. 1970. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO 00116345. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MCPA AND MCPB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1990. INTEGRATED RISK INFORMATION SYSTEM (IRIS). ONLINE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1987. RfD/RfC WORK GROUP.

METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2- 000093-65-2

010009 BASF AKTIEGERELLSCHAFT. 1985. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO 0015B359. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MCPP. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

METHYL-4-CHLOROPHENOXYACETIC ACID, 2- 000094-74-6

010007 INDUSTRY TASK FORCE ON MCPA RESEARCH DATA. 1986. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. MRID NO 00164352. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MCPA AND MCPB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

622

METHYLCYCLOHEXANE **000108-87-2**

010431 KINKEAD ER, CC HAUN MG SCHNEIDER, ET AL. 1985. CHRONIC INHALATION EXPOSURE OF EXPERIMENTAL ANIMALS TO METHYLCYCLOHEXANE. GOVT REPORTS ANNOUNCEMENTS AND INDEX, ISSUE 21. 29 P.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYLCYCLOHEXANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE BROMIDE **000074-95-3**

010501 KEYES DG, JW HENCK, GC JERSEY, RJ KOCIBA, DJ SCHWETZ AND TD LANDRY. 1982. METHYLENE BROMIDE: A 90-DAY REPEATED INHALATION TOXICITY STUDY IN RATS AND DOGS WITH A SUBSEQUENT TWO-YEAR HOLDING PERIOD FOR RATS. TOXICOLOGY RESEARCH LAB, HEALTH AND ENVIRONMENTAL SCIENCES, DOW CHEMICAL CO., MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYLENE BROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE CHLORIDE / (DICHLOROMETHANE) **000075-09-2**

005553 NATIONAL COFFEE ASSOCIATION. 1982. 24-MONTH CHRONIC TOXICITY AND ONCOGENICITY STUDY OF METHYLENE CHLORIDE IN RATS FINAL REPORT. PREPARED BY HAZLETON LABORATORIES AMERICA, INC., VIENNA, VA. UNPUBLISHED

US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT FOR METHYLENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

005552 NITSCHKE KD, JD BUREK, TJ BELL, RJ KOCIBA, LW RAMPEY AND MJ MCKENNA. 1988. METHYLENE CHLORIDE: A 2-YEAR INHALATION TOXICITY AND ONCOGENICITY STUDY IN RATS. FUND APPL TOXICOL. 10: 1-12.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR METHYLENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

METHYLENE-BIS(2-CHLOROANILINE), 4,4'- **000101-14-4**

010413 STULA EF, JR BARNES, H SHERMAN, CF REINHARDY AND JA ZAPP.1977. URINARY BLADDER TUMORS IN DOGS FROM 4,4'-METHYLENE-BIS(2-CHLOROANILINE) (MOCA). J ENVIRON PATHOL TOXICOL. 1(1): 31-50.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4,4'-METHYLENE-BIS(2-CHLOROANILINE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

010933 US EPA. 1993. RfD/RfC WORK GROUP.

623

METHYLENEDIPHENYL ISOCYANATE, 4,4- / (DIPHENYLMETHANE DIISOCYANATE) 000101-68-8

010449 REUZEL PGJ, JHG ARTS, MHM KUYPERS, ET AL. 1990. CHRONIC TOXICITY/CARCINOGENICITY INHALATION STUDY OF POLYMERIC METHYLENEDIPHENYL DIISOCYANATE AEROSOL IN RATS. FINAL REPORT. PREPARED BY CIVO INSTITUTE FOR THE INTERNATIONAL ISOCYANATE INSTITUTE.

REUZEL PGJ, JHG ARTS, LG LOMAX, ET AL. 1998. CHRONIC INHALATION AND CARCINOGENICITY STUDY OF RESPIRABLE POLYMERIC METHYLENE DIPHENYL DIISOCYANATE (POLYMERIC MDI) AEROSOL IN RATS. FUND APPL TOXICOL. 22: 195-210.

US EPA. 1993. RfD/RfC WORK GROUP.

METOLACHLOR 051218-45-2

010950 TISDEL M, T JACKSON, P MACWILLIAMS ET AL. 1983. TWO-YEAR CHRONIC ORAL TOXICITY AND ONCOGENICITY STUDY WITH METOLACHLOR IN ALBINO RATS: STUDY NO. 80030. FINAL REPORT. (UNPUBLISHED STUDY RECEIVED MAY 24, 1983 UNDER 100-587. PREPARED BY HAZLETON RALTECH, INC., SUBMITTED BY CIBA-GEIGY CORP., GREENSBORO, NC: CDL:250369-A, 250370, 250371, 250272, 259373, 259374, 259375.) REFERRED TO AS CIBA-GEIGY, 1983 IN U.S. EPA (1993). MRID 00129377. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

SMITH SH, CK O'LOUGHLIN, CM SALAMON ET AL. 1981. TWO-GENERATION REPRODUCTION STUDY IN ALBINO RATS WITH METOLACHLOR TECHNICAL: STUDY NO. 450-0272. FINAL REPORT. (UNPUBLISHED STUDY RECEIVED SEPTEMBER 30, 1981 UNDER 100-597. PREPARED BY WHITTAKER CORP., SUBMITTED BY CIBA-GEIGY CORP., GREENSBORO, NC. CDL:245959-A, 245960, 245961.) REFERRED TO AS CIBA-GEIGY (1981) IN U.S. EPA (1993). MRID 00080897. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR METOLACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

METRIBUZIN 021087-64-9

010928 MOBAY CHEMICAL CORPORATION. 1974. MRID 000061260. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR METRIBUZIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL EFFECTS, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

MIREX 002385-85-5

010841 NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. TOXICOLOGY AND CARCINOGENESIS STUDIES OF MIREX (CAS NO 2385-85-5) IN F344/N RATS. (FEED STUDIES). NTP TR 313.

US EPA. 1992. RFD/RFC WORK GROUP.

629

MOLINATE 002212-67-1

010017 STAUFFER CHEMICAL COMPANY. 1981. MRID NO 00079209. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR MOLINATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

MOLYBDENUM 007439-98-7

010489 KOLVAL'SKIY VV, GA YAROVAYA AND DM SHMAVONYAN. 1961. CHANGES OF PURINE METABOLISM IN MAN AND ANIMALS UNDER CONDITIONS OF MOLYBDENUM BIOGEOCHEMICAL PROVINCES. ZH OBSHCH BIOL. 22: 179-191. (IN RUSSIAN, TRANSLATION)

US EPA. 1991. RfD/RfC WORK GROUP.

MONOCHLORAMINE 010599-90-3

010517 NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHLORINATED AND CHLORAMINATED WATER IN F344/N RATS AND B6C3F1 MICE (DRINKING WATER STUDIES). NTP TR 392, NATIONAL INSTITUTES OF HEALTH.

US EPA. 1992. DRINKING WATER CRITERIA DOCUMENT FOR CHLORAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE HEALTH AND ECOLOGICAL CRITERIA DIVISION, OFFICE OF SCIENCE AND TECHNOLOGY, OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

NAPHTHOQUINONE, 1,4- 000130-15-4

010020 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,4-NAPHTHOQUINONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

NICKEL CYANIDE 000557-19-7

010953 US EPA. 1993. RfD/RfC WORK GROUP.

625

NICKEL, SOLUBLE SALTS **VARIOUS**

005579 AMBROSE, AM, DS LARSON, JR BORZELLECA AND GR HENNIGAR, JR. 1976. LONG-TERM TOXICOLOGIC ASSESSMENT OF NICKEL IN RATS AND DOGS. J GOOD SCI TECHNOL. 13: 181-187.

US EPA. 1991. DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR NICKEL. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

NICOTINONITRILE **000100-54-9**

005584 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITRIC OXIDE **010102-43-9**

010451 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

US EPA. 1994. RfD/RfC WORK GROUP.

NITRITE **014797-65-0**

010021 WALTON G. 1951. SURVEY OF LITERATURE RELATING TO INFANT METHEMOGLOBINEMIA DUE TO NITRATE-CONTAMINATED WATER. AM J PUB HEALTH. 41: 986-996.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR NITRITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

626

NITROANILINE, 2- 000088-74-4

010936 US EPA. 1992. RfD/RfC WORK GROUP.

010935 BIO/DYNAMICS. 1983. PROJECT NO. (BD-82-270). A FOUR WEEK INHALATION STUDY OF ORTHO-NITROANILINE IN MALE RATS. FINAL REPORT. SUBMITTED TO DR. RASHMI NAIR, MONSANTO CO., AUGUST 16, 1983. EPA 87821478. #OTS0206486. P. 1A-17, 32-42, 46-48, 55-58, 62-67.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROANILINE (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROANILINE, M- 000099-09-2

010400 US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 3-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROANILINE, P- 000100-01-6

010024 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROANILINE (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROBENZENE 000098-95-3

005589 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1984. NINETY-DAY INHALATION STUDY OF NITROBENZENE IN F-344 RATS, CD RATS AND B6C3FI MICE WITH COVER LETTER DATED 6/24/84 AND EPA RESPONSE DATED 8/06/84. UNPUBLISHED STUDY. FYI-OTS-0784-0333 AND COMPUTER PRINT-OUT OF PATHOLOGY FINDING.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR NITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

NITROFURANTOIN 000067-20-9

005593 SRI (SOUTHERN RESEARCH INSTITUTE). 1980. SUBCHRONIC TOXICITY REPORT ON NITROFURANTOIN (C55196) IN FISCHER-344 RATS AND B6C3FI MICE. TRACOR JIT CO. INC. ROCKVILLE, MD. CONTRACT NOS N01-CP-43350 AND 78-65-I06002 US EPA.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROGEN DIOXIDE 010102-44-0

010402 US EPA. 1994. RfD/RfC WORK GROUP.

010912 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

NITROGEN OXIDES

010170 US EPA. 1982. AIR QUALITY CRITERIA FOR OXIDES OF NITROGEN. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-82-026F. NTIS PB83-163337.

NITROMETHANE 000075-52-5

010026 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROPHENOLS

005594 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR NITROPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

NITROPROPANE, 2- 000079-46-9

010374 ANGUS CHEMICAL CO. 1985. FINAL REPORT: CHRONIC INHALATION EXPOSURE TO RATS TO VAPORS OF 2-NITROPROPANE AT 100 PPM. PREPARED BY COULSTON INTERNATIONAL CORP FOR ANGUS CHEMICAL CO. OTS NO 204292. DOC NO 8EHQ-0985-0170. FICHE NO 0200504.

ANGUS CHEMICAL CO. 1985. CHRONIC INHALATION OF 200 PPM OF2-NITROPROPANE IN RATS. PREPARED BY COULSTON INTERNATIONAL CORP (MAY 1978) FOR ANGUS CHEMICAL CO. OTS NO 204292. DOC NO 8EHQ-0985-0170. FICHE NO 0200504

GRIFFIN TB, F COULSTON AND AA STEIN. 1980. CHRONIC INHALATION EXPOSURE OF RATS TO VAPORS OF 2-NITROPROPANE AT 25 PPM. ECOTOXICOL ENVIRON SAF. 4(3): 267-281.

GRIFFIN TB, AA STEIN, F COULSTON. 1981. HISTOLOGICAL STUDY OF TISSUES AND ORGANS FROM RATS EXPOSED TO VAPORS OF 2-NITROPROPANE AT 25 PPM. ECOTOXOCOL ENVIRON SAF. 5(2): 194-201.

US EPA. 1990. RfD/RfC WORK GROUP.

NITROSODIPHENYLAMINE, P- 000156-10-5

010027 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

828

NITROTOLUENE, M- 000099-08-1

010029 CISS M, N HUYEN, H DUTERTRE, N PHU-LICH AND R TRUHAUT. 1980. TOXICOLOGICAL STUDY OF NITROTOLUENES: LONG-TERM TOXICITY. DAKAR MEDICAL. 25: 293-302.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROTOLUENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROTOLUENE, O- 000088-72-2

010028 CISS M, N HUYEN, H DUTERTRE, N PHU-LICH AND R TRUHAUT. 1980. TOXICOLOGICAL STUDY OF NITROTOLUENES: LONG-TERM TOXICITY. DAKAR MEDICAL. 25: 293-302.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROTOLUENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROTOLUENE, P- 000099-99-0

010030 CISS M, N HUYEN, H DUTERTRE, N PHU-LICH AND R TRUHAUT. 1980. TOXICOLOGICAL STUDY OF NITROTOLUENES: LONG-TERM TOXICITY. DAKAR MEDICAL. 25: 293-302.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROTOLUENES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

OCTABROMODIPHENYL ETHER 032536-52-0

010032 CARLSON GP. 1980. INDUCTION OF XENOBIOTIC METABOLISM IN RATS BY BROMINATED DIPHENYL ETHERS ADMINISTERED FOR 90 DAYS. TOXICOL LETT. 6: 207-212.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIPHENYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

OCTAMETHYLPYROPHOSPHORAMIDE 000152-16-9

010031 RIDER JA, HC MOELLER, EJ PULETTI AND JI SWADER. 1969. TOXICITY OF PARATHION, SYSTOX, OCTAMETHYLPYROPHOSPHORAMINE AND METHYL PARATHION IN MAN. TOXICOL APPL PHARMACOL. 14(3): 603-611.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR OCTAMETHYLPYROPHOSPHORAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

629

OSMIUM TETROXIDE 020816-12-0

010954 US EPA. 1993. RfD/RfC WORK GROUP.

OZONE 010028-15-6

010171 US EPA. 1986. AIR QUALITY CRITERIA FOR OZONE AND OTHER PHOTOCHEMICAL OXIDANTS. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84-020F. NTIS PB87-142949.

PARALDEHYDE 000123-63-7

010033 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PARALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PARATHION 000056-38-2

005598 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR PARATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

PARTICULATE MATTER

010034 US EPA. 1987. AIR QUALITY CRITERIA FOR PARTICULATE MATTER AND SULFUR OXIDES. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-82-029F.NTIS PB84-156777.

PEBULATE 001114-71-2

010036 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PEBULATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

PENDIMETHALIN 040487-42-1

010037 AMERICAN CYANAMID COMPANY. 1979. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 0058657. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENDIMETHALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

PENTABROMODIPHENYL ETHER 032534-81-9

010038 CARLSON GP. 1980. INDUCTION OF XENOBIOTIC METABOLISM IN RATS BY BROMINATED DIPHENYL ETHERS ADMINISTERED FOR 90 DAYS. TOXICOL LETT. 6: 207-212.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIPHENYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

630

PENTACHLOROBENZENE 000608-93-5

010039 LINDER R, T SCOTTI J GOLDSTEIN AND K MCELROY. 1980. ACUTE AND SUBCHRONIC TOXICITY OF PENTACHLOROBENZENE. J ENVIRON PATHOL TOXICOL. 4(5-6): 183-196.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PENTACHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

PENTACHLOROCYCLOPENTADIENE 025329-35-5

005302 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PENTACHLORONITROBENZENE 000082-68-8

010040 OLIN CORPORATION. 1968. MRID NO. 000114201. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENTACHLORONITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

PENTACHLOROPHENOL 000087-86-5

005600 SCHWETZ, BA, JF QUAST, PA KEELER ET AL. 1978. RESULTS OF TWO-YEAR TOXICITY AND REPRODUCTION STUDIES ON PENTACHLOROPHENOL IN RATS. IN: PENTACHLOROPHENOL: CHEMISTRY, PHARMACOLOGY AND ENVIRONMENTAL TOXICOLOGY, KR RAO, ED. PLENUM PRESS, NEW YORK, P301. CITED IN US EPA, 1985.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENTACHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR PENTACHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

PENTACHLOROPROPENE, 1,1,2,3,3,- 001600-37-9

010041 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

PENTANE, N- 000109-66-0

005603 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR N-PENTANE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

PHENANTHRENE 000085-01-8

005604 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENANTHRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1994. RfD/RfC WORK GROUP.

PHENOL 000108-95-2

005824 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. TERATOLOGIC EVALUATION OF PHENOL IN CD RATS. REPORT PREPARED BY THE RESEARCH TRIANGLE INSTITUTE, RESEARCH TRIANGLE PARK, NC. NTIS PB83-247726. GOVT REP ANNOUNCE INDEX. 83(25): 6247.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR PHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010913 US EPA. 1990. RfD/RfC WORK GROUP.

PHENYLENEDIAMINE, M- 000108-45-2

010044 HOFER H AND R HRUBY. 1982. NINETY-DAY TOXICITY STUDY WITH M-PHENYLENEDIAMINE ON RATS. OESTERR FORSCHUNGS ZENT SEIBERSDORF (BER.) OEFZS BER. NO. 4155, P 50.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENYLENEDIAMINES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

PHENYLENEDIAMINE, O- 000095-54-5

010042 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENYLENEDIAMINES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHENYLENEDIAMINE, P- 000106-50-3

010043 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHENYLENEDIAMINES (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

632

PHENYLMERCURIC ACETATE 000062-38-4

010277 FITZHUGH OG, AA NELSON, EP LAUG AND IM KUNZE. 1950. CHRONIC ORAL TOXICITIES OF MERCURIC PHENYL AND MERCURIC SALTS. ARCH IND HYG OCCUP MED. 2: 433-442.

US EPA. 1986. RfD/RfC WORK GROUP.

PHORATE 000298-02-2

010403 TUSING TW. 1956. 13-WEEK SUBACUTE THIMET FEEDING STUDY IN MALE AND FEMALE RATS. UNPUBLISHED REPORT OF THE AMERICAN CYANAMID CO. INITIAL SCIENTIFIC AND MINI-ECONOMIC REVIEW OF PHORATE (THIMET). OFFICE OF PESTICIDE PROGRAMS, US EPA, WASHINGTON, DC.

US EPA. 1985. SUMMARY OF ACCEPTABLE DAILY INTAKES (ADIS) FOR ORAL EXPOSURE. PREPARED BY ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. INTERNAL REVIEW DRAFT, MAY, 1985. ECAO-CIN-432.

NAS (NATIONAL ACADEMY OF SCIENCES). 1977. DRINKING WATER AND HEALTH. SAFE DRINKING WATER COMMITTEE, NATIONAL RESEARCH COUNCIL. NAS, WASHINGTON, DC. P 613-620.

PHOSGENE 000075-44-5

010045 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHOSGENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

PHOSPHINE 007803-51-2

010174 HACKENBERG, J. 1972. CHRONIC INGESTION BY RATS OF STANDARD DIET TREATED WITH ALUMINUM PHOSPHIDE. TOXICOL APPL PHARMACOL. 23: 147-158.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PHOSPHINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010173 KLIMMER, OR. 1969. CONTRIBUTION TO THE STUDY OF ACTION OF PHOSPHINE (PH3). ON THE QUESTION OF SO-CALLED CHRONIC PHOSPHINE POISONING. ARCH TOXICOL. 24: 164-187.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PHOSPHINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

633

PHOSPHORUS, WHITE 007723-14-0

010452 CONDRAY JR. 1985. ELEMENTAL YELLOW PHOSPHORUS ONE-GENERATION REPRODUCTION STUDY IN RATS. IR-82-215 MRID NO. 401-189. MONSANTO CO. ST. LOUIS, MO. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1990. RfD/RfC WORK GROUP.

PHOTOCHEMICAL OXIDANTS

010172 US EPA. 1986. AIR QUALITY CRITERIA FOR OZONE AND OTHER PHOTOCHEMICAL OXIDANTS. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84-020F. NTIS PB87-142949.

PHTHALIC ACID, M- 000121-91-5

010047 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACIDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHTHALIC ACID, O- 000088-99-3

010046 US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACIDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHTHALIC ACID, P- 000100-21-0

010048 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TECHNOLOGY). 1982. A NINETY-DAY STUDY OF TEREPHTHALIC ACID-INDUCED UROLITHIASIS AND REPRODUCTIVE PERFORMANCE IN WISTAR AND CD RATS. CIIT, RESEARCH TRIANGLE PARK, NC

GROSS, J. 1974. THE EFFECTS OF PROLONGED FEEDING OF TEREPHTHALIC ACID (TPA) TO RATS. PROJECT FG-IS-175. AGRICULTURAL RESEARCH SERVICE, US DEPARTMENT OF AGRICULTURE, WASHINGTON, DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACIDS (O-, M-, P-). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

634

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

PHTHALIC ANHYDRIDE 000085-44-9

010049 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF PHTHALIC ANHYDRIDE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO. 159. NTIS PB293594.

US EPA. 1988. RfD/RfC WORK GROUP.

010847 NIELSEN, J, H WELINDER, A SCHUTZ AND S SKERFVING. 1988.SPECIFIC SERUM ANTIBODIES AGAINST PHTHALIC ANHYDRIDE IN OCCUPATIONALLY EXPOSED SUBJECTS. J ALLERGY CLIN IMMUNOL. 82: 126-33.

US EPA. 1992. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PHTHALIC ANHYDRIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

POLYBROMINATED BIPHENYLS

010050 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF POLYBROMINATED BIPHENYL MIXTURE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). FIREMASTER FF-1. CASE NO 67774-32-7. NTP, RESEARCH TRIANGLE PARK, NC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR POLYBROMINATED BIPHENYLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

POTASSIUM CYANIDE 000151-50-8

01027B HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

POTASSIUM SILVER CYANIDE 000506-61-6

010279 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

PROFLURALIN 026399-36-0

010051 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

635

PRONAMIDE 023950-5B-5

010280 ROHM & HAAS. CO. 1970. ACC NOS 000967, 004417.

US EPA. 1986. RfD/RfC WORK GROUP.

PROPACHLOR 001918-16-7

010175 MONSANTO COMPANY. 1964. CONFIDENTIAL BUSINESS INFORMATION UNPUBLISHED STUDY. MRID NO 0093270. AVAILABLE FROM EPA. WRITE TO FOI. EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

PROPAZINE 000139-40-2

010052 GEIGY COMPANY. 1980. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NO 243353.

US EPA. 1987. RfD/RfC WORK GROUP.

PROPIONITRILE 000107-12-0

010053 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPIONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PROPYL ALCOHOL, N- 000071-23-8

005627 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR N-PROPYL ALCOHOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

PROPYLENE GLYCOL 000057-55-6

005631 GAUNT, IF, RMB CARPANINI, P GRASSO AND ABG LANSDOWN. 1972. LONG-TERM TOXICITY OF PROPYLENE GLYCOL IN RATS. FOOD COSMET TOXICOL. 10: 151-162.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PROPYLENE GLYCOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005629 GUERRANT, NB, GP WHITLOCK, ML WOLFF AND RA DUTCHER. 1947.RESPONSE OF RATS TO DIETS CONTAINING VARYING AMOUNTS OF GLYCEROL AND PROPYLENE GLYCOL. BULL NATL FORMULARY COMM. 15: 204-229. CITED IN INFORMATICS, INC. 1973.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR PROPYLENE GLYCOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

010914 US EPA. 1991. RfD/RfC WORK GROUP.

PROPYLENE GLYCOL MONOETHYL ETHER 001569-02-4

005488 SMYTH, HF, JR AND CP CARPENTER. 1948. FURTHER EXPERIENCE WITH THE RANGE FINOING TEST IN THE INDUSTRIAL TOXICOLOGY LABORATORY. J IND HYG TOXICOL. 30: 63-68.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE, WASHINGTON, DC.

010915 US EPA. 1991. RfD/RfC WORK GROUP.

637

PROPYLENE GLYCOL MONOMETHYL ETHER 000107-98-2

005486 ROWE, VK, DD MCCOLLISTER, HC SPENCER ET AL. 1954. TOXICOLOGY OF MONO-, DI-, AND TRI-PROPYLENE GLYCOL METHYL ETHERS.ARCH IND HYG OCCUP MED. 9: 509-525.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

US EPA. 1991. RfD/RfC WORK GROUP.

010276 LANDRY TD, TS GUNSHOW AND BL YANO. 1983. PROPYLENE GLYCOL MONOMETHYL ETHER: A 13-WEEK INHALATION STUDY IN RATS AND RABBITS. FUND APPL TOXICOL. 3: 627-630.

MILLER RR, EA HERMAN, JT YOUNG ET AL. 1984. ETHYLENE GLYCOL MONOMETHYL ETHER: METABOLISM, DISPOSITION, AND SUBCHRONIC INHALATION TOXICITY STUDIES. ENVIRON HEALTH PERSPECT. 57: 233-239.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR GLYCOL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC. EPA 540/1-86-052.

PROPYLENE OXIDE 000075-56-9

010375 KUPER CF, PGJ REUZEL, VJ FERON, ET AL. 1988. CHRONIC INHALATION TOXICITY AND CARCINOGENICITY OF PROPYLENE OXIDE IN WISTAR RATS. FOOD CHEM TOXICOL. 26(2): 159-167.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPYLENE OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

PYRENE 000129-00-0

010176 US EPA. 1989. MOUSE ORAL SUBCHRONIC TOXICITY STUDY OF PYRENE. STUDY CONDUCTED BY TOXICITY RESEARCH LABORATORIES, MUSKEGON, 3MI FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR PYRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PYRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. RfD/RfC WORK GROUP.

010968 US EPA. 1994. RfD/RfC WORK GROUP.

638

PYRIDINE 000110-86-1

010055 US EPA. 1986. PYRIDINE. 90-DAY SUBCHRONIC ORAL TOXICITY IN RATS. SPONSORED BY OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PYRIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1987. RfD/RfC WORK GROUP.

RDX / (CYCLONITE) 000121-82-4

010056 LEVINE BS. EM FUREDI. VS RAE. OE GORDON ANO DM LISH. 1984. OETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL EFFECTS OF ROX: TWENTY-FOUR MONTH CHRONIC TOXICITY/CARCINOGENICITY STUDY OF HEXAHYDRO-1.3.5-TRINITRO-1.3.5-TRIAZINE (RDX) IN THE FISCHER 344 RAT. NTIS AD-A160774. VOL 1. 347 P.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ROX (CYCLONITE). PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

RONNEL 000299-84-3

010057 MCCOLLISTER DD. F OYEN ANO VK ROWE. 1959. TOXICOLOGICAL STUOIES OF 0.0-DIMETHYL-D-(2.4.5-TRICHLOROPHENYL)PHOSPHOTHIOATE (RONNEL) IN LABORATORY ANIMALS. J AGRIC FOOD CHEM. 7: 689.

US EPA. 1984. HEALTH ANO ENVIRONMENTAL EFFECTS PROFILE FOR RONNEL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLIO WASTE. WASHINGTON. DC.

SELENIOUS ACID 007783-00-8

010504 YANG G. S YIN. L ZHOU. ET AL. 1989. STUDIES OF SAFE MAXIMAL DAILY DIETARY SE-INTAKE IN A SELENIFEROUS AREA IN CHINA. II. RELATION BETWEEN SE-INTAKE AND THE MANIFESTATION OF CLINICAL SIGNS ANO CERTAIN BIOCHEMICAL ALTERATIONS IN 8LOOD AND URINE. J TRACE ELEM. ELECTROLYTES HEALTH DIS. 3: 123-130.

US EPA. 1989. HEALTH ANO ENVIRONMENTAL EFFECTS DOCUMENT FOR SELENIUM ANO COMPOUNDS. PREPAREO 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRDNMENTAL CRITERIA AND ASSESSMENT DFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON DC.

US EPA. 1991. RfO/RfC WORK GROUP.

639

SELENIUM 007782-49-2

010404 YANG G, S YIN, L ZHOU, ET AL. 1989. STUDIES OF SAFE MAXIMAL DAILY DIETARY SE-INTAKE IN A SELENIFEROUS AREA IN CHINA. II. RELATION BETWEEN SE-INTAKE AND THE MANIFESTATION OF CLINICAL SIGNS AND CERTAIN BIOCHEMICAL ALTERATIONS IN BLOOD AND URINE. J TRACE ELEM ELECTROLYTES HEALTH DIS. 3: 123-130.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELENIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

SELENOUREA 000630-10-4

010473 YANG C, S WANG, R ZHOU, AND S SUN. 1983. ENDEMIC SELENIUM INTOXICATION OF HUMANS IN CHINA. AM J CLIN NUTR. 37: 872-888.

SILVER 007440-22-4

010453 GAUL LE AND AN STAUD. 1935. CLINICAL SPECTROSCOPY. SEVENTY CASES OF GENERALIZED ARGYRIA FOLLOWING ORGANIC AND COLLOIDAL SILVER MEDICATION. J AM MED ASSOC. 104: 1387-1390.

BLUMBERG H AND TN CAREY. 1934. ARGYREMIA: DETECTION OF UNSUSPECTED AND OBSCURE ARGYRIA BY THE SPECTROGRAPHIC DEMONSTRATION OF HIGH BLOOD SILVER. J AM MED ASSOC. 103: 1521-1524.

EAST BW, K BODDY, ED WILLIAMS, D MACINTYRE AND ALC MCLAY.1980. SILVER RETENTION, TOTAL BODY SILVER AND TISSUE SILVER CONCENTRATIONS IN ARGYRIA ASSOCIATED WITH EXPOSURE TO AN ANTI-SMOKING REMEDY CONTAINING SILVER ACETATE. CLIN EXP DERMATOL. 5: 305-311.

SILVER CYANIDE 000506-64-9

010283 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYOROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR SODIUM CYANIDE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

SIMAZINE 000122-34-9

010955 CIBA-GEIGY CORP. 1988. MRID NO 40614405, HEO DOCUMENT NO 007240, 007449. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1991. RfD/RfC WORK GROUP.

Q62

SODIUM CYANIDE **000143-33-9**

005640 HOWARD, JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. J AGRIC FOOD CHEM. 3: 325-329.CITED IN US EPA, 1985.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR SODIUM CYANIDE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. INTEGRATED RISK INFORMATION SYSTEM (IRIS): REFERENCE DOSE (RFD) FOR ORAL EXPOSURE FOR SODIUM CYANIDE. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1985. RfD/RfC WORK GROUP.

SODIUM DIETHYLDITHIOCARBAMATE **000148-18-5**

005644 SUNDERMAN, FW, OE PAYNTER AND R8 GEORGE. 1967. THE EFFECTS OF THE PROTRACTED ADMINISTRATION OF THE CHELATING AGENT, SODIUM DIETHYLDITHIOCAR8AMATE (DITHIOCAR8). AM J MED SCI. 254: 46-56.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SODIUM DIETHYLDITHIOCARBAMATE. PREPARED 8Y THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

SODIUM METAVANADATE **013718-26-8**

005735 DOMINGO, JL, JL LLOBET, JM TOMAS AND J CORBELLA. 1985. SHORT-TERM TOXICITY STUDIES OF VANADIUM IN RATS. J APPL TOXICOL. 5(6): 418-421.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE DF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

STRONTIUM, STABLE **007440-24-6**

010842 STOREY E. 1961. STRONTIUM 'RICKETS' BONE CALCIUM AND STRONTIUM CHANGES. AUSTRAL ANN MED. 10: 2132-222.

SKORYNA SC. 1981. EFFECTS OF ORAL SUPPLEMENTATION WITH STABLE STRONTIUM. CAN MED ASSOC J. 125: 703-712.

MARIE PJ, MT GARBA, M HOTT AND L MIRAVET. 1985. EFFECT OF LOW DOSES OF STABLE STRONTIUM ON BONE METABOLISM IN RATS. MINER ELECTROLYTE METAB. 11: 5-13.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR STABLE STRONTIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1992. RfD/RfC WORK GROUP.

STRYCHNINE 000057-24-9

010285 SEIDL I AND G ZBINDEN. 1982. SUBCHRONIC ORAL TOXICITY OF STRYCHNINE IN RATS. ARCH TOXICOL. 51(3): 267-271.

US EPA. 1985. RfD/RfC WORK GROUP.

STYRENE 000100-42-5

010059 QUAST JF, CG HUMISTON, RT KALNINS, ET AL. 1979. RESULTS OF A TOXICITY STUDY OF MONOMERIC STYRENE ADMINISTERED TO BEAGLE DOGS BY ORAL INTUBATION FOR 19 MONTHS. TOXICOLOGY RESEARCH LABORATORY, HEALTH AND ENVIRONMENTAL SCIENCES, DOW CHEMICAL CO., MIDLAND, MI. FINAL REPORT.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR STYRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010511 MUTTI A, A MAZZUCCHI, P RUSTICHELLI, G FRIZERI, G ARFINI, I FRANCHINI. 1984. EXPOSURE EFFECT AND EXPOSURE RESPONSE. THE RELATIONSHIP BETWEEN OCCUPATIONAL EXPOSURE TO STYRENE AND NEUROPSYCHOLOGICAL FUNCTION. AMER J IND MED. 5: 275-286.

US EPA. 1992. RfD/RfC WORK GROUP.

SUCCINONITRILE 000110-61-2

005585 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

SULFUR DIOXIDE 007446-09-5

010505 REFER TO APPENDIX A: TECHNICAL INFORMATION, SECTION V ON NATIONAL AMBIENT AIR QUALITY STANDARDS.

SULFUR OXIDES

010035 US EPA. 1987. AIR QUALITY CRITERIA FOR PARTICULATE MATTER AND SULFUR OXIDES. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, RESEARCH TRIANGLE PARK, NC. EPA 600/8-82-029F.NTIS PB84-156777.

SULFURIC ACID 007664-93-9

005647 CARSON, BL, BL HERNDON, HV ELLIS III, ET AL. 1981. SULFURIC ACID HEALTH EFFECTS. PREPARED UNDER CONTRACT 68-03-2928 BY MIDWEST RESEARCH INSTITUTE, KANSAS CITY, MO. PREPARED FOR EMISSION CONTROL TECHNOLOGY DIVISION, OFFICE OF MOBILE SOURCE AIR POLLUTION CONTROL, US EPA, ANN ARBOR, MI. EPA 460/3-81-025. NTIS PB82-113135.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR SULFURIC ACID. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

642

TEMEPHOS 003383-96-8

010060 GAINES TB, RD KIMBROUGH AND ER LAW, JR. 1967. TOXICOLOGY OF ABATE IN LABORATORY ANIMALS. ARCH ENVIRON HEALTH. 14: 283-288.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TEMEPHOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TERBUFOS 013071-79-9

010408 MORGAREIDGE K, S SISTNER, M DANIELS ET AL. 1973. FINAL REPORT: SIX-MONTH FEEDING STUDY IN DOGS ON AC-92,100. LABORATORY NO. 1193. FEBRUARY 14. UNPUBLISHED STUDY. FOOD AND DRUG LABORATORIES, INC. MRID NO. 41139. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. HEALTH ASSESSMENT DOCUMENT FOR TERBUFOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TEREPHTHALIC ACID 000100-21-0

010474 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TEREPHTHALIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TETRACHLOROAZOXYBENZENE 021232-47-3

010064 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TCAB, TCAOB AND TCHB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TETRACHLOROBENZENE, 1,2,4,5- 000095-94-3

010286 CHU I, DC VILLENEUVE, VE VALLI AND VE SECOURS. 1984. TOXICITY OF 1,2,3,4-, 1,2,3,5- AND 1,2,4,5-TETRACHLOROBENZENE IN THE RAT: RESULTS OF A 90-DAY FEEDING STUDY. DRUG CHEM TOXICOL. 7: 113-127.

US EPA. 1985. RfD/RfC WORK GROUP.

TETRACHLOROCYCLOPENTADIENE 000695-77-2

005303 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

643

TETRACHLOROETHANE, 1,1,1,2- 000630-20-6

010407 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF 1,1,1,2-TETRACHLOROETHANE IN F344/N RATS AND B6C3F1MICE. NTP, WASHINGTON, DC.

US EPA. 1987. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR TETRACHLOROETHANE, 1,1,1,2-. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

TETRACHLOROETHYLENE 000127-18-4

005650 BUBEN, JA AND EJ O'FLAHERTY. 1985. DELINEATION OF THE ROLE OF METABOLISM IN THE HEPATOXICITY OF TRICHLOROETHYLENE AND PERCHLOROETHYLENE: A DOSE-EFFECT STUDY. TOXICOL APPL PHARMACOL. 78: 105-122.

US EPA. 1987. RfD/RfC WORK GROUP.

TETRACHLOROHYDRAZOBENZENE 071753-42-9

010065 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TCAB, TCAOB AND TCHB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TETRACHLOROPHENOL, 2,3,4,5- 004901-51-3

005324 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

TETRACHLOROPHENOL, 2,3,4,6- 00005B-90-2

005323 US EPA. 1986. 2,3,4,6-TETRACHLOROPHENOL, 90-DAY SUBCHRONIC ORAL TOXICITY STUDY IN RATS. OFFICE OF SOLID WASTE, WASHINGTON, DC.

TETRACHLOROPHENOL, 2,3,5,6- 000935-95-5

005325 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1987. RfD/RfC WORK GROUP.

TETRACHLOROPROPENE, 1,1,2,3- 010436-39-2

010066 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

649

TETRACHLOROVINPHOS / (STIROPHOS) 000961-11-5

010067 SHELL CHEMICAL COMPANY. 1968. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY: ACCESSION ND 115684.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR STIROFOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. OC.

US EPA. 1986. RfD/RfC WORK GROUP.

TETRAETHYL DITHIOPYROPHOSPHATE 003689-24-5

010287 KIMMERLE G AND OR KLIMMER. 1974. ACUTE AND SUBCHRONIC TOXICITY OF SULFOTEP. ARCH TOXICOL. 33(1): 1-16.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIC OXIDE 001314-32-5

010956 US EPA. 1993. RfD/RfC WORK GROUP.

THALLIUM (I) ACETATE 000563-68-8

005664 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (I) CARBONATE 006533-73-9

005668 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH OFFICE OF SOLID WASTE ANO EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

645

THALLIUM (I) CHLORIDE 007791-12-0

005672 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (I) NITRATE 010102-45-1

005676 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (I) SULFATE 007446-18-6

005682 US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (I) SULFATE (CA NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

THALLIUM (IN SOLUBLE SALTS)

010458 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THALLIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

THALLIUM SELENITE 012039-52-0

010957 US EPA. 1993. RfD/RfC WORK GROUP.

949

THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(021564-17-0

010068 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TCMTB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

THIOFANOX 013196-18-4

010069 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THIOFANOX. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

THIRAM 000137-26-8

010459 E.I. DU PONT DE NEMOURS AND COMPANY, INC. 1954. MRID NO. 0045162. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. RfD/RfC WORK GROUP.

010070 HORNSHAW TC, RJ AULERICH AND RK RINGER. 1987. TOXICITY OF THIRAM (TETRAMETHYLTHINORAM DISULFIDE) TO MINK AND EUROPEAN FERRETS. BULL ENVIRON CONTAM TOXICOL. 38(4): 618-626.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR THIRAM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TIN AND COMPOUNDS

005688 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF STANNOUS CHLORIDE (CAS NO 7772-99-8) IN F344/N RATS AND B6C3F1/N MICE (FEED STUDY). NCI/NTP TECH REP SER NO 231. ALSO PUBL AS DHHS (NIH) PUBL ISS NIH 82-1787 AND NTIS PB 82-242-553.

US EPA. 1986. SUBCHRONIC (90 DAY) TOXICITY OF THALLIUM (1) SULFATE (CAS NO. 7446-18-6) IN SPRAGUE-DAWLEY RATS. FINAL REPORT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TIN. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOLUENE 000108-88-3

010469 NTP (NATIONAL TOXICOLOGY PROGRAM). 1989. TOXICOLOGY AND CARCINOGENESIS STUDIES OF TOLUENE IN F344 RATS AND B6C3F1 MICE. TECHNICAL REPORT SERIES NO 371.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR TOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1990. RfD/RfC WORK GROUP.

010844 FOO S, J JEYARATHAM AND D KOH. 1990. CHRONIC NEUROBEHAVIORAL EFFECTS OF TOLUENE. BR J IND MED. 47(7): 480-484.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. TOXICOLOGY AND CARCINOGENESIS STUDIES OF TOLUENE IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TR 371. 253 P.

US EPA. 1991. RfD/RfC WORK GROUP.

TOLUENE-2,5-DIAMINE 000095-70-5

010073 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TOLUENE-2,5-DIAMINE SULFATE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 126.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TOLUENE-2,6-DIAMINE 000823-40-5

010074 NCI (NATIONAL CANCER INSTITUTE). 1980. BIOASSAY OF 2,6-TOLUENEDIAMINE DIHYDROCHLORIDE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 200.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TOLUENEDIAMINE, 2,3- 002687-25-4

010071 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TOLUENEDIAMINE, 3,4- 000496-72-0

010072 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SELECTED TOLUENEDIAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

849

TOLUIDINE, M- 000108-44-1

010075 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TOLUIDINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TRIALLATE 002303-17-5

010076 MONSANTO COMPANY. 1979. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION ND 242057.

US EPA. 1986. RfD/RfC WORK GROUP.

TRIBROMOBENZENE, 1,2,4- 000615-54-3

010077 CARLSON GP AND RG TARDIFF. 1977. EFFECT OF 1,4-DIBROMODIBENZENE AND 1,2,4-TRIBROMOBENZENE ON XENOBIOTIC METABOLISM. TOXICOL APPL PHARMACOL. 42: 189-196.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2- 000076-13-1

010460 INBUS HR AND C ATKINS. 1972. PHYSICAL EXAMINATION OF WORKERS EXPOSED TO TRICHLOROTRIFLUOROETHANE. ARCH ENVIRON HEALTH. 24(4): 257-261.

010376 TRACHIMOWICZ HJ, GM RUSCH, T CHIU, ET AL. 1988. CHRONIC INHALATION TOXICITY/CARCINOGENICITY STUDY IN RATS EXPOSED TO FLUOROCARBON 113 (FC-113). FUND APPL TOXICOL. 11(1): 68-75.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'- 003380-34-5

005492 LYMAN, FL AND T FURIA. 1969. TOXICOLOGY OF 2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER. IND MED. 38: 45-52.

US EPA. 1987. HEALTH EFFECTS AND ENVIRONMENTAL DOCUMENT FOR HALOETHERS. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

649

TRICHLOROBENZENE, 1,2,4- **000120-82-1**

010506 ROBINSON, KS, RJ KAVLOCK, N CHERNOFF AND E GRAY. 1981. MULTIGENERATION STUDY OF TRICHLOROBENZENE IN RATS. J. TOXICOL. ENVIRON. HEALTH. 8: 489-500.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR 1,2,4-TRICHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

010958 KOCIBA RJ, BKL LEONG, RE HEFNER, JR. 1981. SUBCHRONIC TOXICITY STUDY OF 1,2,4-TRICHLOROBENZENE IN THE RAT, RABBIT AND BEAGLE DOG. DRUG AND CHEMICAL TOXICOLOGY. 4(3): 229-249.

COATE WB, TR LEWIS, WM BUSEY. 1977. CHRONIC INHALATION EXPOSURE OF RATS, RABBITS AND MONKEYS TO 1,2,4-TRICHLOROBENZENE. ARCHIVES OF ENVIRONMENTAL HEALTH. 32(6): 249-255.

COTE M, I CHU, DC VELLENEUVE, VE SECOURS, VE VALLI. 1988. TRICHLOROBENZENES: RESULTS OF A THIRTEEN WEEK FEEDING STUDY IN THE RAT. DRUG AND CHEMICAL TOXICOLOGY. 11(1): 11-28.

US EPA. 1993. RfD/RfC WORK GROUP.

TRICHLOROCYCLOPENTADIENE **077323-84-3**

005304 US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED CYCLOPENTADIENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROETHANE, 1,1,2- **000079-00-5**

005702 WHITE, KL JR, VM SANDERS, VW BARNES, GM SHOPP AND AE MUNSON. 1985. TOXICOLOGY OF 1,1,2 TRICHLOROETHANE IN THE MOUSE. DRUG CHEM TOXICOL. 8(5): 333-355.

SANDERS, VM, KL WHITE JR, GM SHOPP JR AND AE MUNSON. 1985. HUMORAL AND CELL MEDIATED IMMUNE STATUS OF MICE EXPOSED TO 1,1,2 TRICHLOROETHANE. DRUG CHEM TOXICOL. 8(5): 357-372.

US EPA. 1990. RfD/RfC WORK GROUP.

059

TRICHLOROFLUOROMETHANE 000075-69-4

005502 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TRICHLOROFLUOROMETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 106. ALSO PUBL AS DHEW (NIH) 78-1356.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

005500 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TRICHLOROFLUOROMETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 106. ALSO PUBL AS DHEW (NIH) 78-1356.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,3,4- 015950-66-0

005330 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,3,5- 000933-78-8

005331 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,3,6- 000933-75-5

005332 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOL, 2,4,5- **000095-95-4**

005329 MCCOLLISTER, DD, DT LOCKWOOD AND VK ROWE. 1961. TOXICOLOGIC INFORMATION ON 2,4,5-TRICHLOROPHENOL. TOXICOL APPL PHARMACOL. 3: 63-70.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 2,4,5-TRICHLOROPHENOL. PREPAREO BY THE OFFICE OF HEALTH ANO ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1985. RfD/RfC WORK GROUP.

010919 US EPA. 1991. RfD/RfC WORK GROUP.

TRICHLOROPHENOL, 2,4,6- **000088-06-2**

010461 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. RfD/RfC WORK GROUP.

TRICHLOROPHENOL, 3,4,5- **000609-19-8**

005333 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH ANO ENVIRONMENT ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5- **000093-72-1**

010284 GEHRING PJ AND JE BETSO. 1978. PHENOXY ACIDS: EFFECTS AND FATE IN MAMMALS. IN: CHLORINATED PHENOXY ACIDS AND THEIR DIOXINS.VOL 27. C RAMEL ED. ECOL BULL, STOCKHOLM. P. 122-133.

MULLISON WR. 1966. SOME TOXICOLOGICAL ASPECTS OF SILVEX. IN: PROC 19TH ANN MEET SOUTHERN WEED CONFERENCE, JACKSONVILLE, FL. P. 420-435.

US EPA. 1988. RfD/RfC WORK GROUP.

652

TRICHLOROPHENOXYACETIC ACID, 2,4,5- **000093-76-5**

010178 KOCIBA, RS, DG KEYES, RW LISOWE, ET AL. 1979. RESULTS OF 2-YEAR CHRONIC TOXICITY AND ONCOGENICITY STUDY OF RATS INGESTING DIETS CONTAINING 2,4,5-T. FOOD COSMET TOXICOL. 17: 205 -222.

SMITH FA, FJ MURRAY, JA JOHN, ET AL. 1981. THREE-GENERATION REPRODUCTION STUDY OF RATS INGESTING 2,4,5-TRICHLOROPHENOXYACETIC ACID IN THE DIET. TOXICO RES LAB., DOW CHEMICAL, MIDLAND, MI.

US EPA. 1989. HEALTH EFFECTS ASSESSMENT FOR 2,4,5-TRICHLOROPHENOXY ACETIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1988. RfD/RfC WORK GROUP.

010179 GEHRING, PJ, AND JE BETSO. 1978. PHENOXY ACIDS: EFFECTS AND FATE IN MAMMALS. ECO BULL. 27: 122-123.

US EPA. 1989. HEALTH EFFECTS ASSESSMENT FOR 2,4,5-TRICHLOROPHENOXY ACETIC ACID. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TRICHLOROPROPANE, 1,1,1- **007789-89-1**

005705 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROPROPANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROPROPANE, 1,1,2- **000598-77-6**

005708 VILLANEUVE, DC, I CHU, VE SECOURS, MG COTIE, GL PLAA AND VE VALLI. 1985. RESULTS OF A 90-DAY TOXICITY STUDY ON 1,2,3- AND 1,1,2-TRICHLOROPROPANE ADMINISTERED VIA THE DRINKING WATER. SCI TOTAL ENVIRON. 47: 421-426.

US EPA. 1987. RfD/RfC WORK GROUP.

TRICHLOROPROPANE, 1,2,2- **003175-23-3**

005706 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROPROPANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

653

TRICHLOROPROPANE, 1,2,3- **000096-18-4**

005714 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. FINAL REPORT 120-DAY TOXICITY GAVAGE STUDY OF 1,2,3-TRICHLOROPROPANE IN FISCHER 344 RATS. PERFORMED BY HAZELTON LABORATORIES.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROPROPANES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

TRICHLOROPROPENE, 1,2,3- **000096-19-5**

010078 MCKENNA MJ, JF QUAST AND GA STEVENS. 1978. RESULTS OF A90-DAY INHALATION TOXICITY STUDY OF 1,2,3-TRICHLOROPROPENE IN LABORATORY ANIMALS. TOXICOL APPL PHARMACOL. 45: 249.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

TRICHLOROTOLUENE, 2,3,6- **002077-46-5**

005335 CHU I, SY SHEN, DC VILLENEUVE, VE SECOURS AND VE VALLI. 1984. TOXICITY OF TRICHLOROTOLUENE ISOMERS: A 28-DAY FEEDING STUDY IN THE RAT. J ENVIRON SCI HEALTH PART B PESTIC FOOD CONTAM AGRIC WASTES. 19(2): 183-192.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED TOLUENES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROTOLUENE, ALPHA,2,6- **002014-83-7**

005339 CHU I, SY SHEN, DC VILLENEUVE, VE SECOURS AND VE VALLI. 1984. TOXICITY OF TRICHLOROTOLUENE ISOMERS: A 28-DAY FEEDING STUDY IN THE RAT. J ENVIRON SCI HEALTH PART B PESTIC FOOD CONTAM AGRIC WASTES. 19(2): 183-192.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED TOLUENES. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

659

TRIFLURALIN 001582-09-8

010080 HOECHST AKTIENGESELLSCHAFT. 1984. CONFIDENTIAL BUSINESS INFORMATION. UNPUBLISHED STUDY. MRID NO 00151908. AVAILABLE FROM EPA. WRITE TO FOI. EPA. WASHINGTON. DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRIFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

US EPA. 1989. RfD/RfC WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR TRIFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF WATER. WASHINGTON. DC.

TRIMETHYLBENZENES

005727 US EPA. 1987. HEALTH AND ENVIRONMENTAL ASSESSMENT FOR TRIMETHYLBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENT ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

TRINITROBENZENE, 1,3,5- 000099-35-4

010081 CODY TE. S WITHERUP. L HASTINGS. K STEMMER AND RT CHUSTION. 1981. 1,3-DINITROBENZENE: TOXIC EFFECTS IN VITRO. J TOXICOL ENVIRON HEALTH. 7: 829-847.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3,5-TRINITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. RfD/RfC WORK GROUP.

TRINITROPHENOLS

010082 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRINITROPHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE. WASHINGTON. DC.

TRINITROPHENYLMETHYLNITRAMINE 000479-45-8

010377 FATI S. E DANIELE. 1965. HISTOPATHOLOGICAL CHANGES IN EXPERIMENTAL CHRONIC TETRYL POISONING. FOLIA MED. 48(4): 260-276.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRINITROPHENYLMETHYLNITRAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

659

TRINITROTOLUENE, 2,4,6- **000118-96-7**

010416 US DOD (DEPARTMENT OF DEFENSE). 1983. AD-A157-002. DEFENSE TECHNICAL CENTER, CAMERON STATION, ALEXANDRIA, VA.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2,4,6-TRINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1988. RfD/RfC WORK GROUP.

VANADIUM **007440-62-2**

005739 SCHROEDER, HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

VANADIUM PENTOXIDE **001314-62-1**

005743 STOKINGER, HE, WD WAGNER, JT MOUNTAIN ET AL. 1953. UNPUBLISHED RESULTS. DIV OCCUP HEALTH, CINCINNATI, OH. CITED IN STOKINGER, 1981.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

VANADIUM SULFATE **036907-42-3**

005747 SCHROEDER, HA, M MITCHENER AND AP NASON. 1970. ZIRCONIUM, NIOBIUM, ANTIMONY AND LEAD IN RATS: LIFE-TIME STUDIES. J. NUTR. 100: 59-69.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR VANADIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

VERNAM / (VERNOLATE) **001929-77-7**

010083 STAUFFER CHEMICAL COMPANY. 1983. CONFIDENTIAL BUSINESS INFORMATION, UNPUBLISHED STUDY. ACCESSION NOS 249703-249704.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR VERNOLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

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REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

May 1995

VINYL ACETATE 000108-05-4

010417 SHAW DC. 1988. VINYL ACETATE: 104-WEEK ORAL (DRINKING WATER) COMBINED CHRONIC TOXICITY AND CARCINOGENICITY STUDY IN THE RAT FOLLOWING IN VITRO EXPOSURE. VOLUME I. HAZELETON LABORATORIES, UK. REPORT NO. 5531-5/16. EPA DOC. NO. 86-0000265. FICHE NO OTS0514156.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR VINYL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

010418 OWEN, PE. 1988. VINYL ACETATE: 104 WEEK INHALATION COMBINED CHRONIC TOXICITY AND CARCINOGENICITY STUDY IN THE RAT AND MOUSE. REPORT PREPARED BY HAZELTON LABORATORIES EUROPE, LTD., HARROGATE, ENGLAND FOR THE SOCIETY OF THE PLASTICS INDUSTRY, INC., NEW YORK. REPORT NO. 5547-51/15. NOVEMBER, 1988.

BEEMS, RB. 1988. REPORT NO V88-133: HISTOPATHOLOGY OF THE RESPIRATORY TRACT OF MICE USED IN A 104-WEEK INHALATION STUDY (OWEN, 1988) WITH VINYL ACETATE. (TNO-CIVO INSTITUTES, APRIL, 1988).

DREEF, VAN DER MEULEN, HC. 1988. REPORT NO. V88, 033/270B36: HISTOPATHOLOGY OF THE RESPIRATORY TRACT OF RATS USED IN A 104 WEEK INHALATION STUDY (OWEN, 1988) WITH VINYL ACETATE: REVISED VERSION (TNO-CIVO INSTITUTES, OCTOBER, 1988).

US EPA. 1990. RfD/RfC WORK GROUP.

VINYL-1-CYCLOHEXENE, 4- 000100-40-3

010084 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-VINYL-1-CYCLOHEXENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

WARFARIN 000081-81-2

010409 HUFF, BB, ED. 1985. PHYSICIANS DESK REFERENCE, 39TH ED. MEDICAL ECONOMICS CO., INC., ORADELL, NJ.

US EPA. 1986. RfD/RfC WORK GROUP.

XYLENE, M- 000108-38-3

005755 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS OF XYLENES (MIXED) (60.2%M-XYLENE, 13.6% P-XYLENE, 17.0% ETHYLBENZENE AND 9.1% O-XYLENE) (CAS NO. 1330-20-7) IN F344/N RATS AND B6C3FI MICE (GAVAGE STUDIES). US DHHS, PHS, NIH, NTP, RESEARCH TRIANGLE PARK, NC, NTP TR 327, NIH PUBL NO 86-2583.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR XYLENES (O-, M-, P-). ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010920 US EPA. 1991. RfD/RfC WORK GROUP.

657

XYLENE, MIXTURE 001330-20-7

010872 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS OF XYLENES (MIXED) (60.2%M-XYLENE, 13.6% P-XYLENE, 17.0% ETHYLBENZENE AND 9.1% O-XYLENE) (CAS NO. 1330-20-7) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). US DHHS, PHS, NIH, NTP, RESEARCH TRIANGLE PARK, NC, NTP TR 327, NIH PUBL NO 86-2583.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR XYLENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. RfD WORK GROUP.

010921 US EPA. 1991. RfD/RfC WORK GROUP.

XYLENE, O- 000095-47-6

005751 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS OF XYLENES (MIXED) (60.2% M-XYLENE, 13.6% P-XYLENE, 17.0% ETHYLBENZENE AND 9.1% O-XYLENE) (CAS NO. 1330-20-7) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). US DHHS, PHS, NIH, NTP, RESEARCH TRIANGLE PARK, NC, NTP TR 327, NIH PUBL NO 86-2583.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR XYLENES (O-, M-, P-). ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010922 US EPA. 1991. RfD/RfC WORK GROUP.

XYLENE, P- 000106-42-3

010923 US EPA. 1991. RfD/RfC WORK GROUP.

ZINC (METALLIC) 007440-66-6

010937 YADRICK, MF, MA KENNEY AND EA WINTERFELDT. 1989. IRON, COPPER AND ZINC STATUS: RESPONSE TO SUPPLEMENTATION WITH ZINC OR ZINC AND IRON IN ADULT FEMALES. AM J CLIN NUTR. 49: 145-150.

US EPA. 1991. RfD/RfC WORK GROUP.

ZINC CYANIDE 000557-21-1

010289 HOWARD JW AND RF HANZAL. 1955. CHRONIC TOXICITY FOR RATS OF FOOD TREATED WITH HYDROGEN CYANIDE. AGRIC FOOD CHEM. 3: 325-329.

PHILBRICK DJ, JB HOPKINS, DC HILL, JC ALEXANDER AND RG THOMSON. 1979. EFFECTS OF PROLONGED CYANIDE AND THIOCYANATE FEEDING IN RATS. J TOXICOL ENVIRON HEALTH. 5: 579-592.

US EPA. 1985. RfD/RfC WORK GROUP.

REFERENCES FOR HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

May 1995

ZINC PHOSPHIDE 001314-84-7

010290 BAI KM, MK KRISHNAKUMARI, JP RAMESH, T SHIVANANDAPPA AND SK MAJUNDER. 1980. SHORT-TERM TOXICITY STUDY OF ZINC PHOSPHIDE IN ALBINO RATS. INDIAN J EXPTL BIOL. 18: 854-857.

US EPA. 1986. RfD/RfC WORK GROUP.

ZINEB 012122-67-7

010085 BLACKWELL-SMITH RJ JR, JK FINNEGAN, PS LARSON, ET AL. 1953. TOXICOLOGIC STUDIES ON ZINC AND DISODIUM ETHYLENE BISDITHIOCARBAMATES. J PHARMACOL EXP THER. 109: 159-166.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ZINEB. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1986. RfD/RfC WORK GROUP.

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
ACETONE CYANOHYDRIN		**000075-86-5**							
NOEL	4.0 MG/KG/DAY	RAT							
	INHALATION:	14 WEEKS	CENTRAL NERVOUS	EFFECTS	1E-1		1E-2		010432
	INTERMITTENT		SYSTEM		100		1000		

SUBCHRONIC [RfC] COMMENT: 4E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). AN ERROR IN THE UNCERTAINTY FACTOR THAT WAS REPORTED IN HEED (1988) WAS CORRECTED.
CHRONIC [RfC] COMMENT: 4E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

ACETONITRILE		**000075-05-8**							
NOAEL	100 PPM	MOUSE							
	INHALATION:	92 DAYS	LIVER	INCREASED RELATIVE WEIGHT	5E-1		5E-2		005208
	INTERMITTENT				300		3000		

SUBCHRONIC [RfC] COMMENT: 1E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY. (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). UNDER REVIEW, CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

BARIUM		**007440-39-3**							
NOEL	0.8 MG/CU M	RAT							
	INHALATION:	4 MONTHS	FETUS	FETOTOXICITY	5E-3		5E-4		005249
	INTERMITTENT				100		1000		

SUBCHRONIC [RfC] COMMENT: 1E-3 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). BASED ON A REPRODUCTION STUDY.
CHRONIC [RfC] COMMENT: 1E-4 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). BASED ON A REPRODUCTION STUDY.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
CHLORO-1,3-BUTADIENE / (CHLOROPRENE) 000126-99-8									
NOAEL 10 PPM		RAT							
	INHALATION:	2 YEARS	HAIR	ALOPECIA		2E-2		2E-2	005878
	INTERMITTENT		WHOLE BODY	DECREASED WEIGHT GAIN		100		100	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION ASSUMING AN INHALATION ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION ASSUMING AN INHALATION ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: SEE ALSO HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHLOROBENZENE 000108-90-7									
LOAEL 75 PPM		RAT							
	INHALATION:	120 DAYS	LIVER	EFFECTS			2E-2		005353
	INTERMITTENT		KIONEY	EFFECTS			10000		

CHRONIC [RfC] COMMENT: 5E-3 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). UNDER REVIEW. CURRENT NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

CYCLOPENTADIENE 000542-92-7									
NOEL 87.3 MG/KG/DAY		RAT							
	INHALATION:	194 DAYS	LIVER	LESIONS	3E+0				005401
	INTERMITTENT		KIDNEY	LESIONS	100				

SUBCHRONIC [RfC] COMMENT: 9E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC INHALATION [RfC] VALUE WAS DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP.

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICHLOROBENZENE, 1,2-		**000095-50-1**							
NOEL 49 PPM	INHALATION: INTERMITTENT	RAT UP TO 7 MONTHS	WHOLE BODY	DECREASED WEIGHT GAIN	2E+0 100		2E-1 1000		005412
CHRONIC [RfC] COMMENT: 4E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).									
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.									
DICHLORODIFLUOROMETHANE		**000075-71-8**							
LOAEL 482.3 MG/KG/DAY	INHALATION: INTERMITTENT	GUINEA PIG 6 WEEKS	LIVER	LESIONS	2E+0 1000		2E-1 10000		005497
SUBCHRONIC [RfC] COMMENT: 5E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).									
CHRONIC [RfC] COMMENT: 5E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).									
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.									
DICHLOROETHANE, 1,1-		**000075-34-3**							
NOEL 138 MG/KG/DAY	INHALATION: INTERMITTENT	CAT 13 WEEKS	KIDNEY	DAMAGE	5E+0 100		5E-1 1000		005789
SUBCHRONIC [RfC] COMMENT: 1E+0 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).									
CHRONIC [RfC] COMMENT: 1E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).									
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE HEAST TABLE 1: CHRONIC AND SUBCHRONIC TOXICITY AND									

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
DICYCLOPENTADIENE		**000077-73-6**							
LOAEL 1 PPM	INHALATION: INTERMITTENT	RAT 90 DAYS	LIVER	DYSFUNCTION	2E-3 1000		2E-4 10000		005424

SUBCHRONIC [RfC] COMMENT: 6E-4 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 6E-5 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

ETHOXYETHANOL ACETATE, 2-		**000111-15-9**							
NOEL 30.1 MG/KG/DAY	INHALATION: INTERMITTENT	RAT DAY 6-18 OF GESTATION	FETUS	DECREASED OSSIFICATION		3E-1 100		3E-1 100	005952

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. THE SUBCHRONIC ORAL [RfD]WAS BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 6-18 OF GESTATION.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. THE CHRONIC ORAL [RfD] WAS BASED ON A REPRODUCTION STUDY WITH EXPOSURES DURING DAYS 6-18 OF GESTATION.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY VALUES.

FURFURAL		**000098-01-1**							
NOAEL 20 PPM	INHALATION: INTERMITTENT	HAMSTER 13 WEEKS	NASAL CAVITY	OLFACTORY DEGENERATION	5E-1 100		5E-2 1000		005465

SUBCHRONIC [RfC] COMMENT: 1E-1 MG/KG/DAY (SEE APPENDIX A-11, DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY (SEE APPENDIX A-11, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHACRYLONITRILE		**000126-98-7**							
NOEL 3.2 PPM		DOG							
	INHALATION:	90 DAYS	LIVER	INCREASED SGOT	7E-3		7E-4		00581I
	INTERMITTENT		LIVER	INCREASED SGPT	300		3000		

SUBCHRONIC [RfC] COMMENT: 2E-3 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). THESE VALUES DIFFER FROM THOSE IN THE 1987 HEED.
CHRONIC [RfC] COMMENT: 2E-4 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST). THESE VALUES DIFFER FROM THOSE IN THE 1987 HEED.
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

METHOXYETHANOL ACETATE, 2-		**000110-49-6**							
NOAEL 10 PPM		RABBIT							
	INHALATION:	13 WEEKS	TESTIS	DEGENERATION		2E-2		2E-3	010001
	INTERMITTENT					100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. CALCULATED FROM DATA OBTAINED WITH METHOXYETHANOL CONVERTED BY MULTIPLYING BY THE MOLECULAR WEIGHT RATIO (118.13/76.09).
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5. CALCULATED FROM DATA OBTAINED WITH METHOXYETHANOL CONVERTED BY MULTIPLYING BY THE MOLECULAR WEIGHT RATIO (118.13/76.09).
GENERAL COMMENT: ND PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

METHOXYETHANOL, 2-		**000109-86-4**							
NOAEL 31 MG/CU M		RABBIT							
	INHALATION:	13 WEEKS	TESTICLE	EFFECTS		1E-2		1E-3	010910
	INTERMITTENT					100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
GENERAL COMMENT: ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

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CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL ACRYLATE		**000096-33-3**							
NOEL 15 PPM		RAT							
	INHALATION:	2 YEARS		NONE OBSERVED		3E-2		3E-2	010003
	INTERMITTENT					100		100	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

METHYL ISOBUTYL KETONE		**000108-10-1**							
NOEL 50 PPM		RAT							
	INHALATION:	90 DAYS	LIVER	INCREASED WEIGHT	8E-1		8E-2		005562
	INTERMITTENT		KIDNEY	EFFECTS	100		1000		

SUBCHRONIC [RfC] COMMENT: 2E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSION ON HEAST).
CHRONIC [RfC] COMMENT: 2E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSION ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY
(OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYL STYRENE (MIXED ISOMERS) 025013-15-4									
LOAEL 5.6 MG/KG/DAY		MOUSE							
	INHALATION:	103 WEEKS	NASAL CAVITY	LESIONS		6E-3		6E-3	005567
	INTERMITTENT					1000		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION WITH AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION WITH AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

LOAEL 11.2 MG/KG/DAY		MOUSE							
	INHALATION:	103 WEEKS	NASAL CAVITY	LESIONS	4E-2		4E-2		005566
	INTERMITTENT				1000		1000		

SUBCHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 1E-2 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP.

METHYL STYRENE, ALPHA 000098-83-9									
NOEL 970 MG/CU M		RAT							
	INHALATION:	197 DAYS	LIVER	INCREASED WEIGHT		7E-1		7E-2	010016
	INTERMITTENT		KIDNEY	INCREASED WEIGHT		100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION USING AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
METHYLENE BROMIDE		**000074-95-3**								
NOAEL 11 MG/KG/DAY		RAT								
	INHALATION:		90 DAYS	BLOOD	INCREASED CARBOXYHEMOGLOBIN		1E-1		1E-2	010011
	INTERMITTENT						100		1000	

SUBCHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION, INCLUDING AN ABSORPTION FACTOR OF 0.5.
CHRONIC [RfD] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION, INCLUDING AN ABSORPTION FACTOR OF 0.5.
GENERAL COMMENT: NO PHARMACOKINETIC DATA WERE PROVIDED TO JUSTIFY ROUTE TO ROUTE EXTRAPOLATION FOR THE ORAL [RfD] VALUES.

NITROBENZENE		**000098-95-3**								
LOAEL 25 MG/CU M		MOUSE								
	INHALATION:		90 DAYS	BLOOD	HEMATOLOGICAL EFFECTS	2E-2		2E-3		010518
	INTERMITTENT			ADRENAL	LESIONS	1000		10000		
				KIDNEY	LESIONS					
				LIVER	LESIONS					
		RAT								
	INHALATION:		90 DAYS	BLOOD	HEMATOLOGICAL EFFECTS					
	INTERMITTENT			ADRENAL	LESIONS					
				KIDNEY	LESIONS					
				LIVER	LESIONS					

SUBCHRONIC [RfC] COMMENT: 6E-3 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 6E-4 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

TRICHLOROBENZENE, 1,2,4- **000120-82-1**

GENERAL COMMENT: INFORMATION REMOVED FROM THIS TABLE. SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

HEAST TABLE 2: ALTERNATE METHODS - SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

CHEMICAL LEVEL	DOSE ROUTE	SPECIES EXPERIMENT	LENGTH	TARGET	CRITICAL EFFECT	Subchronic [RfC] (mg/cu m) UF	Subchronic [RfD] (mg/kg/day) UF	Chronic [RfC] (mg/cu m) UF	Chronic [RfD] (mg/kg/day) UF	REFERENCE
TRICHLOROFLUOROMETHANE		**000075-69-4**								
LOAEL 1940 MG/KG/DAY		DOG								
	INHALATION:	90 DAYS		KIDNEY	INCREASED BUN	7E+0		7E-1		005501
	CONTINUOUS			LUNG	INFLAMMATION	1000		10000		

SUBCHRONIC [RfC] COMMENT: 2E+0 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
CHRONIC [RfC] COMMENT: 2E-1 MG/KG/DAY (SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST).
GENERAL COMMENT: THE SUBCHRONIC AND CHRONIC INHALATION [RfC] VALUES WERE DERIVED FROM METHODOLOGY THAT IS NOT CURRENT WITH THE INTERIM INHALATION METHODOLOGY USED BY THE RfD/RfC WORK GROUP. ALSO SEE TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.

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REFERENCES FOR HEAST TABLE 2: ALTERNATE METHODS -- SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)

May 1995

ACETONE CYANOHYDRIN 000075-86-5

010432 BLANK TL AND DC THAKE. 1984. THREE-MONTH INHALATION TOXICITY OF ACETONE CYANOHYDRIN IN MALE AND FEMALE SPRAGUE-DAWLEY RATS. MONSANTO REPORT NOP. MSL-4423. TSCA 8(D) SUBMISSION 878216397 (DTS D510325).

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYANOHYDRINS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ACETONITRILE 000075-05-8

005208 COATE WB. 1983. 90-DAY SUBCHRONIC TOXICITY STUDY OF ACETONITRILE IN B6C3F1 MICE. FINAL REPORT (REVISED).

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACETONITRILE.PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

BARIUM 007440-39-3

005249 TARASENKO M, O PROMIN AND A SILAYEV. 1977. BARIUM COMPOUNDS AS INDUSTRIAL POISONS (AN EXPERIMENTAL STUDY). J HYG EPIDEM MICROBIOL IMMUNOL. 21: 361.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR BARIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CHLORO-1,3-BUTADIENE / (CHLOROPRENE) 000126-99-8

005B78 DU PONT DE NEMOURS AND COMPANY, INC. 1985. 2-YEAR INHALATION CARCINOGENICITY STUDY OF CHLOROPRENE IN RATS. EI DU PONT DE NEMOURS AND CO., INC., WILMINGTON, DE.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2-CHLORO-1,3-BUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBENZENE 000108-90-7

005353 DILLEY, JV. 1977. TOXIC EVALUATION OF INHALED CHLOROBENZENE. NIOSH, DHEW, CINCINNATI, OH, CONTRACT 210-76-0126. CITED IN US EPA, 1985.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CYCLOPENTADIENE 000542-92-7

005401 DOW. 1987. UNPUBLISHED DATA. DOW CHEMICAL, USA, MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROBENZENE, 1,2- **000095-50-1**

005412 HOLLINGSWORTH RL, VK ROWE, F OYEN, TR TORKELSON AND EM ADAMS. 1958. TOXICITY OF O-DICHLOROBENZENE. AM MED ASSOC ARCH IND HEALTH. 17(1): 180-187.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DICHLOROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLORODIFLUOROMETHANE **000075-71-8**

005497 PRENDERGAST JA, RA JONES, LJ JENKINS AND J SIEGAL. 1967. EFFECTS ON EXPERIMENTAL ANIMALS OF LONG-TERM INHALATION OF TRICHLOROETHYLENE, CARBON TETRACHLORIDE, 1,1,1-TRICHLOROETHANE, DICHLORODIFLUOROMETHANE AND 1,1-DICHLOROETHYLENE. TOXICOL APPL PHARMACOL. 10: 270-289.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICHLOROETHANE, 1,1- **000075-34-3**

005789 HOFMANN HT, H BIRNSTIEL AND P JOBST. 1971. ON THE INHALATION TOXICITY OF 1,1- AND 1,2-DICHLOROETHANE. ARCH TOXIKOL. 27: 248-265.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

DICYCLOPENTADIENE **000077-73-6**

005424 DODD DE, LC LONGO AND DL EISLER. 1982. DICYCLOPENTADIENE VAPOR NINETY-DAY INHALATION STUDY ON RATS AND MICE. BUSHY RUN RESEARCH CENTER, EXPORT, PA. TSCA 8E SUBMISSION BY EXXON CHEM AMER DOC ID 88-8300464, ODD DOC ID 8EHQ-0283-0364,MICROFICHE NO. OTS 204864.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CYCLOPENTADIENE AND DICYCLOPENTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

ETHOXYETHANOL ACETATE, 2- **000111-15-9**

005952 UNION CARBIDE. 1984. A TERATOGENIC EVALUATION OF CELLOSOLVE ACETATE IN FISHER 344 RATS AND NEW ZEALAND WHITE RABBITS FOLLOWING INHALATION EXPOSURE. BUSHY RUN RESEARCH CENTER, EXPORT, PA, OCTOBER 1984. FYI-AX-1184-0360.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2- ETHOXYETHANOL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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FURFURAL 000098-01-1

005465 FERON VJ, A KRUYSSE AND HC DREEF VANDER MEULEN. 1979. REPEATED EXPOSURE TO FURFURAL VAPOR: 13 WEEK STUDY IN SYRIAN GOLDEN HAMSTERS. ZENTRASE. BAKTEVIOL PAVASITEN KD INFECTION SKV HYG ABT 1 ORIG REIHE B. 168(5-6): 442-451.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR FURFURAL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON,DC.

METHACRYLONITRILE 000126-98-7

005811 POZZANI, UC, CR KINKEAD AND JM KING. 1968. THE MAMMALIAN TOXICITY OF METHACRYLONITRILE. AM IND HYG ASSOC J. 29(3): 202-210.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITRILES, PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHOXYETHANOL ACETATE, 2- 000110-49-6

010001 MILLER RR, LL CALHOUN AND BL YANO. 1982. ETHYLENE GLYCOL MONOMETHYL ETHER: 13-WEEK VAPOR INHALATION STUDY IN MALE RABBITS. REPORT PREPARED FOR THE CHEMICAL MANUFACTURERS ASSOCIATION, MARCH 25, 1982.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2- METHOXYETHANOL ACETATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHOXYETHANOL, 2- 000109-86-4

010910 MILLER RR, LL CALHOUN, BL YANO. 1982. ETHYLENE GLYCOL MONOETHYL ETHER: 13 WEEK VAPOR INHALATION STUDY IN MALE RABBITS. REPORT PREPARED FOR THE CMA MARCH 25, 1982.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHOXYETHANOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL ACRYLATE 000096-33-3

010003 KLIMISCH HJ AND W REININGHAUS. 1984. CARCINOGENICITY OF ACRYLATES: LONG-TERM INHALATION STUDIES ON METHYL ACRYLATE (MA) AND N-BUTYL ACRYLATE (BA) IN RATS. TOXICOLOGIST. 4(1): 53.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL ACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

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METHYL ISOBUTYL KETONE **000108-10-1**

005562 UNION CARBIDE CORP. 1983. NINETY-DAY INHALATION STUDY IN RATS AND MICE SPONSORED BY CMA. US EPA/OTS PUBLIC FILES 0750507469.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR METHYL ETHYL KETONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE,CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

METHYL STYRENE (MIXED ISOMERS) **025013-15-4**

005567 MRI (MIDWEST RESEARCH INSTITUTE). 1984. STUDY OF THE INHALATION CARCINOGENICITY (BIOASSAY) OF VINYL TOLUENE IN B6C3F1 MICE.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL STYRENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

005566 FINAL CHRONIC REPORT PERFORMED FOR THE NTP UNDER CONTRACT NO N01-ES-38042.

US EPA. 1987..HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR METHYL STYRENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL STYRENE, ALPHA **000098-83-9**

010016 WOLF MA, VK ROWE, DD MCCOLLISTER, ET AL. 1956. TOXICOLOGICAL STUDIES OF CERTAIN ALKYLATED BENZENES AND BENZENE. ARCH IND HEALTH. 14: 387-398.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALPHA- METHYL STYRENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE BROMIDE **000074-95-3**

010011 KEYES DG, JW HENCK, GC JERSEY, RJ KOCIBA, DJ SCHWETZ AND TD LANDRY. 1982. METHYLENE BROMIDE: A 90-DAY REPEATED INHALATION TOXICITY STUDY IN RATS AND DOGS WITH A SUBSEQUENT TWO-YEAR HOLDING PERIOD FOR RATS. TOXICOLOGY RESEARCH LAB, HEALTH AND ENVIRONMENTAL SCIENCES, DOW CHEMICAL CO., MIDLAND, MI.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYLENE BROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROBENZENE **000098-95-3**

010518 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1984. NINETY- DAY INHALATION STUDY OF NITROBENZENE IN F-344 RATS,CD RATS AND B6C3F1 MICE WITH COVER LETTER DATED 6/24/84 AND EPA RESPONSE DATED 8/06/84. UNPUBLISHED STUDY. FYI-OTS-0784-0333 AND COMPUTER PRINT-OUT OF PATHOLOGY FINDING.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR NITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

TRICHLOROFLUOROMETHANE **000075-69-4**

005501 JENKINS, LJ, RA JONES, RA COON AND J SIEGAL. 1970. REPEATED AND CONTINUOUS EXPOSURES OF LABORATORY ANIMALS TO TRICHLOROFLUORMETHANE. TOXICOL APPL PHARMACOL. 16: 133-142.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR FULLY HALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
ACEPHATE		**030560-19-1**								
					IRIS	IRIS		IRIS		010086
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ACROLEIN		**000107-02-8**								
					IRIS					005001
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ACRYLAMIDE		**000079-06-1**								
	ORAL: DRINKING WATER	2 YEARS RAT	MAMMARY	TUMORS	IRIS	IRIS	4.5E+0	IRIS	IRIS	010087
			THYROID	TUMORS						
			UTERUS	TUMORS						
			ORAL CAVITY	TUMORS						
			CENTRAL NERVOUS SYSTEM	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ACRYLONITRILE		**000107-13-1**								
					IRIS	IRIS		IRIS		005004
	INHALATION: OCCUPATIONAL	HUMAN	LUNG	TUMORS	IRIS		2.4E-1		IRIS	005003
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
ALACHLOR		**015972-60-8**								
	ORAL: DIET	MULTIPLE SITES	TUMORS		B2	8E-2		2.3E-6		010180
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ALDRIN		**000309-00-2**								
	ORAL: DIET	MOUSE	LIVER	CARCINOMA	IRIS	IRIS	1.7E+1	IRIS	IRIS	005006
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ALLYL CHLORIDE		**000107-05-1**								
					IRIS					010181
	GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
ANILINE		**000062-53-3**								
					IRIS	IRIS		IRIS		010088
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ARAMITE		**000140-57-8**								
	ORAL: DIET	104 WKS / RAT	LIVER	TUMORS	IRIS	IRIS	2.5E-2	IRIS	IRIS	010206
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
ARSENIC, INORGANIC		**007440-38-2**								
								IRIS		010925
	INHALATION: OCCUPATIONAL	HUMAN	RESPIRATORY SYSTEM	TUMORS	IRIS		5.0E+1		IRIS	005007
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
ASBESTOS		**001332-21-4**								
					IRIS					005010
					IRIS				IRIS	005919
ATRAZINE		**001912-24-9**								
	ORAL: DIET	2 YEARS RAT	MAMMARY GLAND	ADENOMA	C	2.22E-1		6.3E-6		010380
			MAMMARY GLAND	FIBROADENOMA						
			MAMMARY GLAND	ADENOCARCINOMA						
			MAMMARY GLAND	CARCINOSARCOMA						
ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
AZOBENZENE		**000103-33-3**								
	ORAL: DIET	2 YEARS RAT	ABDOMINAL CAVITY	SARCOMA	IRIS	IRIS	1.1E-1	IRIS	IRIS	010089
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.										

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
BENZENE		**000071-43-2**								
	INHALATION: OCCUPATIONAL	HUMAN	BLOOD	LEUKEMIA	IRIS	IRIS	2.9E-2	IRIS	IRIS	005011
	ORAL [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
BENZIDINE		**000092-87-5**								
					IRIS	IRIS	IRIS	IRIS	IRIS	005014
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BENZOTRICHLORIDE		**000098-07-7**								
					IRIS	IRIS		IRIS		010092
BENZO[A]ANTHRACENE		**000056-55-3**								
					IRIS					010182
BENZO[A]PYRENE		**000050-32-8**								
					IRIS	IRIS		IRIS		010508
BENZO[B]FLUORANTHENE		**000205-99-2**								
					IRIS					010183
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BENZO[K]FLUORANTHENE		**000207-08-9**								
					IRIS					010090
	GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
BENZYL CHLORIDE		**000100-44-7**								
					IRIS	IRIS		IRIS		010093
BERYLLIUM		**007440-41-7**								
					IRIS	IRIS		IRIS		005018
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
	INHALATION: OCCUPATIONAL	HUMAN	LUNG	TUMORS	IRIS		8.4E+0		IRIS	005017
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.										
BIS(2-CHLOROETHYL) ETHER		**000111-44-4**								
	ORAL	560 DAYS MOUSE	LIVER	TUMORS	IRIS	IRIS	1.1E+0	IRIS	IRIS	005076
INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.										
BIS(2-CHLORO-1-METHYLETHYL) ETHER		**000108-06-1**								
	ORAL: GAVAGE	2 YEARS MOUSE	LIVER LUNG	TUMORS TUMORS	C	7E-2	3.5E-2	2E-6	1E-5	005079
INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION (50% RESPIRATORY ABSORPTION). SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST. GENERAL COMMENT: COMPOUND TESTED CONTAINED 70% BIS(2-CHLORO-1-METHYLETHYL)ETHER AND 30% BIS(2-CHLOROISOPROPYL)ETHER. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP)		**000117-81-7**								
					IRIS	IRIS		IRIS		005120
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
BIS(CHLOROMETHYL) ETHER		**000542-88-1**								
	INHALATION: INTERMITTENT	10-100 DAYS RAT	RESPIRATORY SYSTEM	TUMORS	IRIS	IRIS	2.2E+2	IRIS	IRIS	005077
	ORAL [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
BROMODICHLOROMETHANE		**000075-27-4**								
					IRIS	IRIS		IRIS		005148
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BROMOETHENE / (VINYL BROMIDE)		**000593-60-2**								
	INHALATION: INTERMITTENT	2 YEARS RAT	LIVER	TUMORS	B2		1.1E-1		3.2E-5	010094
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
BROMOFORM		**000075-25-2**								
	ORAL: GAVAGE	2 YEARS RAT	INTESTINE, LARGE	ADENOMATOUS POLYP ADENOCARCINOMA	IRIS	IRIS	3.9E-3	IRIS	IRIS	005150
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
BUTADIENE, 1,3-		**000106-99-0**								
	INHALATION: INTERMITTENT	MOUSE	MULTIPLE SITES	TUMORS	IRIS		1.8E+0		IRIS	010477
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
BUTYL BENZYL PHTHALATE, N-		**000085-6B-7**								
					IRIS					005122
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
CADMIUM		**007440-43-9**								
					IRIS				IRIS	005019
	ORAL [SLOPE] COMMENT: THERE IS INADEQUATE EVIDENCE FOR THE CARCINOGENICITY OF THIS COMPOUND BY THE ORAL ROUTE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CAPTAFOL		**002425-06-1**								
	ORAL: DIET				C	B.6E-3		2.4E-7		010095
		MOUSE	LYMPHATIC SYSTEM	LYMPHOSARCOMA						
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CAPTAN		**000133-06-2**								
					B2	3.5E-3		1.0E-7		010184
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CARBAZOLE		**000086-74-8**								
	ORAL: DIET	96 WEEKS			B2	2E-2		5.7E-7		010096
		MOUSE	LIVER	TUMORS						
CARBON TETRACHLORIDE		**000056-23-5**								
	ORAL: DIET		LIVER	TUMORS	IRIS	IRIS	5.3E-2	IRIS	IRIS	005022
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. INCORPORATES AN ABSORPTION FACTOR OF 0.4.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CHLORANIL		**000118-75-2**								
	ORAL: DIET	82 WEEKS			C	4.03E-1		1.2E-5		010097
		MOUSE	LIVER	TUMORS						
			LUNG	TUMORS						
CHLORDANE		**000057-74-9**								
	ORAL: DIET				IRIS	IRIS	1.3E+0	IRIS	IRIS	005024
		MOUSE	LIVER	CARCINOMA						

INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4-		**003165-93-3**								
	ORAL: DIET	18 MONTHS			B2	4.6E-1		1.3E-5		010419
		MOUSE	CARDIOVASCULAR SYSTEM	HEMANGIOMA						
			CARDIOVASCULAR SYSTEM	HEMANGIOSARCOMA						
CHLORO-2-METHYLANILINE, 4-		**000095-69-2**								
	ORAL: DIET	18 MONTHS			B2	5.8E-1		1.6E-5		010098
		MOUSE	CARDIOVASCULAR SYSTEM	HEMANGIOMA						
			CARDIOVASCULAR SYSTEM	HEMANGIOSARCOMA						

ORAL [SLOPE] COMMENT: BASED ON VASCULAR TUMORS IN MICE TREATED WITH 4-CHLORO-2-METHYLANILINE HYDROCHLORIDE.

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CHLOROBENZILATE		**000510-15-6**								
	ORAL: GAVAGE, DIET	82 WEEKS MOUSE	LIVER	HEPATOMA	B2	2.7E-1	2 7E-1	7.8E-6	7.8E-5	01084B
	INHALATION [SLOPE] COMMENT: ABSORBANCE BY THE INHALATION ROUTE WAS ASSUMED TO EQUAL ORAL ABSORPTION SINCE THERE WERE NO PHARMACOKINETIC DATA TO THE CONTRARY. SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: ABSORBANCE BY THE INHALATION ROUTE WAS ASSUMED TO EQUAL ORAL ABSORPTION SINCE THERE WERE NO PHARMACOKINETIC DATA TO THE CONTRARY.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CHLOROFORM		**000067-66-3**								
					IRIS	IRIS		IRIS		005036
	ORAL: GAVAGE	78 WEEKS MOUSE	LIVER	CARCINOMA	IRIS		8.1E-2		IRIS	005035
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CHLOROMETHANE		**000074-87-3**								
	INHALATION: INTERMITTENT	24 MONTHS MOUSE	KIDNEY	TUMORS	C	1.3E-2	6.3E-3	3.7E-7	1.8E-6	005038
	ORAL [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENCIITY).									
CHLOROMETHYL METHYL ETHER		**000107-30-2**								
					IRIS					005081
	GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CHLORONITROBENZENE, O-		**000088-73-3**								
	ORAL: DIET	18 MONTHS MOUSE	LIVER	TUMORS	B2	2.5E-2		7.1E-7		010099
CHLORONITROBENZENE, P-		**000100-00-5**								
	ORAL: DIET	18 MONTHS MOUSE	CARDIOVASCULAR SYSTEM	TUMORS	B2	1.8E-2		5.1E-7		010100
CHLOROTHALONIL		**001897-45-6**								
	ORAL: DIET	27-32 MONTHS RAT	KIDNEY	TUMOR	B2	1.1E-2		3.1E-7		010384
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CHROMIUM(VI)		**018540-29-9**								
	INHALATION: OCCUPATIONAL	HUMAN	LUNG	TUMORS	IRIS		4.1E+1		IRIS	005091
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CHRYSENE		**000218-01-9**								
					IRIS					010185
	GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
COKE OVEN EMISSIONS		**008007-45-2**								
	INHALATION: OCCUPATIONAL	HUMAN	LUNG	TUMORS	IRIS		2.2E+0		IRIS	005039
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: FORMERLY LISTED UNDER COAL TARS.									
CREOSOTE, COAL TAR		**008001-58-9**								
					IRIS					005042
CRESOL, M- / (3-METHYLPHENOL)		**000108-39-4**								
					IRIS					010187
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CRESOL, O- / (2-METHYLPHENOL)		**000095-48-7**								
					IRIS					010186
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CRESOL, P- / (4-METHYLPHENOL)		**000106-44-5**								
					IRIS					010188
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
CROTONALDEHYDE		**000123-73-9**								
	ORAL: DRINKING WATER	113 WKS RAT	LIVER	TUMOR	IRIS	1.9E+0		5.4E-5		010190
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
CYANAZINE		021725-46-2								
	ORAL: DIET	2 YEARS RAT	MAMMARY GLAND	ADENOMA/ CARCINOMA, COMBINED	C	8.4E-1		2.4E-5		010944
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC ANO CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DDD		000072-54-8			IRIS	IRIS		IRIS		010291
DDE		000072-55-9			IRIS	IRIS		IRIS		010292
DDT		000050-29-3			IRIS	IRIS	3.4E-1	IRIS	IRIS	005044
	ORAL: DIET	MOUSE, RAT	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DECABROMODIPHENYL ETHER		001163-19-5			IRIS					010102
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DIALLATE		002303-16-4								
	ORAL	19 MONTHS MOUSE	LIVER	TUMORS	B2	6.1E-2		1.7E-6		010103

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
DIBENZO[A,H]ANTHRACENE		**000053-70-3**								
					IRIS					010191
GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY. CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.										
DIBROMO-3-CHLOROPROPANE, 1,2		**000096-12-8**								
	ORAL: DIET				B2	1.4E+0		4E-5		010484
			STOMACH	TUMORS						
			KIDNEY	TUMORS						
			LIVER	TUMORS						
[EPA GROUP] COMMENT: UNDER REVIEW, CLASSIFICATION SUBJECT TO CHANGE. INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.										
	INHALATION:				B2		2.4E-3		6.9E-7	010519
	INTERMITTENT	RAT, MOUSE	NASAL CAVITY	TUMORS						
DIBROMOCHLOROMETHANE		**000124-48-1**								
					IRIS	IRIS		IRIS		010891
GENERAL COMMENT: FORMERLY LISTED AS CHLORODIBROMOMETHANE. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
DIBROMOETHANE, 1,2-		**000106-93-4**								
					IRIS	IRIS		IRIS		005818
GENERAL COMMENT: FORMERLY LISTED UNDER ETHYLENE DIBROMIDE										
	INHALATION:	88-103 WEEKS			IRIS		7.6E-1		IRIS	005071
	INTERMITTENT	RAT	NASAL CAVITY	TUMORS						
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DICHLORO-2-BUTENE, 1,4-	**000764-41-0**									
	INHALATION: INTERMITTENT	90 DAYS RAT	NASAL PASSAGES	TUMORS	B2		9.3E+0		2.6E-3	005053
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: FORMERLY LISTED UNDER DICHLOROBUTENES									
DICHLOROBENZENE, 1,4-	**000106-46-7**									
	ORAL: GAVAGE	103 WEEKS MOUSE	LIVER	TUMORS	C	2.4E-2		6.8E-7		005050
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DICHLOROBENZIDINE, 3,3'-	**000091-94-1**				IRIS	IRIS		IRIS		005B15
DICHLOROETHANE, 1,1-	**000075-34-3**				IRIS					005055
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DICHLOROETHANE, 1,2-	**000107-06-2**				IRIS	IRIS	9.1E-2	IRIS	IRIS	005058
	ORAL: GAVAGE	78 WEEKS RAT	CIRCULATORY SYSTEM	SARCOMA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
DICHLOROETHYLENE, 1,1-		**000075-35-4**								
					IRIS	IRIS		IRIS		005060
	INHALATION	12 MONTHS			IRIS		1.2E+0		IRIS	005059
		MOUSE	KIDNEY	ADENOCARCINOMA						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DICHLOROPROPANE, 1,2-		**000078-87-5**								
	ORAL: GAVAGE				B2	6.8E-2		1.9E-6		005062
		MOUSE	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DICHLOROPROPENE, 1,3- / (TELONE II)		**000542-75-6**								
	ORAL: GAVAGE	104 WEEKS			IRIS	1.8E-1		5E-6		010946
		MOUSE	BLADDER	CARCINOMA						
			RESPIRATORY SYSTEM	ALVEOLAR/ BRONCHIOLAR ADENOMA						
			FORESTOMACH	PAPILLOMA/ CARCINOMA						
	ORAL: GAVAGE	104 WEEKS								
		RAT	LIVER	NEOPLASTIC NODULE/CARCINOMA						
			FORESTOMACH	PAPILLOMA/ CARCINOMA						
	ORAL [SLOPE] COMMENT: THE [SLOPE] IS THE GEOMETRIC MEAN OF SLOPE FACTORS OF COMBINED TUMORS LISTED.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
	INHALATION: INTERMITTENT	2 YEARS			IRIS		1.3E-1		3.7E-5	010104
		MOUSE	LUNG	ADENOMA						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
DIELDRIN		**000060-57-1**								
	ORAL: DIET				IRIS	IRIS	1.6E+1	IRIS	IRIS	005816
		MOUSE	LIVER	CARCINOMA						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE-TO-ROUTE EXTRAPOLATION.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DIETHYLSTILBESTROL		**000056-53-1**								
	ORAL: DIET				A	4.7E+3		1.3E-1		010485
		MOUSE	MAMMARY GLAND	CARCINOMA						
DIMETHOXYBENZIDINE, 3,3'-		**000119-90-4**								
	ORAL: DIET	LIFETIME			B2	1.4E-2		4E-7		010106
		HAMSTER	FORESTOMACH	PAPILLOMA						
DIMETHYLANILINE HYDROCHLORIDE, 2,4-		**021436-96-4**								
	ORAL: DIET	18 MONTHS			C	5.8E-1		1.7E-5		010108
		MOUSE	LUNG	TUMORS						
DIMETHYLANILINE, 2,4-		**000095-68-1**								
	ORAL: DIET	18 MONTHS			C	7.5E-1		2.1E-5		010107
		MOUSE	LUNG	TUMORS						
DIMETHYLBENZIDINE, 3,3'-		**000119-93-7**								
	ORAL: GAVAGE	30 DAYS			B2	9.2E+0		2.6E-4		010109
		RAT	MAMMARY	TUMORS						
DIMETHYLBENZ[A]ANTHRACENE, 7,12-		**000057-97-6**								
										010297

GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.

DIMETHYLHYDRAZINE, 1,1- **000057-14-7**

GENERAL COMMENT: NO EPA GROUP CLASSIFICATION WAS PROVIDED IN THE REFERENCE DOCUMENT, THEREFORE THIS COMPOUND WAS REMOVED FROM TABLE 3.

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CHEMICAL	ROUTE*	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
DIMETHYLHYDRAZINE, 1,2-		**000540-73-8**								
					B2					010962
DIMETHYLSULFATE		**000077-78-1**								
					IRIS					010112
DINITROTOLUENE, 2,4-		**000121-14-2**								
					IRIS	IRIS		IRIS		005066
GENERAL COMMENT: LISTED AS "DINITROTOLUENE MIXTURE, 2,4-/2,6-" ON IRIS. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
DINITROTOLUENE, 2,6-		**000606-20-2**								
					IRIS	IRIS		IRIS		005068
GENERAL COMMENT: LISTED AS "DINITROTOLUENE MIXTURE, 2,4-/2,6-" ON IRIS. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
DIOXANE, 1,4-		**000123-91-1**								
					IRIS	IRIS		IRIS		010298
DIPHENYLHYDRAZINE, 1,2-		**000122-66-7**								
	ORAL: DIET	2 YEARS / RAT	LIVER	TUMORS	IRIS	IRIS	8.0E-1	IRIS	IRIS	005070
INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.										
DIRECT BLACK 38		**001937-37-7**								
	ORAL: DIET	93 DAYS / RAT	LIVER	TUMORS	A	8.6E+0		2.4E-4		010113
ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.										

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
DIRECT BLUE 6		**002602-46-2**								
	ORAL: DIET	91 DAYS			A	8.1E+0		2.3E-4		010114
		RAT	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
DIRECT BROWN 95		**016071-86-6**								
	ORAL: DIET	91 DAYS			A	9.3E+0		2.6E-4		010115
		RAT	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.									
DIRECT SKY BLUE 6B		**002610-05-1**								
					B2					010116
	[EPA GROUP] COMMENT: BASED ON THE FACT THAT 3,3-DIMETHOXYBENZIDINE, A KNOWN EPA GROUP B2 CARCINOGEN, IS A METABOLITE OF DIRECT SKY BLUE 6B.									
EPICHLOROHYDRIN		**000106-89-8**								
					IRIS	IRIS		IRIS		010198
	INHALATION: INTERMITTENT	30 DAYS, OBSERVED LIFETIME			IRIS		4.2E-3		IRIS	010117
		RAT	NASAL CAVITY	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
ETHYL ACRYLATE		**000140-88-5**								
	ORAL: GAVAGE	104 WEEKS			B2	4.8E-2		1.4E-6		010118
		RAT	FORESTOMACH	TUMORS						

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
ETHYLENE OXIDE		**000075-21-8**								
	ORAL: GAVAGE	LIFETIME, TWICE WEEKLY			B1	1.02E+0		2.9E-5		010421
		RAT	STOMACH	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	INHALATION:	2 YEARS			B1		3.5E-1		1E-4	010422
	INTERMITTENT	RAT	BLOOD	LEUKEMIA						
			BRAIN	GLIOMA						
	INHALATION [UNIT RISK] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
ETHYLENE THIOUREA		**000096-45-7**								
	ORAL: GAVAGE	2 YEARS			B2	1.1E-1		3.4E-6		010947
		MOUSE	LIVER	ADENOMA/ CARCINOMA, COMBINED						
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
FOLPET		**000133-07-3**								
					IRIS	IRIS		IRIS		010120
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
FORMALDEHYDE		**000050-00-0**								
	INHALATION	24 MONTHS			IRIS		4.5E-2		IRIS	010121
		RAT	NASAL CAVITY	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
FURAZOLIDONE		**000067-45-8**								
	ORAL: DIET	45 WEEKS			B2	3.8E+0		1E-4		005106
		RAT	MAMMARY	TUMORS						
	GENERAL COMMENT: FORMERLY LISTED UNDER NITROFURANS									
FURIUM		**000531-82-8**								
	ORAL: DIET	28 WEEKS			B2	5.0E+1		1.4E-3		005108
		MOUSE	BLOOD	LEUKEMIA						
	GENERAL COMMENT: FORMERLY LISTED UNDER NITROFURANS									
GLYCIDALDEHYDE		**000765-34-4**								
					IRIS					010122
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEPTACHLOR		**000076-44-8**								
	ORAL: DIET				IRIS	IRIS	4.5E+0	IRIS	IRIS	005820
		MOUSE	LIVER	CARCINOMA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEPTACHLOR EPOXIDE		**001024-57-3**								
	ORAL: DIET	18-24 MONTHS			IRIS	IRIS	9.1E+0	IRIS	IRIS	010424
		MOUSE	LIVER	CARCINOMA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)-1	[SLOPE FACTOR] INHALATION (mg/kg/day)-1	[UNIT RISK] ORAL (ug/L)-1	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
HEXACHLOROBENZENE 000118-74-1										
	ORAL: DIET	RAT	LIVER	TUMORS	IRIS	IRIS	1.6E+0	IRIS	IRIS	010365
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROBUTADIENE 000087-68-3										
	ORAL: DIET	22-24 MONTHS RAT	KIDNEY	TUMORS	IRIS	IRIS	7.8E-2	IRIS	IRIS	005088
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROCYCLOHEXANE, ALPHA- 000319-84-6										
	ORAL: DIET	24 WEEKS MOUSE	LIVER	TUMORS	IRIS	IRIS	6.3E+0	IRIS	IRIS	010123
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
HEXACHLOROCYCLOHEXANE, BETA- 000319-85-7										
	ORAL: DIET	110 WEEKS MOUSE	LIVER	TUMORS	IRIS	IRIS	1.8E+0	IRIS	IRIS	010124
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
HEXACHLOROCYCLOHEXANE, DELTA- 000319-86-8										
					IRIS					010125
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROCYCLOHEXANE, EPSILON- 006108-10-7										
					IRIS					010126
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
HEXACHLOROCYCLOHEXANE, GAMMA- 000058-89-9										
	ORAL: DIET	110 WEEKS			B2-C	1.3E+0		3.7E-5		005098
		MOUSE	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HEXACHLOROCYCLOHEXANE-TECHNICAL 000608-73-1										
	ORAL: DIET	6-20 MONTHS			IRIS	IRIS	1.8E+0	IRIS	IRIS	010127
		MOUSE	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
HEXACHLOROETHANE 000067-72-1										
	ORAL: GAVAGE	78 WEEKS			IRIS	IRIS	1.4E-2	IRIS	IRIS	005090
		MOUSE	LIVER	CARCINOMA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
HYDRAZINE 000302-01-2										
					IRIS	IRIS		IRIS		010129
	INHALATION:	1 YEAR			IRIS		1.7E+1		IRIS	010128
	INTERMITTENT	RAT	NASAL CAVITY	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
HYDRAZINE SULFATE		**010034-93-2**								
					IRIS	IRIS		IRIS		010131
	INHALATION: INTERMITTENT	1 YEAR RAT	NASAL CAVITY	TUMORS	IRIS		1.7E+1		IRIS	010130
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: LISTED UNDER "HYDRAZINE" ON IRIS.									
INDENO[1,2,3-CD]PYRENE		**000193-39-5**								
					IRIS					010192
ISOPHORONE		**000078-59-1**								
					IRIS	IRIS		IRIS		005094
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
LEAD		**007439-92-1**								
					IRIS					005096
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
LINURON		**000330-55-2**								
					IRIS					010383
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
MERCURIC CHLORIDE		**007487-94-7**								
					IRIS					010971
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
MERCURY, ELEMENTAL		**007439-97-6**								
					IRIS					010973
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METHOXY-5-NITROANILINE, 2-		**000099-59-2**								
	ORAL: DIET	104 WEEKS RAT	SKIN	CARCINOMA	B2	4.6E-2		1.3E-6		010132
METHYLHYDRAZINE		**000060-34-4**								
GENERAL COMMENT: NO EPA GROUP CLASSIFICATION WAS PROVIDED IN THE REFERENCE DOCUMENT. THEREFORE THIS COMPOUND WAS REMOVED FROM TABLE 3.										
METHYL-5-NITROANILINE, 2-		**000099-55-8**								
	ORAL: DIET	98 WEEKS MOUSE	LIVER	CARCINOMA	C	3.3E-2		9.4E-7		010140
METHYLANILINE HYDROCHLORIDE, 2-		**000636-21-5**								
	ORAL: DIET	93 WEEKS RAT	SKIN	FIBROMA	B2	1.8E-1		5.1E-6		010134
METHYLANILINE, 2-		**000095-53-4**								
	ORAL: DIET	93 WEEKS RAT	SKIN	FIBROMA	B2	2.4E-1		6.9E-6		010133
GENERAL COMMENT: THE 1984 HEEP CALLED THIS COMPOUND O-TOLUIDINE. THE 1987 HEEP CALLED IT 2-METHYLANILINE.										
METHYLCHOLANTHRACENE, 3-		**000056-49-5**								
										010299
GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.										

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
METHYLENE CHLORIDE / (DICHLOROMETHANE) 000075-09-2										
					IRIS	IRIS		IRIS		005100
					IRIS				IRIS	005904
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										
METHYLENE-BIS(BENZENEAMINE), 4,4- / (4,4'-METHYLENEDIANILINE) 000101-77-9										
GENERAL COMMENT: NO EPA GROUP CLASSIFICATION WAS PROVIDED IN THE REFERENCE DOCUMENT. THEREFORE THIS COMPOUND WAS REMOVED FROM TABLE 3.										
METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4										
	ORAL: DIET	2 YEARS RAT	LUNG	TUMORS	B2	1.3E-1	1.3E-1	3.7E-6	3.7E-5	010425
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST. BASED ON ROUTE TO ROUTE EXTRAPOLATION.										
METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'- 000101-61-1										
					IRIS	IRIS		IRIS		010137
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METHYLMERCURY 0022967-92-6										
					IRIS					010972
GENERAL COMMENT: ALSD SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).										
METOLACHLOR 051218-45-2										
					IRIS					010951
MIREX 002385-85-5										
	ORAL: DIET	2 YEARS RAT	LIVER	ADENOMA	B2					010952
			LIVER	CARCINOMA						
[EPA GROUP] COMMENT: UNDER REVIEW. CLASSIFICATION SUBJECT TO CHANGE.										
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)										

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CHEMICAL	ROUTE	EXPERIMENT LENGTH SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NIAGARA BLUE 4B		**002429-74-5**								
					B2					010141

[EPA GROUP] COMMENT: BASED ON THE FACT THAT 3,3-DIMETHOXYBENZIDINE, A KNOWN EPA GROUP B2 CARCINOGEN, IS A METABOLITE OF NIAGARA BLUE 4B.

NICKEL REFINERY DUST										
	INHALATION:				IRIS		8.4E-1		IRIS	005103
	OCCUPATIONAL	HUMAN	RESPIRATORY SYSTEM	TUMORS						

INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: FORMERLY LISTED AS NICKEL. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (UNDER NICKEL, SOLUBLE SALTS).

NICKEL SUBSULFIDE		**012035-72-2**								
	INHALATION:				IRIS		1.7E+0		IRIS	005768
	OCCUPATIONAL	HUMAN	RESPIRATORY SYSTEM	TUMORS						

INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.
GENERAL COMMENT: FORMERLY LISTED AS NICKEL. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (UNDER NICKEL).

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NITROBENZENE		**00009B-95-3**								
	INHALATION	2 YEAR			B2					010969
		MICE	LUNG	ADENOMA						
			LUNG	CARCINOMA						
			THYROID	ADENOMA						
			MAMMARY	ADENOCARCINOMA						
	INHALATION	2 YEAR								
		RAT	LIVER	ADENOMA						
			LIVER	CARCINOMA						
			KIDNEY	ADENOMA						
			KIDNEY	ADENOCARCINOMA						
			UTERUS	ENDIOMETRIAL POLYPS						
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.									
NITROFURAZONE		**000059-87-0**								
	ORAL: DIET	46 WEEKS			B2	1.5E+0		4.3E-5		005110
		RAT	MAMMARY	TUMORS						
NITROPROPANE, 2-		**000079-46-9**								
	INHALATION:	22 MONTHS			B2		9.4E+0		2.7E-3	010142
	INTERMITTENT	RAT	LIVER	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.									
NITROSO-DI-N-BUTYLAMINE, N-		**000924-16-3**								
	ORAL: DRINKING	LIFETIME			IRIS	IRIS	5.4E+0	IRIS	IRIS	010143
	WATER	MOUSE	BLADDER	TUMORS						
			ESOPHAGUS	TUMORS						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
NITROSO-DI-N-PROPYLAMINE, N- 000621-64-7										
					IRIS	IRIS		IRIS		010147
NITROSO-N-ETHYLUREA, N- 000759-73-9										
	ORAL: DRINKING WATER	203 DAYS RAT	INTESTINE	GASTROINTESTINAL TUMORS	B2	1.4E+2				010426
	[EPA GROUP] COMMENT: UNDER REVIEW, CLASSIFICATION SUBJECT TO CHANGE.									
	GENERAL COMMENT: FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 382-4761 FOR RCRA-APPROVED NUMERIC ASSESSMENT FOR THIS COMPOUND. UNDER REVIEW.									
NITROSO-N-METHYLUREA, N- 000684-93-5										
	ORAL: GAVAGE	308 DAYS GUINEA PIG	PANCREAS	ADENOCARCINOMA	B2					010427
	[EPA GROUP] COMMENT: UNDER REVIEW, CLASSIFICATION SUBJECT TO CHANGE.									
	GENERAL COMMENT: THE CRAVE WORK GROUP (04/01/92) STATES THERE IS NO ACCEPTABLE QUANTITATION FOR NITROSO-N-METHYLUREA, N-.									
NITROSODIETHANOLAMINE, N- 001116-54-7										
					IRIS	IRIS		IRIS		010144
NITROSODIETHYLAMINE, N- 000055-18-5										
	ORAL: DRINKING WATER	6 OR 12 MONTHS RAT	LIVER	TUMORS	IRIS	IRIS	1.5E+2	IRIS	IRIS	010145
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
NITROSODIMETHYLAMINE, N- 000062-75-9										
	ORAL: DRINKING WATER	RAT	LIVER	TUMORS	IRIS	IRIS	5.1E+1	IRIS	IRIS	010146

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
NITROSODIPHENYLAMINE, N-		**000086-30-6**								
					IRIS	IRIS		IRIS		005112
NITROSOMETHYLETHYLAMINE, N-		**010595-95-6**								
					IRIS	IRIS		IRIS		010148
NITROSOMETHYLVINYLAMINE, N		**004549-40-0**								
	INHALATION	RAT	UPPER RESPIRATORY TRACT	CARCINOMAS	B2					010149
	ORAL: DRINKING WATER		UPPER DIGESTIVE TRACT	CARCINOMAS						
NITROSOPYRROLIDINE, N-		**000930-55-2**								
	ORAL: DIET	LIFETIME RAT	LIVER	TUMORS	IRIS	IRIS	2.1E+0	IRIS	IRIS	010300
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
PARATHION		**000056-38-2**								
					IRIS					005116
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5- 000087-84-3										
	ORAL: DIET	2 YEARS			C	2.3E-2		6.6E-7		010150
		RAT	INTESTINE, LARGE	TUMORS						
	ORAL [SLOPE] COMMENT: BASED ON RESULTS WITH THE ALPHA ISOMER.									
PENTACHLORONITROBENZENE 000082-68-8										
	ORAL	72 WEEKS			C	2.6E-1		7.4E-6		010151
		MOUSE	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
PENTACHLOROPHENOL 000087-86-5										
					IRIS	IRIS		IRIS		010381
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
PHENYLENEDIAMINE, O- 000095-54-5										
	ORAL: DIET	548 DAYS			B2	4.7E-2		1.3E-6		010152
		RAT	LIVER	TUMORS						
	ORAL [SLOPE] COMMENT: BASED ON LIVER TUMORS IN RATS TREATED WITH O-PHENYLENEDIAMINE DIHYDROCHLORIDE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY.									
PHENYLPHENOL, 2- 000090-43-7										
	ORAL: DIET	637 DAYS			C	1.94E-3		5.5E-8		010153
		RAT	URINARY BLADDER	TUMORS						

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
POLYBROMINATED BIPHENYLS										
	ORAL: GAVAGE	25 WEEKS			B2	8.9E+0		2.5E-4		010154
		RAT	LIVER	CARCINOMA						
			LIVER	NEOPLASTIC NODULE						
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY)									
POLYCHLORINATED BIPHENYLS		001336-36-3								
					IRIS	IRIS		IRIS		005118
PROPYLENE OXIDE		000075-56-9								
					IRIS	IRIS		IRIS		010156
	INHALATION:	2 YEARS			IRIS		1.3E-2		IRIS	010155
	INTERMITTENT	MOUSE	NASAL CAVITY	TUMORS						
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
QUINOLINE		000091-22-5								
	ORAL: DIET	20-40 WEEKS			C	1.2E+1		3.5E-4		01015B
		RAT	LIVER	TUMORS						
RDX / (CYCLONITE)		000121-82-4								
					IRIS	IRIS		IRIS		010157
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
SELENIUM SULFIDE		007446-34-6								
					IRIS					010194
	ORAL [SLOPE] COMMENT: STUDY RESULTS WERE CONSIDERED INCONCLUSIVE FOR QUANTITATIVE RISK ASSESSMENT.									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
SIMAZINE		**000122-34-9**								
	ORAL: DIET	2 YEARS			C	1.2E 1		3.4E-6		010195
		RAT	MAMMARY	CARCINOMA						

ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

SODIUM DIETHYLDITHIOCARBAMATE		**000148-18-5**								
	ORAL: DIET	77 WEEKS			C	2.7E-1		7.7E-6		005126
		MOUSE	LIVER	TUMORS						

GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

STYRENE		**000100-42-5**								
										010480

GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.
ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).

TCDD, 2,3,7,8-		**001746-01-6**								
	ORAL: DIET	720 DAYS			B2	1.5E+5	1.5E+5	4.5E+0	3.3E-5 (PG/CU M)$^{-1}$	005128
		RAT	RESPIRATORY SYSTEM	TUMORS						
			LIVER	TUMORS						

ORAL [SLOPE] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE.
INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.
INHALATION [UNIT RISK] COMMENT: UNDER REVIEW. NUMBER SUBJECT TO CHANGE. BASED ON ROUTE TO ROUTE EXTRAPOLATION.
AN ABSORPTION FACTOR OF 75% IS USED TO CALCULATE THE UNIT RISK FROM THE SLOPE FACTOR.

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)$^{-1}$	REFERENCE
TETRACHLOROETHANE, 1,1,1,2- 000630-20-6										
	ORAL: GAVAGE	103 WEEKS	LIVER	TUMOR	IRIS	IRIS	2.6E-2	IRIS	IRIS	010302
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
TETRACHLOROETHANE, 1,1,2,2- 000079-34-5										
	ORAL: GAVAGE	75 WEEKS MOUSE	LIVER	CARCINOMA	IRIS	IRIS	2.0E-1	IRIS	IRIS	005130
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II. DOSE CONVERSIONS ON HEAST.									
TETRACHLOROETHYLENE 000127-18-4										
										010482
	GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300. ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA- 005216-25-1										
	ORAL: GAVAGE	17.5 WEEKS MOUSE	LUNG	ADENOCARCINOMA	B2	2.0E+1		5.7E-4		005028
TETRACHLOROVINPHOS / (STIROFOS) 000961-11-5										
	ORAL: DIET	560 DAYS MOUSE	LIVER	TUMORS	C	2.4E-2		6.9E-7		010159
	[EPA GROUP] COMMENT: UNDER REVIEW. CLASSIFICATION SUBJECT TO CHANGE. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TOLUENE-2,4-DIAMINE 000095-80-7										
	ORAL: DIET	84-103 WEEKS RAT	MAMMARY	TUMORS	B2	3.2E+0		9.1E-5		010160

IRIS, EPA'S INTEGRATED RISK INFORMATION SYSTEM, IS UPDATED MONTHLY. FURTHER INFORMATION: RISK INFORMATION HOTLINE: (513) 569-7254.

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
TOLUIDINE, P-		**000106-49-0**								
	ORAL: DIET	18 MONTHS MOUSE	LIVER	TUMORS	C	1.9E-1		5.4E-6		010162
TOXAPHENE		**008001-35-2**								
	ORAL: DIET	18 MONTHS MOUSE	LIVER	TUMORS	IRIS	IRIS	1.1E+0	IRIS	IRIS	005134
	INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST. INHALATION [UNIT RISK] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION.									
TRICHLOROANILINE HYDROCHLORIDE, 2,4,6-		**033663-50-2**								
	ORAL: DIET	18 MONTHS MOUSE	VASCULAR SYSTEM	TUMORS	C	2.9E-2		8.2E-7		005142
TRICHLOROANILINE, 2,4,6-		**000634-93-5**								
	ORAL: DIET	18 MONTHS MOUSE	VASCULAR SYSTEM	TUMORS	C	3.4E-2		1E-6		010487
TRICHLOROETHANE, 1,1,2-		**000079-00-5**								
	ORAL: GAVAGE	78 WEEKS MOUSE	LIVER	CARCINOMA	IRIS	IRIS	5.7E-2	IRIS	IRIS	005144
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST. GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TRICHLOROETHYLENE		**000079-01-6**								010483
	GENERAL COMMENT: CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.									

CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
TRICHLOROPHENOL, 2,4,6-		**000088-06-2**								
	ORAL: DIET	107 WEEKS			IRIS	IRIS	1E-2	IRIS	IRIS	010428
		MOUSE	BLOOD	LEUKEMIA						
	INHALATION [SLOPE] COMMENT: BASED ON ROUTE TO ROUTE EXTRAPOLATION. SEE APPENDIX A-II, DOSE CONVERSIONS ON HEAST.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TRICHLOROPROPANE, 1,2,3-		**000096-18-4**								
	ORAL: GAVAGE				B2	7E+0		2E-4		010849
		RAT	MULTIPLE SITES	TUMORS, BENIGN/MALIGNANT, COMBINED						
	[EPA GROUP] COMMENT: UNDER REVIEW, CLASSIFICATION SUBJECT TO CHANGE.									
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TRIFLURALIN		**001582-09-8**								
					IRIS	IRIS		IRIS		010163
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									
TRIMETHYL PHOSPHATE		**000512-56-1**								
	ORAL: GAVAGE	103 WEEKS			B2	3.7E-2		1.1E-6		010164
		MOUSE	UTERUS	TUMORS						
TRINITROTOLUENE, 2,4,6-		**000118-96-7**								
					IRIS	IRIS		IRIS		010476
	GENERAL COMMENT: ALSO SEE HEAST TABLE 1: SUBCHRONIC AND CHRONIC TOXICITY (OTHER THAN CARCINOGENICITY).									

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CHEMICAL	ROUTE	EXPERIMENT LENGTH / SPECIES	TARGET	CANCER	[EPA GROUP]	[SLOPE FACTOR] ORAL (mg/kg/day)$^{-1}$	[SLOPE FACTOR] INHALATION (mg/kg/day)$^{-1}$	[UNIT RISK] ORAL (ug/L)$^{-1}$	[UNIT RISK] INHALATION (ug/cu m)-1	REFERENCE
VINYL CHLORIDE		**000075-01-4**								
	ORAL: DIET	1001 DAYS			A	1.9E+0		5.4E-5		010368
		RAT	LUNG	TUMORS						
			LIVER	TUMORS						
	INHALATION: INTERMITTENT	1 YEAR			A		3.0E-1		8.4E-5	010367
		RAT	LIVER	TUMORS						

ORAL [SLOPE] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.

INHALATION [SLOPE] COMMENT: SEE APPENDIX A-II: DOSE CONVERSIONS ON HEAST.
INHALATION [UNIT RISK] COMMENT: UNDER REVIEW, NUMBER SUBJECT TO CHANGE.
GENERAL COMMENT: THE MOST RECENTLY REVIEWED QUANTITATIVE TOXICITY VALUES LISTED HERE APPEAR IN EPA DOCUMENTS PUBLISHED IN 1984 AND 1985. USE OF THESE VALUES ON AN INTERIM BASIS WAS VALIDATED BY CRAVE (04/05/90). THE AGENCY IS AWARE THAT THESE VALUES DO NOT INCORPORATE CONSIDERABLE INFORMATION THAT IS NOW AVAILABLE. THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT'S POSITION IS THAT THESE TOXICITY VALUES DO NOT REFLECT STATE-OF-THE-ART SCIENCE FOR VINYL CHLORIDE. EPA NOW HAS INDIVIDUAL ANIMAL DATA, NOT AVAILABLE WHEN THE ORAL UNIT RISK WAS CALCULATED, THAT MAY INFLUENCE THIS VALUE. ADDITIONAL INFORMATION THAT MAY BE FACTORED INTO A REVISED QUANTITATIVE TOXICITY VALUE INCLUDES DATA ON INCREASED SENSITIVITY OBSERVED IN YOUNG ANIMALS AND DATA ON METABOLISM/PHARMACOKINETICS. A UNIT RISK FOR AIR THAT CONSIDERS INFORMATION ON YOUNG AGE EXPOSURE INCREASES THE RISK (I.E., LOWERS THE RISK SPECIFIC DOSE) BY AT LEAST 3-FOLD. THE CONSIDERATION OF METABOLISM PHARMACOKINETICS WILL FURTHER INCREASE THE RISK. ONE UNPUBLISHED PHYSIOLOGICALLY-BASED PHARMACOKINETIC MODEL PREDICTION RESULTS IN A 100-FOLD INCREASED RISK.

ACEPHATE 030560-19-1

010086 CHEVRON CHEMICAL COMPANY. 1982. MRID NO 00105197. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACEPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ACROLEIN 000107-02-8

005001 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACROLEIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ACRYLAMIDE 000079-06-1

010087 JOHNSON K, S GORZINSKI, KM BODNER, ET AL. 1986. CHRONIC TOXICITY AND ONCOGENICITY STUDY ON ACRYLAMIDE INCORPORATED IN THE DRINKING WATER OF FISCHER 344 RATS. DOW CHEMICAL, USA, MIDLAND, MI.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ACRYLAMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ACRYLONITRILE 000107-13-1

005004 BIO/DYNAMICS, INC. 1980. A 24-MONTH ORAL TOXICITY/CARCINOGENICITY STUDY OF ACRYLONITRILE ADMINISTERED IN DRINKING WATER TO FISCHER 344 RATS. FINAL REPORT, VOL 1-4. PREPARED BY BIO/DYNAMICS, INC., DIVISION OF BIOLOGY AND SAFETY EVALUATION, EAST MILLSTONE, NJ, UNDER PROJECT NO 77-1744 (BDN-77-27) FOR MONSANTO COMPANY, ST LOUIS, MO.

BIO/DYNAMICS, INC. 1980. A 24-MONTH ORAL TOXICITY/CARCINOGENICITY STUDY OF ACRYLONITRILE ADMINISTERED TO SPARTAN RATS IN THE DRINKING WATER. FINAL REPORT, VOL 1 AND 2. PREPARED BY BIO/DYNAMICS, INC., DIVISION OF BIOLOGY AND SAFETY EVALUATION, EAST MILLSTONE, NJ, UNDER PROJECT NO 77-1745 FOR MONSANTO COMPANY, ST LOUIS, MO.

QUAST, JF, CE WADE, CG HUMISTON ET AL. 1980. A 2-YEAR TOXICITY AND ONCOGENICITY STUDY WITH ACRYLONITRILE INCORPORATED IN THE DRINKING WATER OF RATS. PREPARED BY THE TOXICOLOGY RESEARCH LABORATORY, HEALTH AND ENVIRONMENTAL RESEARCH, DOW CHEMICAL USA, MIDLAND, MI FOR THE CHEMICAL MANUFACTURERS ASSOCIATION, WASHINGTON, DC.

US EPA. 1983. HEALTH ASSESSMENT DOCUMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005003 O'BERG, M. 1980. EPIDEMIOLOGIC STUDY OF WORKERS EXPOSED TO ACRYLONITRILE. J OCCUP MED. 22: 245-252.

US EPA. 1983. HEALTH ASSESSMENT DOCUMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ACRYLONITRILE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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ALACHLOR 015972-60-8

010180 STOUT, LD, ET AL. 1983. A CHRONIC STUDY OF ALACHLOR ADMINISTERED IN FEED TO LONG-EVANS RATS. EHL #800218, PROJECT NO. ML-80-186, REPORT MSL-3282/3284. VOL. I AND II. UNPUBLISHED STUDY RECEIVED FEB. 28, 1984 UNDER U.S. EPA REG. NO. 524-316, PREPARED BY MONSANTO ENVIRONMENTAL HEALTH LABORATORY (EHL), SUBMITTED BY MONSANTO CO., WASHINGTON, DC. CDL:252496-7.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ALACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1992. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ALACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ALDRIN 000309-00-2

005006 EPSTEIN, SS. 1975. THE CARCINOGENICITY OF DIELDRIN, PART I. SCI TOTAL ENVIRON. 4: 1-52.

NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAYS OF ALDRIN AND DIELDRIN FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 21. NCI-C6-TR-66 DHEW PUBLICATION NO. (NIH) 78-821.

DAVIS, KJ, AND OG FITZHUGH. 1962. TUMORIGENIC POTENTIAL OF ALDRIN AND DIELDRIN FOR MICE. TOXICOL APPL PHARMACOL. 4: 187-189.

DAVIS, KJ. 1965. PATHOLOGY REPORT ON MICE FOR ALDRIN, DIELDRIN, HEPTACHLOR, OR HEPTACHLOR EPOXIDE FOR TWO YEARS. INT FOOD DRUG ADMIN.

US EPA. 1986. CARCINOGENICITY ASSESSMENT OF ALDRIN AND DIELDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ALLYL CHLORIDE 000107-05-1

010181 US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROPROPENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ANILINE **000062-53-3**

010088 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1982. 104-WEEK CHRONIC TOXICITY STUDY IN RATS: ANILINE HYDROCHLORIDE. FINAL REPORT.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ARAMITE **000140-57-8**

010206 OSER BL, AND M OSER. 1962. 2-(P-TERT-BUTYLPHENOXY)ISOPROPYL 2-CHLOROETHYL SULFITE (ARAMITE). II. CARCINOGENICITY. TOXICOL APPL PHARMACOL. 4: 70-88.

POPPER H, SS STEINBERG, BL OSER, AND M OSER. 1960. THE CARCINOGENIC EFFECT OF ARAMITE IN RATS. CANCER. 13(5): 1035-1046.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR ARAMITE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

714

ARSENIC, INORGANIC 007440-38-2

005007 BROWN, CC AND KC CHU. 1983. APPROACHES TO EPIDEMIOLOGIC ANALYSIS OF PROSPECTIVE AND RETROSPECTIVE STUDIES: EXAMPLE OF LUNG CANCER AND EXPOSURE TO ARSENIC. IN: RISK ASSESSMENT: PROC SIMS CONFERENCE ON ENVIRONMENTAL EPIDEMIOLOGY, JUNE 28-JULY 2, 1982, ALTA UT. SIAM PUBLICATION.

BROWN, CC AND KC CHU. 1983. IMPLICATIONS OF THE MULTISTAGE THEORY OF CARCINOGENESIS APPLIED TO OCCUPATIONAL ARSENIC EXPOSURE. J NAT CANCER INST. 70: 455-463.

LEE-FELDSTEIN, A. 1983. ARSENIC AND RESPIRATORY CANCER IN MAN: FOLLOW-UP OF AN OCCUPATIONAL STUDY. IN: ARSENIC: INDUSTRIAL, BIOMEDICAL, AND ENVIRONMENTAL PERSPECTIVES, W LEDERER AND R FENSTERHEIM, EDS, VAN NOSTRAND REINHOLD, NEW YORK.

BROWN, CC AND KC CHU. 1983. A NEW METHOD FOR THE ANALYSIS OF COHORT STUDIES: IMPLICATIONS OF THE MULTISTAGE THEORY OF CARCINOGENESIS APPLIED TO OCCUPATIONAL ARSENIC EXPOSURE. ENVIRON HEALTH PERSP. 50: 293-308.

* HIGGINS, I. 1982. ARSENIC AND RESPIRATORY CANCER AMONG A SAMPLE OF ANACONDA SMELTER WORKERS. REPORT SUBMITTED TO THE OCCUPATIONAL SAFETY HEALTH ADMINISTRATION IN THE COMMENTS OF THE KENNECOTT MINERALS ON THE INORGANIC ARSENIC RULE MAKING. EXHIBIT 203-5.

ENTERLINE, PE AND GM MARSH. 1982. CANCER AMONG WORKERS EXPOSED TO ARSENIC AND OTHER SUBSTANCES IN A COPPER SMELTER. AM J EPIDEMIOL. 116: 895-911.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR ARSENIC. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON DC.

US EPA. 1980. HEALTH ASSESSMENT DOCUMENT FOR INORGANIC ARSENIC. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010925 TSENG WP. 1977. EFFECTS AND DOSE RESPONSE RELATIONSHIPS OF SKIN CANCER AND BLACKFOOT DISEASE WITH ARSENIC. ENVIRON HEALTH PERSPECT. 19: 108-119.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

715

ASBESTOS 001332-21-4

005010 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHRYSOTILE ASBESTOS (CAS NO 1200-29-5) IN F344/N RATS (FEED STUDIES). TECHNICAL REPORT SERIES NO 295.

US EPA. 1988. DRINKING WATER CRITERIA DOCUMENT FOR ASBESTOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005919 US EPA. 1986. AIRBORNE ASBESTOS HEALTH ASSESSMENT UPDATE. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84/003F.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ATRAZINE 001912-24-9

010380 CIBA-GEIGY. 1986. TWO-YEAR FEEDING STUDY IN THE RAT. CONDUCTED BY AMERICAN BIOGENICS CORP. MRID NO 262714-262727. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ATRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

AZOBENZENE 000103-33-3

010089 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF AZOBENZENE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECHNICAL REPORT SERIES. NO. 154. US DHEW PUBL NO. (NIH) 79-1710. P 112.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR AZOBENZENE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

716

BENZENE 000071-43-2

005011 WONG, O, RW MORGAN AND MD WHORTON. 1983. COMMENTS ON THE NIOSH STUDY OF LEUKEMIA IN BENZENE WORKERS. TECHNICAL REPORT SUBMITTED TO GULF CANADA, LTD, BY ENVIRONMENTAL HEALTH ASSOCIATES, AUGUST 31. CITED IN US EPA, 1985.

OTT, MG, JC TOWNSEND, WA FISHBECK AND RA LANGNER. 1978. MORTALITY AMONG WORKERS OCCUPATIONALLY EXPOSED TO BENZENE. ARCH ENVIRON HEALTH. 33: 3-10.

RINSKY, RA, RJ YOUNG AND AB SMITH. 1981. LEUKEMIA IN BENZENE WORKERS. AM J IND MED. 2: 217-245.

US EPA. 1987. MEMORANDUM FROM J. ORME HEB, CSD/ODW TO C. VOGT, JUNE, 1987. CRITERIA AND STANDARDS DIVISION, ODW.

US EPA. 1985. INTERIM QUANTITATIVE CANCER UNIT RISK ESTIMATES DUE TO INHALATION OF BENZENE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC. OFFICE OF AIR QUALITY PLANNING AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZIDINE 000092-87-5

005014 ZAVON, MR, U HOEGG AND E BINGHAM. 1973. BENZIDINE EXPOSURE AS A CAUSE OF BLADDER TUMORS. ARCH ENVIRON HEALTH. 27: 1-73.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR BENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZOTRICHLORIDE 000098-07-7

010092 FUKUDA K, H METSUSHITA AND K TAKEMOTO. 1978. CARCINOGENICITY OF BENZOTRICHLORIDE BY THE ORAL ROUTE OF ADMINISTRATION (J-4774). IN: PROC 52ND ANN MEET JAPANESE INDUSTRIAL HEALTH ASSOC. TSCA 8E SUBMISSION DOCUMENT NO 88-8000360, FICHE #204867. P 516-517.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZOTRICHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZO[A]ANTHRACENE **000056-55-3**

010182 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZO[A]PYRENE **000050-32-8**

010508 NEAL J, RH RIGDON. 1967. GASTRIC TUMORS IN MICE FED BENZO[A]PYRENE. A QUANTITATIVE STUDY. TEX REP BIOL MED. 25: 553.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR POLYCYCLIC AROMATIC HYDROCARBONS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, FOR THE OFFICE OF WATER, WASHINGTON, DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR POLYCYCLIC AROMATIC HYDROCARBONS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

BENZO[B]FLUORANTHENE **000205-99-2**

010183 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZO[K]FLUORANTHENE **000207-08-9**

010090 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BENZYL CHLORIDE **000100-44-7**

010093 LIJINSKI W. 1986. CHRONIC BIOASSAY OF BENZYL CHLORIDE IN F344 RATS AND (C57BL/6J X BALB/C)F1 MICE. J NATL CANCER INST. 76: 1231-1236.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BENZYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

718

BERYLLIUM 007440-41-7

005018 SCHROEDER, HA AND M MITCHNER. 1975. LIFE-TIME STUDIES IN RATS: EFFECTS OF ALUMINUM, BARIUM, BERYLLIUM AND TUNGSTEN. J NUTR. 105: 421-427.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR BERYLLIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005017 WAGONER, JK, PF INFANTE AND DL BAYLISS. 1980. BERYLLIUM: AN ETIOLOGIC AGENT IN THE INDUCTION OF LUNG CANCER, NONNEOPLASTIC RESPIRATORY DISEASE, AND HEART DISEASE AMONG INDUSTRIALLY EXPOSED WORKERS. ENVIRON RES. 21: 15-34.

US EPA. 1987. HEALTH ASSESSMENT DOCUMENT FOR BERYLLIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BIS(2-CHLOROETHYL) ETHER 000111-44-4

005076 INNES, JRM, BM ULLAND, MG VALERIO ET AL. 1969. BIOASSAY OF PESTICIDES AND INDUSTRIAL CHEMICALS FOR TUMORIGENICITY IN MICE: A PRELIMINARY NOTE. J NATL CANCER INST. 42: 1101-1114.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR BIS(2-CHLOROETHYL)ETHER. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLOROALKYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS. WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BIS(2-CHLORO-1-METHYLETHYL) ETHER 000108-06-1

005079 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENIC BIOASSAY OF BIS(2-CHLORO-1-METHYLETHYL) ETHER (70%) CONTAINING 2-CHLORO-1-METHYLETHYL(2-CHLOROPROPYL) ETHER (30%) IN B6C3F1 MICE (GAVAGE STUDY). NCI CARCINOGEN TECH REP SER NO 239. 105 P. ALSO PUBL AS DHHS (NIH) 83-1795

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HALOETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

719

BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP) 000117-81-7

005120 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF DI(2-ETHYLHEXYL) PHTHALATE (CAS NO 117-81-7) IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REPORT SER NO 217. NIH/PUB-82-1773. NTP-80-37. NTIS PB82-184011.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PHTHALIC ACID ALKYL. ARYL AND ALKYL/ARYL ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS. PREPARED BY THE ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. CINCINNATI. OH FOR THE OFFICE OF WATER. WASHINGTON. DC.

BIS(CHLOROMETHYL) ETHER 000542-88-1

005077 KUSCHNER. M. S LASKIN. RT DREW. ET AL. 1975. INHALATION CARCINOGENICITY OF ALPHA HALO ETHERS: III. LIFETIME AND LIMITED PERIOD INHALATION STUDIES WITH BIS(CHLOROMETHYL) ETHER AT 0.1 PPM. ARCH ENVIRON HEALTH. 30(2): 73-77.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BROMODICHLOROMETHANE 000075-27-4

005148 NTP (NATIONAL TOXICOLOGY PROGRAM). 1987. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF BROMODICHLOROMETHANE (CAS NO 75-27-4) IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP. RESEARCH TRIANGLE PARK. NC. NTP TR 321. US DEPT OF HEALTH AND HUMAN SERVICES. PUBLIC HEALTH SERVICE. NATIONAL INSTITUTE OF HEALTH.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC. ECAO-CIN-H083.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BROMOETHENE / (VINYL BROMIDE) 000593-60-2

010094 BENYA TJ. WM BASEY. MA DORATO AND PE BERTEAU. 1982. INHALATION CARCINOGENICITY BIOASSAY OF VINYL BROMIDE IN RATS. TOXICOL APPL PHARMACOL. 64: 367-379.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMOETHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

720

BROMOFORM 000075-25-2

005150 NTP (NATIONAL TOXICOLOGY PROGRAM). 1988. TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF TRIHALOMETHANE (BROMOFORM) (CAS NO 75-25-2) IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-TR 350.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR BROMOFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BUTADIENE, 1,3- 000106-99-0

010477 NTP (NATIONAL TOXICOLOGY PROGRAM). 1984. TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,3-BUTADIENE (CAS 106-99-0) IN B6C3F1 MICE (INHALATION STUDIES).

US EPA. 1985. MUTAGENICITY AND CARCINOGENICITY ASSESSMENT OF 1,3-BUTADIENE. OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON, DC. EPA 600/8-85-004F. NTIS-PB86-12507.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-BUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

BUTYL BENZYL PHTHALATE, N- 000085-68-7

005122 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF BUTYLBENZYL PHTHALATE (CAS. NO. 85-68-7) IN F344 RATS AND B6C3F1 MICE (FEED STUDY). NTP TECH REP. NTIS PB83-118398, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR SELECTED PHTHALIC ACID ESTERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR PHTHALIC ACID ESTERS (PAE)S. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CADMIUM 007440-43-9

005019 THUN, MJ, TM SCHNORR, AB SMITH AND WE HALPERIN. 1985. MORTALITY AMONG A COHORT OF US CADMIUM PRODUCTION WORKERS: AN UPDATE. J NATL CANCER INST. 74(2): 325-333.

US EPA. 1985. UPDATED MUTAGENICITY AND CARCINOGENICITY ASSESSMENT OF CADMIUM: ADDENDUM TO THE HEALTH ASSESSMENT DOCUMENT FOR CADMIUM. (MAY 1981. EPA 600/8-81-023) EPA 600/8-83-025F.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CAPTAFOL 002425-06-1

010095 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAFOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CAPTAN 000133-06-2

010184 NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAY OF CAPTAN FOR POSSIBLE CARCINOGENICITY. CAS NO. 133-06-2. NTIS PB-273475.

CHEVRON. 1982. UNPUBLISHED STUDY.

BIODYNAMICS. 1983. SUBMITTED CHEVRON CHEMICAL CORPORATION. UNPUBLISHED STUDY.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CAPTAN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CARBAZOLE 000086-74-8

010096 TSUDA H, A HAZIWARA, M SHIBATA, M OHSIMA AND N ITO. 1982. CARCINOGENIC EFFECT OF CARBAZOLE IN THE LIVER OF (C57BL/6N X C3G/HEN)F1 MICE. J NATL CANCER INST. 69: 1383-1389.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CARBAZOLE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

722

CARBON TETRACHLORIDE 000056-23-5

005022 DELLA PORTA, GB, B TERRACINI AND KP SHUBIK. 1961. INDUCTION WITH CARBON TETRACHLORIDE OF LIVER CELL CARCINOMAS IN HAMSTERS. J NATL CANCER INST. 26: 855-863.

EDWARDS, J, WE HESTON AND HA DALTON. 1942. INDUCTION OF THE CARBON TETRACHLORIDE HEPATOMA IN STRAIN L MICE. J NATL CANCER INST. 3: 297-301.

NCI (NATIONAL CANCER INSTITUTE). 1976. REPORT ON CARCINOGENESIS BIOASSAY OF CHLOROFORM. NTIS PB264-018. NCI-CG-TR-3.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR CARBON TETRACHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR CARBON TETRACHLORIDE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHLORANIL 000118-75-2

010097 BRL (BIONETICS RESEARCH LABS, INC.). 1968. EVALUATION OF CARCINOGENIC, TERATOGENIC AND MUTAGENIC ACTIVITIES OF SELECTED PESTICIDES AND INDUSTRIAL CHEMICALS. VOLUME I: CARCINOGENIC STUDY. NTIS PB 223159.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORANIL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORDANE 000057-74-9

005024 VELSICOL. 1973. EIGHTEEN MONTH ORAL CARCINOGENIC STUDY IN MICE, DECEMBER 14, 1973. MRID NO. 00067568. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAY OF CHLORDANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER ND 8. ALSO PUBL AS DHEW PUBL NO (NIH) 77-808.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLORDANE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGENICITY ASSESSMENT OF CHLORDANE AND HEPTACHLOR/HEPTACHLOR EPOXIDE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

723

CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4- 003165-93-3

010419 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-CHLORO-2-METHYLANILINE AND 4-CHLORO-2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORO-2-METHYLANILINE, 4- 000095-69-2

010098 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4-CHLORO-2-METHYLANILINE AND 4-CHLORO-2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROBENZILATE 000510-15-6

01084B BRL (BIONETICS RESEARCH LABORATORIES). 1968. EVALUATION OF CARCINOGENIC, TERATOGENIC AND MUTAGENIC ACTIVITIES OF SELECTED AND INDUSTRIAL CHEMICALS. I. CARCINOGENIC STUDY. PREPARED FOR NATIONAL CANCER INSTITUTE, REPORT NO. NCI DCCP-C6 1973-1-1. NTIS PB-223-157. P. 17, 27-31, 35, 39, 56-57, 68.

US EPA. 1991. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLOROBENZILATE. PREPARED BY THE OFFICE OF HEATH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROFORM 000067-66-3

005036 JORGENSON, TA, EF MEIERHENRY, CJ RUSHBROOK ET AL. 1985. CARCINOGENICITY OF CHLOROFORM IN DRINKING WATER TO MALE OSBORNE-MENDEL RATS AND FEMALE B6C3F1 MICE. FUND APPL TOXICOL(USA). 5(4): 760-769.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLOROFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005035 NCI (NATIONAL CANCER INSTITUTE). 1976. REPORT ON CARCINOGENESIS BIOASSAY OF CHLOROFORM. NTIS PB264-018.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR CHLOROFORM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR CHLOROFORM. PREPARED BY THE OFFICE OF HEALTH AND BENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHLOROMETHANE 000074-87-3

005038 CIIT (CHEMICAL INDUSTRY INSTITUTE OF TOXICOLOGY). 1981. FINAL REPORT ON 24-MONTH INHALATION STUDY ON METHYL CHLORIDE. PREPARED BY BATTELLE-COLUMBUS LABORATORIES, COLUMBUS, OH DECEMBER 31.

NIOSH (NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH). 1984. CARCINOGENIC RISK ASSESSMENT FOR OCCUPATIONAL EXPOSURE TO MONOHALOMETHANES. NTIS PB85-111623.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR METHYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR CHLOROMETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

CHLOROMETHYL METHYL ETHER 000107-30-2

005081 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HALOETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHLORONITROBENZENE, O- **000088-73-3**

010099 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORONITROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLORONITROBENZENE, P- **000100-00-5**

010100 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLORONITROBENZENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHLOROTHALONIL **001897-45-6**

010384 IRDC. 1985. TUMORIGENICITY STUDY IN RATS. CHLOROTHALONIL. 099-5TX-80-234-008.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROTHALONIL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

CHROMIUM(VI) **018540-29-9**

005091 MANCUSO, TF. 1975. INTERNATIONAL CONFERENCE ON HEAVY METALS IN THE ENVIRONMENT, TORONTO, CANADA, OCT 27-31. CITED IN US EPA, 1984.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXAVALENT CHROMIUM. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR CHROMIUM. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE US ENVIRONMENTAL PROTECTION AGENCY, RESEARCH TRIANGLE PARK, NC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CHRYSENE **000218-01-9**

010185 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

726

COKE OVEN EMISSIONS 008007-45-2

005039 MAZUMDAR S, C REDMOND, W SOLLECITO AND N SUSSMAN. 1975. AN EPIDEMIOLOGICAL STUDY OF EXPOSURE TO COAL-TAR-PITCH VOLATILES AMONG COKE OVEN WORKERS. APCA J. 25(4): 382-389.

LAND, CE. 1976. PRESENTATION AT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION HEARINGS ON COKE OVEN STANDARDS.

US EPA. 1984. CARCINOGEN ASSESSMENT OF COKE OVEN EMISSIONS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CREOSOTE, COAL TAR 008001-58-9

005042 REFER TO IRIS.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CRESOL, M- / (3-METHYLPHENOL) 000108-39-4

010187 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CRESOL, O- / (2-METHYLPHENOL) 000095-48-7

010186 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CRESOL, P- / (4-METHYLPHENOL) 000106-44-5

010188 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CRESOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CROTONALDEHYDE 000123-73-9

010190 CHUNG, FL, T TAMAKA, SS HECHT. 1986. INDUCTION OF LIVER TUMORS IN F344 RATS BY CROTONALDEHYDE. CANCER RES. 46: 1285-1289.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CRDTONALDEHYDE. PREPARED BY THE DFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1991. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

CYANAZINE 021725-46-2

010944 BOGDANFFY MS. 1990. COMBINED CHRONIC TOXICITY/ONCOGENICITY STUDY WITH CYANAZINE (INR-1957) 2-YEAR FEEDING STUDY IN RATS. PREPARED BY E.I. DU PONT DE NEMOURS AND CO.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DDD 000072-54-8

010291 TOMATIS, L, V TURUSOV, RT CHARLES AND M BOICCHI. 1974. EFFECT OF LONG-TERM EXPDSURE TD 1,1-DICHLORD-2,2-BIS(P-CHLOROPHENYL)ETHYLENE, TO 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHANE, AND TD THE TWO CHEMICALS COMBINED ON CF-I MICE. J NATL CANCER INST. 52(3): 883-891.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DDE 000072-55-9

010292 TOMATIS, L, V TURUSOV, RT CHARLES AND M BOICCHI. 1974. EFFECT OF LONG-TERM EXPOSURE TO 1,1-DICHLORD-2,2-BIS(P-CHLOROPHENYL)ETHYLENE, TO 1,1-DICHLORO-2,2-BIS(P-CHLORDPHENYL)ETHANE, AND TO THE TWO CHEMICALS COMBINED ON CF-1 MICE. J NATL CANCER INST. 52(3): 883-891

NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF DDT, TDE AND P,P'-DDE FOR POSSIBLE CARCINOGENICITY. NCI REPORT NO 131. DHEW PUBL NO (NIH) 78-1386

RDSSI L, O BARBIERI, M SANGUINETI, JRP CABRAL, P BRUZZI AND L SANTI. 1983. CARCINOGENICITY STUDY WITH TECHNICAL-GRADE DDT AND DDE IN HAMSTERS. CANCER RES. 43: 776-781.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

728

DDT 000050-29-3

005044 US EPA. 1986. THE CARCINOGEN ASSESSMENT GROUP'S EVALUATION OF THE CARCINOGENICITY OF DICOFOL (KELTHANE), DDT, DDE, AND DDD (TDE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC. FOR THE HAZARD EVALUATION DIVISION, OFFICE OF PESTICIDE PROGRAMS, OFFICE OF PESTICIDES AND TOXIC SUBSTANCES, WASHINGTON, DC.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR DDT. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC. EPA 540/1-86-026.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DECABROMODIPHENYL ETHER 001163-19-5

010102 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DECABROMODIPHENYL OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON,

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR BROMINATED DIPHENYL ETHERS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIALLATE 002303-16-4

010103 BRL (BIONETICS RESEARCH LABS, INC.). 1968. EVALUATION OF CARCINOGENIC, TERATOGENIC, AND MUTAGENIC ACTIVITIES OF SELECTED PESTICIDES AND INDUSTRIAL CHEMICALS, VOL 1, CARCINOGENIC STUDY. PREPARED FOR NATIONAL CANCER INSTITUTE, US DEPARTMENT OF COMMERCE, WASHINGTON, DC. NTIS PB-223159.

INNES, JRM, BM ULLAND, MG VALERIO, ET AL. 1969. BIOASSAY OF PESTICIDES AND INDUSTRIAL CHEMICALS FOR TUMORIGENICITY IN MICE: A PRELIMINARY NOTE. J NATL CANCER INST. 42: 1101-1114.

US EPA. 1983. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIALLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

DIBENZO[A,H]ANTHRACENE 000053-70-3

010191 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

729

DIBROMO-3-CHLOROPROPANE, 1,2 000096-12-8

010519 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF 1,2-DIBROMO-3-CHLOROPROPANE (CAS NO 96-12-8) IN F344 RATS AND B6C3F1 MICE (INHALATION STUDY). NTP-TR-NO 81-21.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010484 HAZELTON LABORATORIES, INC. 1977..104 WEEK DIETARY STUDY IN RATS, 1,2-DIBROMO-3-CHLOROPROPANE (DBCP). FINAL REPORT. UNPUBLISHED REPORT SUBMITTEO TO DOW CHEMICAL CO., MIDLAND, MI. OCTOBER 29, 1977.

US EPA. 1988. DRINKING WATER CRITERIA DOCUMENT FOR DIBROMOCHLOROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON DC. ECAO-CIN-410.

US EPA. 1988. ASSESSMENT OF THE CARCINOGENIC POTENTIAL OF 1,2-DIBROMO-3-CHLOROPROPANE (DBCP). PREPARED BY THE CARCINOGEN ASSESSMENT GROUP. AVAILABLE THROUGH RCRA/SUPERFUND DOCKET.

DIBROMOCHLOROMETHANE 000124-48-1

010891 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF CHLORODIBROMOMETHANE (CAS NO 124-48-1) IN F/344/N RATS AND B6C3F1 MICE. NTP TECH REP SER NO 282. DHHS NO NIH 85-2538.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TRIHALOGENATED METHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIBROMOETHANE, 1,2- 000106-93-4

005071 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF 1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE) (CAS NO 106-93-4) IN F344 RATS AND B6C3F1 MICE (INHALATION STUDY). NTP TECH REP SER NO 210, NIH PUBL NO 82-1766.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005818 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,2-DIBROMOETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS REPORT SERIES NO 86. PB-288-428.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ETHYLENE DIBROMIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2-DIBROMOETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH, FOR THE OFFICE OF SOLID WASTE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

730

DICHLORO-2-BUTENE, 1,4- 000764-41-0

005053 EI DUPONT DE NEMOURS AND CO. 1986. LONG-TERM INHALATION STUDY WITH 1,4-DICHLOROBUTENE-2 (DCB) IN RATS. FINAL REPORT OTS 8(E) FICHE 0509754.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR DICHLOROBUTENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DICHLOROBENZENE, 1,4- 000106-46-7

005050 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,4-DICHLOROBENZENE IN F344/N RATS AND B6C3F1 MICE -- GALLEY DRAFT. US DHHS, PHS, NIH TECH REP SER NO 319.

CONTAMINANTS. 1987. FR (JULY 8). 52: 25690-25717.

DICHLOROBENZIDINE, 3,3'- 000091-94-1

005815 STULA, EF, H SHERMAN, JA ZAPP, ET AL. 1975. EXPERIMENTAL NEOPLASIA IN RATS FROM ORAL ADMINISTRATION OF 3,3'-DICHLOROBENZIDINE, 4,4'-METHYLENE-BIS(2-CHLOROANILINE) AND 4,4'-METHYLENE-BIS (2-METHYLANILINE). TOXICOL APPL PHARMACOL. 31: 159-175.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROETHANE, 1,1- 000075-34-3

005055 US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROETHANE, 1,2- 000107-06-2

005058 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,2-DICHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 55, DHEW PUBL NO (NIH) 78-1361.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR 1,2-DICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON, DC. EPA 600/8-84-006F.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROETHYLENE, 1,1- 000075-35-4

005060 NTP (NATIONAL TOXICOLOGY PROGRAM). 1982. CARCINOGENESIS BIOASSAY OF VINYLIDENE CHLORIDE (CAS NO 75-35-4) IN F344 RATS AND B6C3F1 MICE (GAVAGE STUDY). NTP TECH REP SER NO 228. DHHS NO NIH 82-1784.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR VINYLIDENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. RESEARCH TRIANGLE PARK. NC.

US EPA. 1988. UPDATED HEALTH EFFECTS ASSESSMENT FOR 1,1-DICHLOROETHYLENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005059 MALTONI. C. G LEFEMINE. P CHIECO ET AL. 1985. EXPERIMENTAL RESEARCH ON VINYLIDENE CHLORIDE CARCINOGENESIS. IN: ARCHIVES OF RESEARCH ON INDUSTRIAL CARCINOGENESIS. VOL 3. C. MALTONI AND M. MEHLMAN. ED. PRINCETON SCIENTIFIC PUBLISHERS. PRINCETON. NJ.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR VINYLIDENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. RESEARCH TRIANGLE PARK. NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DICHLOROPROPANE, 1,2- 000078-87-5

005062 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. NTP TECHNICAL REPORT ON THE CARCINOGENESIS STUDIES OF 1,2-DICHLOROPROPANE (PROPYLENE DICHLORIDE). (CAS NO. 78-87-5) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-B2-092. NIH PUBL NO 84-2519. NTP TR 263. US DHHS. PHS. NIH. AUGUST. 1986 DRAFT.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 1,2-DICHLOROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

732

DICHLOROPROPENE, 1,3- / (TELONE II) 000542-75-6

010946 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF TELONE II IN F344/N RATS AND B6C3F1 MICE. US DEPT HEALTH AND HUMAN SERVICES. TECH REPORT SER NO 269.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF WATER. WASHINGTON. DC.

010104 LOMAX LG. WT STOTT. KA JOHNSON. LL CALHOUN. BL YANO AND JF QUAST. 1989. THE CHRONIC TOXICITY AND ONCOGENICITY OF INHALED TECHNICAL GRADE 1,3-DICHLOROPROPENE IN RATS AND MICE. FUND APPL TOXICOL. 12: 418-431.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,3-DICHLOROPROPENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

733

DIELDRIN 000060-57-1

005816 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAYS OF ALDRIN AND DIELDRIN FOR POSSIBLE CARCINOGENICITY. NATIONAL CANCER INSTITUTE CARCINOGEN TECH REP SER NO 22 NCI-CG-TR-22. ALSO PUBL AS DHEW PUBL NO (NIH) 78-882.

WALKER, AIT, E THORPE AND DE STEVENSON. 1972. THE TOXICOLOGY OF DIELDRIN (HEOD): I. LONG-TERM ORAL TOXICITY STUDIES IN MICE. FOOD COSMET TOXICOL. 11: 415-432.

MEIERHENREY, EF, BH REUBER, ME GERSHWIN ET AL. 1983. DIELDRIN INDUCED MALLORY BODIES IN HEPATIC TUMORS OF MICE OF DIFFERENT STRAINS. HEPATOLOGY. 3: 90-95.

TENNEKES, HA, AS WRIGHT, KM DIX AND JH KOEMAN. 1981. EFFECTS OF DIELDRIN, DIET AND BEDDING ON ENZYME FUNCTION AND TUMOR INCIDENCE IN LIVERS OF MALE CF-1 MICE. CANCER RES. 41: 3615-3620.

THORPE, E AND AIT WALKER. 1973. THE TOXICOLOGY OF DIELDRIN (HEOD). II. COMPARATIVE LONG-TERM ORAL TOXICITY STUDIES IN MICE WITH DIELDRIN, DDT, PHENOBARBITONE, BETA-BHC AND GAMMA-BHC. FOOD COSMET TOXICOL. 11: 433-442.

DAVIS, KJ. 1965. PATHOLOGY REPORT ON MICE FED ALDRIN, DIELDRIN, HEPTACHLOR OR HEPATOCHLOR EPOXIDE FOR TWO YEARS. INTERNAL FDA MEMORANDUM TO DR. AJ LEHMAN, JULY 19.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR DIELDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIETHYLSTILBESTROL 000056-53-1

010485 GASS, ET AL. 1964. CARCINOGENIC DOSE-RESPONSE CURVE TO ORAL DIETHYLSTILBESTEROL. J NATL CANCER INST. 33: 971-977.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF DIETHYLSTILBESTEROL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

DIMETHOXYBENZIDINE, 3,3'- 000119-90-4

010106 SELLAKUMAR AR, R MONTESANO AND A SAFFIDTI. 1969. AROMATIC AMINES CARCINOGENICITY IN HAMSTERS. PROC AM ASSOC CANCER RES. 10: 78.

OSHA/NIOSH (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION/NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH). 1980. HEALTH HAZARD, ALERT BENZIDINE, O-TOLIDINE AND O-DIANISIDINE BASED DYES. DHHS (NIOSH) PUBL NO. 81-106.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 3,3'-DIMETHOXYBENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

134

DIMETHYLANILINE HYDROCHLORIDE, 2,4- 021436-96-4

010108 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-DIMETHYLANILINE AND 2,4-DIMETHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLANILINE, 2,4- 000095-68-1

010107 WEISBURGER EK, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-DIMETHYLANILINE AND 2,4-DIMETHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLBENZIDINE, 3,3'- 000119-93-7

010109 GRISWOLD DP JR, AE CASEY, EK WEISBURGER AND JH WEISBURGER. 1968. THE CARCINOGENICITY OF MULTIPLE INTRA-GASTRIC DOSES OF AROMATIC AND HETEROCYCLIC NITRO OR AMINO DERIVATIVES IN YOUNG FEMALE SPRAGUE-DAWLEY RATS. CANCER RES. 28(5): 924-933.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 3,3'-DIMETHYLBENZIDINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIMETHYLBENZ[A]ANTHRACENE, 7,12- 000057-97-6

010297 FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.

DIMETHYLHYDRAZINE, 1,2- 000540-73-8

010962 TOTH B AND K PATEL. 1982. CARCINOGENICITY DOSE RESPONSE STUDY BY CONTINUOUS ADMINISTRATION OF 1,2-DIMETHYL HYDRAZINE DIHYDROCHLORIDE IN MICE. I. LIGHT AND TRANSMISSION ELECTRON MICROSCOPE STUDY OF COLONIC NEOPLASMS. AM J PATH. 84: 69-86.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2-DIMETHYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF 1,2-DIMETHYLHYDRAZINE. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE AND OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

735

DIMETHYLSULFATE 000077-78-1

010112 US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIMETHYL SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DINITROTOLUENE, 2,4- 000121-14-2

005066 ELLIS, HV, SH HAGEUSEN, JR JODGSON ET AL. 1979. MAMMALIAN TOXICITY OF MUNITIONS COMPOUNDS. PHASE III. EFFECTS OF LIFETIME EXPOSURE. PART I. 2,4-DINITROTOLUENE. NTIS AD-A077692. 281 P.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2,4- AND 2,6-DINITRDTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DINITROTOLUENE, 2,6- 000606-20-2

005068 ELLIS HV, SH HAGUESEN, JR JODGSON, ET AL. 1979. MAMMALIAN TOXICITY OF MUNITION COMPOUNDS. PHASE III. EFFECTS OF LIFETIME EXPOSURE. PART I. 2,4-DINITROTOLUENE. NTIS AD-A077692. 281 P.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 2,4- AND 2,6-DINITROTOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIOXANE, 1,4- 000123-91-1

010298 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,4-DIOXANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 80. DHEW PUBLICATION NO (NIH) PB-285-711.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

736

DIPHENYLHYDRAZINE, 1,2- 000122-66-7

005070 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF HYDRAZOBENZENE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 92. DHEW PUBL NO (NIH) 78-1342.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR 1,2-DIPHENYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 1,2-DIPHENYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR 1,2-DIPHENYLHYDRAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

DIRECT BLACK 38 001937-37-7

010113 NCI (NATIONAL CANCER INSTITUTE). 1978. 13-WEEK SUBCHRONIC TOXICITY STUDIES ON DIRECT BLUE 6, DIRECT BLACK 38 AND DIRECT BROWN 95 DYES. NCI CARCINOGENESIS TECH REP SER NO. 108. P 127.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT BLACK 38. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIRECT BLUE 6 002602-46-2

010114 NCI (NATIONAL CANCER INSTITUTE). 1978. 13-WEEK SUBCHRONIC TOXICITY STUDIES OF DIRECT BLUE 6, DIRECT BLACK 38, AND DIRECT BROWN 95 DYES. NCI CARCINOGENESIS. TECH REP SER NO. 108. P 127.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT BLUE 6. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIRECT BROWN 95 016071-86-6

010115 NCI (NATIONAL CANCER INSTITUTE). 1978. 13-WEEK SUBCHRONIC TOXICITY STUDIES OF DIRECT BLUE 6, DIRECT BLACK 3B, AND DIRECT BROWN 95 DYES. NCI CARCINOGENESIS. TECH REP SER NO. 108. P 127.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT BROWN 95. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

DIRECT SKY BLUE 6B 002610-05-1

010116 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR DIRECT SKY BLUE 6B. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

EPICHLOROHYDRIN 000106-89-8

010117 LASKIN S, AR SELLAKUMAR, M KUSCHNER, ET AL. 1980. INHALATION CARCINOGENICITY OF EPICHLOROHYDRIN IN NON-INBRED SPRAGUE-DAWLEY RATS. J NATL CANCER INST, 65(4): 751-757.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-83-032F. NTIS PB85-132363.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010198 KONISHI, T, A KAWABATA, A DENDA, ET AL. 1980. FORESTOMACH TUMORS INDUCED BY ORALLY ADMINISTERED EPICHLOROHYDRIN IN MALE WISTAR RATS. GANN. 71: 922-923.

US EPA. 1984. HEALTH ASSESSMENT DOCUMENT FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-83-032F. NTIS PB85-132363.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR EPICHLOROHYDRIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ETHYL ACRYLATE 000140-88-5

010118 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. CARCINOGENESIS STUDIES OF ETHYL ACRYLATE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES).

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ETHYL ACRYLATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

738

ETHYLENE OXIDE 000075-21-8

010421 DUNKELBERG H. 1982. CARCINOGENICITY OF ETHYLENE OXIDE AND 1,2-PROPYLENE OXIDE UPON INTRA-GASTRIC ADMINISTRATION TO RATS. BR J CANCER. 46: 924-933.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR OXIRANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

010422 SNELLINGS WM, CS WEIL AND RR MORONPOT. 1981. FINAL REPORT, ETHYLENE OXIDE, TWO YEAR INHALATION STUDY. SUBMITTED TO THE US ENVIRONMENTAL PROTECTION AGENCY BY BUSHEY RUN RESEARCH CENTER, PITTSBURGH PA.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR ETHYLENE OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC. EPA 600/8-84-009F. NTIS PB86-102597.

ETHYLENE THIOUREA 000096-45-7

010947 NTP (NATIONAL TOXICOLOGY PROGRAM). 1992. NTP TECHNICAL REPORT ON THE PERINATAL TOXICOLOGY AND CARCINOGENESIS STUDIES OF ETHYLENE THIOUREA (CAS NO 96-45-7) IN F344/N RATS AND B6C3F1 MICE. (FEED STUDIES). NTP TR 388. US DEPT OF HEALTH AND HUMAN SERVICES. PUBLIC HEALTH SERVICE. NATIONAL INSTITUTES OF HEALTH.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

FOLPET 000133-07-3

010120 CHEVRON CHEMICAL COMPANY. 1982. CHEVRON STUDY: LIFETIME ONCOGENICITY FEEDING STUDY OF PHOLTON TECHNICAL (SX-946, FOLPET) IN CD-1 (ICR DERIVED) MICE. AUGUST 24. SOCIAL STUDY NO. 1331.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FOLPET. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

FORMALDEHYDE 000050-00-0

010121 KERNS ET AL., 1983. CARCINOGENICITY OF FORMALDEHYDE IN RATS AND MICE AFTER LONG-TERM INHALATION EXPOSURE. CANCER RES. 43(9): 4382-4392.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR FORMALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

739

FURAZOLIDONE 000067-45-8

005106 US DHEW. 1976. FUROZOLIDONE (NF-180): NOTICE OF OPPORTUNITY FOR HEARING ON PROPOSAL TO WITHDRAW APPROVAL OF CERTAIN NEW ANIMAL DRUG APPLICATIONS. FEDERAL REGISTER. 41: 19907-19921.

US DHEW. 1976. FUROZOLIDONE. NIHYDRAZONE. FURALTADONE. NITROFURAZONE. WITHDRAWAL OF PROPOSALS AND NOTICE OF PROPOSED RULE MAKING. FEDERAL REGISTER. 41: 34884-34921.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

FURIUM 000531-82-8

005108 COHEN. SM. E ERTURK AND GT BRYAN. 1970. PRODUCTION OF LEUKEMIA AND STOMACH NEOPLASMS IN SWISS. RF. BALB/C AND C3H FEMALE MICE BY FEEDING N-(4.5-NITRO-2-FURYL-2-THIAZOLYL)ACETAMIDE. CANCER RES. 30(9): 2320-2325.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

GLYCIDALDEHYDE 000765-34-4

010122 US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR GLYCIDALDEHYDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1991. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

740

HEPTACHLOR **000076-44-8**

005820 DAVIS K. 1965. PATHOLOGY REPORT ON MICE FED ALDRIN, DIELDRIN, HEPTACHLOR, AND HEPTACHLOR EPOXIDE FOR TWO YEARS. INTERNAL FDA MEMORANDUM TO DR. AJ LEHMAN, JULY 19.

NCI (NATIONAL CANCER INSTITUTE). 1977. BIOASSAY OF HEPTACHLOR FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 9, DHEW NO (NIH) 77-809.

EPSTEIN, SS. 1976. CARCINOGENICITY OF HEPTACHLOR AND CHLORDANE. SCI TOTAL ENVIRON. 6: 103-154.

REUBER, MD. 1977. HISTOPATHOLOGY OF CARCINOMAS OF THE LIVER IN MICE INGESTING HEPTACHLOR OR HEPTACHLOR EPOXIDE. EXP CELL BIOL. 45: 147-157.

US EPA. 1986. CARCINOGENICITY ASSESSMENT OF CHLORDANE AND HEPTACHLOR/HEPTACHLOR EPOXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR HEPTACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEPTACHLOR EPOXIDE **001024-57-3**

010424 DAVIS KJ. 1965. PATHOLOGY REPORT ON MICE FED ALDRIN, DIELDRIN, HEPTACHLOR AND HEPTACHLOR EPOXIDE FOR TWO YEARS. INTERNAL FDA MEMORANDUM TO DR. A.J. LEHMAN, JULY 19.

VELSICOL CHEMICAL CORPORATION. 1973. MRID NO. 00062678. AVAILABLE FROM EPA. WRITE TO FOI, EPA, WASHINGTON, DC 20460.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROBENZENE **000118-74-1**

010365 ERTURK E, RW LAMBRECHT, HA PETERS, DJ CRIPPS ET AL. 1986. ONCOGENICITY OF HEXACHLROBENZENE. IN: HEXACHLROBENZENE: PROC INT SYMP, CR MORRIS AND JRP CABRAL, ED. IARC SCIENTIFIC PUBL NO. 77, OXFORD UNIVERSITY PRESS, OXFORD. P 417-423.

US EPA. 1991. DRINKING WATER CRITERIA DOCUMENT FOR HEXACHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXACHLOROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

1HL

HEXACHLOROBUTADIENE 000087-68-3

005088 KOCIBA, RJ, DG KEYS, GC JERSEY, ET AL. 1977. RESULTS OF A2-YEAR CHRONIC TOXICITY STUDY WITH HEXACHLOROBUTADIENE IN RATS. AM IND HYG ASSOC J. 38: 589-602.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR HEXACHLOROBUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR HEXACHLOROBUTADIENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, ALPHA- 000319-84-6

010123 ITO N, H NAGASAKI, M ARIA, ET AL. 1973. HISTOLOGICAL AND ULTRASTRUCTURAL STUDIES ON THE HEPATOCARCINOGENICITY OF BENZENE HEXACHLORIDE IN MICE. J NATL CANCER INST. 51: 817-826.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, BETA 000319-85-7

010124 THORPE E AND AIT WALKER. 1973. TOXICOLOGY OF DIELDRIN (HEOD) II. COMPARATIVE LONG-TERM ORAL TOXICITY STUDIES IN MICE WITH DIELDRIN, DDT, PHENOBARBITONE, BETA-HCH AND GAMMA-HCH. FOOD COSMET TOXICOL. 11: 433-442.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

742

HEXACHLOROCYCLOHEXANE, DELTA- 000319-86-8

010125 ITO N, H NAGASAKI, H AOE, ET AL. 1975. BRIEF COMMUNICATION: DEVELOPMENT OF HEPATOCELLULAR CARCINOMAS IN RATS TREATED WITH BENZENEHEXACHLORIDE. J NATL CANCER INST. 54: 801-805.

ITO N, H NAGASAKI, M ARIA, ET AL. 1973. HISTOLOGICAL AND ULTRASTRUCTURAL STUDIES ON THE HEPATOCARCINOGENICITY OF BENZENE HEXACHLORIDE IN MICE. J NATL CANCER INST. 51: 817-826.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, EPSILON- 006108-10-7

010126 GOTO M, M HATTORI, T MIYAGAWA AND M ENOMOTO. 1972. ECOLOGICAL CHEMISTRY. II. HEPATOMA FORMATION IN MICE AFTER ADMINISTRATION OF HIGH DOSES OF HEXACHLOROCYCLOHEXANE ISOMERS. CHEMOSPHERE. 1: 279-282.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROCYCLOHEXANE, GAMMA- 000058-89-9

005098 THORPE, E AND AIT WALKER. 1973. THE TOXICOLOGY OF DIELDRIN (HEOD). II. COMPARATIVE LONG-TERM ORAL TOXICITY STUDIES IN MICE WITH DIELDRIN, DDT, PHENOBARBITONE, BETA-BHC AND GAMMA-BHC. FOOD COSMET TOXICOL. 11: 433-442.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR LINDANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

743

HEXACHLOROCYCLOHEXANE-TECHNICAL 000608-73-1

010127 MUNIR KM, CS SOMAN AND V SUMATI. 1983. HEXACHLOROCYCLOHEXANE-INDUCED TUMORIGENICITY IN MICE UNDER DIFFERENT EXPERIMENTAL CONDITIONS. TUMORIGENICITY. 69: 383-386.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HEXACHLOROCYCLOHEXANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HEXACHLOROETHANE 000067-72-1

005090 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF HEXACHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 68. DHEW NO (NIH) 78-1318.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR HEXACHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED ETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR HEXACHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

hhL

HYDRAZINE 000302-01-2

010129 BIANCIFIORI C. 1970. HEPATOMAS IN CBA/CB/SE MICE AND LIVER LESIONS IN GOLDEN HAMSTERS INDUCED BY HYDRAZINE SULFATE. J NATL CANCER INST. 44: 943.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010128 MACEWEN JD, EH VERNOT, CC HAUN, ER KINKEAD AND A HALL, III. 1981. CHRONIC INHALATION TOXICITY OF HYDRAZINE: ONCOGENIC EFFECTS. AIR FORCE AEROSPACE MEDICAL RESEARCH LABORATORY, WRIGHT-PATTERSON AIR FORCE BASE, OH.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

HYDRAZINE SULFATE 010034-93-2

010131 BIANCIFIORI C. 1970. HEPATOMAS IN CBA/CB/SE MICE AND LIVER LESIONS IN GOLDEN HAMSTERS INDUCED BY HYDRAZINE SULFATE. J NATL CANCER INST. 44: 943.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010130 MACEWEN JD, EH VERNOT, CC HAUN, ER KINKEAD AND A HALL, III. 1981. CHRONIC INHALATION TOXICITY OF HYDRAZINE: ONCOGENIC EFFECTS. AIR FORCE AEROSPACE MEDICAL RESEARCH LABORATORY, WRIGHT-PATTERSON AIR FORCE BASE, OH.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR HYDRAZINE AND HYDRAZINE SULFATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

745

INDENO[1,2,3-CD]PYRENE 000193-39-5

010192 REFER TO IRIS.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

ISOPHORONE 000078-59-1

005094 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF ISOPHORONE (CAS NO 78-59-1) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP TECH REP SER NO 291. DHHS (NIH)86-2547.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR ISOPHORONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR ISOPHORONE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

LEAD 007439-92-1

005096 US EPA. 1989. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF LEAD AND LEAD COMPOUNDS. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON DC FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR LEAD. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

LINURON 000330-55-2

010383 REFER TO IRIS.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

946

MERCURIC CHLORIDE 007487-94-7

010971 NTP (NATIONAL TOXICOLOGY PROGRAM). 1993. TOXICOLOGY AND CARCINOGENESIS STUDIES OF MERCURIC CHLORIDE (CAS NO. 7487-94-7) IN F344 RATS AND B3C3F1 MICE (GAVAGE STUDIES). NTP TECHNICAL REPORT SERIES NO. 408. NATIONAL TOXICOLOGY PROGRAM, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, NATIONAL INSTITUTES OF HEALTH, RESEARCH TRIANGLE PARK, NC.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002Ab.

U.S. EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

MERCURY, ELEMENTAL 007439-97-6

010973 CRAGLE, D.L., D.R. HOLLIS, J.R. QUALTERS, W.G. TANKERSLEY AND S.A. FRY. 1984. A MORTALITY STUDY OF MEN EXPOSED TO ELEMENTAL MERCURY. J. OCCUP. MED. 26(11): 817-821.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/00Ab.

U.S. EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

METHOXY-5-NITROANILINE, 2- 000099-59-2

010132 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 5-NITRO-O-ANISIDINE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO. 127. 123 P.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHOXY-5-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYL-5-NITROANILINE, 2- 000099-55-8

010140 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 5-NITRO-O-TOLUIDINE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 107. 102 P.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHYL-5-NITROANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

147

METHYLANILINE HYDROCHLORIDE, 2- 000636-21-5

010134 HECHT SS, A EL-BOYOUMY, A RIVENSON AND E FIALA. 1982. COMPARATIVE CARCINOGENICITY OF O-TOLUIDINE HYDROCHLORIDE AND O-NITROSOTOLUENE IN F-344 RATS. CANCER LETT. 16(1): 103-108.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHYLANILINE AND 2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLANILINE, 2- 000095-53-4

010133 HECHT SS, A EL-BOYOUMY, A RIVENSON AND E FIALA. 1982. COMPARATIVE CARCINOGENICITY OF O-TOLUIDINE HYDROCHLORIDE AND O-NITROTOLUENE IN F-344 RATS. CANCER LETT. 16(1): 103-108.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-METHYLANILINE AND 2-METHYLANILINE HYDROCHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TOLUIDINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLCHOLANTHRACENE, 3- 000056-49-5

010299 FOR RCRA ACTIVITIES ONLY, CONTACT THE HEALTH ASSESSMENT SECTION (202) 260-4761 FOR RCRA APPROVED NUMERIC ASSESSMENT OF THIS COMPOUND.

748

METHYLENE CHLORIDE / (DICHLOROMETHANE) 000075-09-2

005100 NCA (NATIONAL COFFEE ASSOCIATION). 1983. TWENTY-FOUR MONTH ONCOGENICITY STUDY OF METHYLENE CHLORIDE IN MICE. PREPARED BY HAZELTON LABORATORIES, AMERICA INC, VIENNA, VA.

NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF DICHLOROMETHANE (METHYLENE CHLORIDE) (CAS NO 75-09-2) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TECH REP SER NO 306, DHHS (NIH) 86-2562.

US EPA. 1985. ADDENDUM TO THE HEALTH ASSESSMENT DOCUMENT FOR DICHLOROMETHANE (METHYLENE CHLORIDE). UPDATED CARCINOGENICITY ASSESSMENT OF DICHLOROMETHANE (METHYLENE CHLORIDE). OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, CARCINOGEN ASSESSMENT GROUP, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

005904 NTP (NATIONAL TOXICOLOGY PROGRAM). 1986. TOXICOLOGY AND CARCINOGENESIS STUDIES OF DICHLOROMETHANE (METHYLENE CHLORIDE) (CAS NO 75-09-2) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TECH REP SER NO 306, DHHS (NIH) 86-2562.

US EPA. 1989. UPDATED HEALTH EFFECTS ASSESSMENT FOR METHYLENE CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

METHYLENE-BIS(2-CHLOROANILINE), 4,4'- 000101-14-4

010425 KOMMINENI C, DH GROTH, IJ FROCKT, RW VOELKER AND RP STANOVICK. 1979. DETERMINATION OF THE TUMORIGENIC POTENTIAL OF METHYLENE-BIS-ORTHO-CHLOROANILINE. J ENVIRON PATH TOXICOL. 2(5): 149-171.

STULA EF, H SHERMAN, JP ZAPP, JR AND JW CLAYTON. 1975. EXPERIMENTAL NEOPLASIA IN RAT FROM ORAL ADMINISTRATION OF 3,3-DICHLOROBENZIDINE, 4,4-METHYLENE-BIS(2-CHLOROANILINE) AND 4,4-METHYLENE-BIS(2-METHYLANILINE). TOXICOL APPL PHARMACOL. 31(1): 159-176.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 4,4-METHYLENE-BIS(2-CHLOROANILINE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'- 000101-61-1

010137 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF 4,4'-METHYLENE-BIS(N,N'-DIMETHYL)BENZENAMINE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN. TECH REP SER NO. 186. CAS 101-61-1.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 4,4'-METHYLENE-BIS(N,N'-DIMETHYL)ANILINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

749

METHYLMERCURY 022967-92-6

010972 TAMASHIRO, H., M. ARAKAKI, H. AKAGI, M. FUTATSUKA AND L.H. ROHT. 1984. CAUSES OF DEATH IN MINAMATA DISEASE: ANALYSIS OF DEATH CERTIFICATES. INT. ARCH. OCCUP. ENVIRON. HEALTH. 54: 135-146.

U.S. EPA. 1995. MERCURY STUDY REPORT TO CONGRESS. OFFICE OF RESEARCH AND DEVELOPMENT, WASHINGTON, DC. EXTERNAL REVIEW DRAFT. EPA/600/P-94/002Ab.

U.S. EPA. 1994 CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

METOLACHLOR 051218-45-2

010951 US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR METOLACHLOR. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

MIREX 002385-85-5

010952 NTP (NATIONAL TOXICOLOGY PROGRAM). 1990. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF MIREX (CAS NO 2385-85-5) IN F344/N RATS. (FEED STUDIES). NTP TR 313. US DEPT OF HEALTH AND HUMAN SERVICES. PUBLIC HEALTH SERVICE. NATIONAL INSTITUTES OF HEALTH.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NIAGARA BLUE 4B 002429-74-5

010141 US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NIAGARA BLUE 4B. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

750

NICKEL REFINERY DUST

005103 CHOVIL, A, RB SUTHERLAND AND M HALLIDAY. 1981. RESPIRATORY CANCER IN A COHORT OF NICKEL SINTER PLANT WORKERS. BR J IND MED. 38: 327-333.

PETO, J, H CUCKLE, R DOOL, ET AL. 1984. RESPIRATORY CANCER MORTALITY OF WELSH NICKEL REFINERY WORKERS. IN: NICKEL IN THE HUMAN ENVIRONMENT: PROCEEDINGS OF A JOINT SYMPOSIUM, MARCH, 1983. IARC SCIENTIFIC PUBL NO 53. IARC, LYON, FRANCE. P. 36-46.

ENTERLINE, PE AND GM MARSH. 1982. MORTALITY AMONG WORKERS IN A NICKEL REFINERY AND ALLOY MANUFACTURING PLANT IN WEST VIRGINIA. J NAT CANCER INST. 68: 925-933.

MAGNUS, K, A ANDERSEN AND A HOGETVEIT. 1982. CANCER OF RESPIRATORY ORGANS AMONG WORKERS AT A NICKEL REFINERY IN NORWAY. INT J CANCER. 30: 681-685.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR NICKEL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NICKEL SUBSULFIDE 012035-72-2

005768 CHOVIL, A. RB SUTHERLAND AND M HALLIDAY. 1981. RESPIRATORY CANCER IN A COHORT OF NICKEL SINTER PLANT WORKERS. BR J IND MED. 38: 327-333.

PETO, J, H CUCKLE, R DOOL, ET AL. 1984. RESPIRATORY CANCER MORTALITY OF WELSH NICKEL REFINERY WORKERS. IN: NICKEL IN THE HUMAN ENVIRONMENT: PROCEEDINGS OF A JOINT SYMPOSIUM, MARCH, 1983. IARC SCIENTIFIC PUBL NO 53. IARC, LYON, FRANCE. P. 36-46.

ENTERLINE, PE AND GM MARSH. 1982. MORTALITY AMONG WORKERS IN A NICKEL REFINERY AND ALLOY MANUFACTURING PLANT IN WEST VIRGINIA. J NAT CANCER INST. 68: 925-933.

MAGNUS, K, A ANDERSEN AND A HOGETVEIT. 1982. CANCER OF RESPIRATORY ORGANS AMONG WORKERS AT A NICKEL REFINERY IN NORWAY. INT J CANCER. 30: 681-685.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR NICKEL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, RESEARCH TRIANGLE PARK, NC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROBENZENE 000098-95-3

010969 CIIT. 1993. CHRONIC INHALATION TOXICITY STUDY OF NITROBENZENE IN B6C3F1 MICE, FISHER 344 RATS, AND SPRAGUE-DAWLEY CD RATS. CIIT, PO BOX 12137, RESEARCH TRIANGLE PARK, NC. 27709.

US EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE)

151

NITROFURAZONE 000059-87-0

005110 ERTURK, E, JE MORRIS, SM COHEN, ET AL. 1970. TRANSPLANTABLE RAT MAMMARY TUMORS INDUCED BY 5-NITRO-2-FURALDEHYDE SEMICARBAZONE AND BY FORMIC ACID 2-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]HYDRAZIDE. CANCER RES. 30(5): 1409-1412.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED NITROFURANS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

NITROPROPANE, 2- 000079-46-9

010142 LEWIS TR, CE ULRICH AND WM BUSEY. 1979. SUBCHRONIC INHALATION TOXICITY OF NITROMETHANE AND 2-NITROPROPANE. J ENVIRON PATHOL TOXICOL. 2(5): 233-249.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-NITROPROPANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF 2-NITROPROPANE. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON DC, FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON DC.

NITROSO-DI-N-BUTYLAMINE, N- 000924-16-3

010143 BERTRAM JS AND AW CRAIG. 1970. INDUCTION OF BLADDER TUMORS IN MICE WITH DIBUTYLNITROSAMINES. BR. J CANCER. 24: 352-359.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSO-DI-N-PROPYLAMINE, N- 000621-64-7

010147 DRUCKREY H. 1967. QUANTITATIVE ASPECTS IN CHEMICAL CARCINOGENS. IN: POTENTIAL CARCINOGENIC HAZARDS FROM DRUGS. UICC MONOGRAPH, SERIES 7. SPRINGER-VERLAG, BERLIN. P 60-78.

DRUCKREY H, R PURESSMAN, S IVANKOVIC AND D SCHMAHL. 1967. ORGANOTROPIC CARCINOGENIC EFFECT OF 65 DIFFERENT N-NITROSO COMPOUNDS ON BD RATS. Z KREBSFORSCH. 69: 103-201.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

752

NITROSO-N-ETHYLUREA, N- 000759-73-9

010426 BULAY, D, SS MIRVISH, H GARCIA, AF PELFRENE, B GOLD AND M EAGAN. 1979. CARCINOGENICITY TESTS OF SIX NITROSAMIDES AND NITROSOCYANAMIDE ADMINISTERED ORALLY TO RATS. J NATL CANCER INST. 62: 1523-1528.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF N-NITROSO-N-ETHYLUREA. IN SUPPORT OF REPORTABLE QUANTITY ADJUSTMENTS PURSUANT TO CERCLA SECTION 102. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON, DC FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSO-N-METHYLUREA, N- 000684-93-5

010427 REDDY, JK AND MS RAO. 1975. PANCREATIC ADENOCARCINOMA IN INBRED GUINEA PIGS INDUCED BY N-METHYL-N-NITROSOUREA. CANCER RES. 35: 2269-2277.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF N-NITROSO-N-METHYLUREA. IN SUPPORT OF REPORTABLE QUANTITY ADJUSTMENTS PURSUANT TO CERCLA SECTION 102. PREPARED BY THE CARCINOGEN ASSESSMENT GROUP, OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON, DC FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1992. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSODIETHANOLAMINE, N- 001116-54-7

010144 LIJINSKY W AND RM KDVATCH. 1985. INDUCTION OF LIVER TUMORS IN RATS BY NITROSODIETHANOLAMINE AT LOW DOSES. CARCINOGENESIS. 6: 1679-1681.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSODIETHYLAMINE, N- 000055-18-5

010145 PETO R, R GRAY, P BRANTOM AND P GRASSO. 1984. NITROSAMINE CARCINOGENESIS IN 5120 RODENTS: CHRONIC ADMINISTRATION OF 16 DIFFERENT CONCENTRATIONS OF NDEA, NDMA, NPYR AND NPIP IN THE WATER OF 4440 INBRED RATS, WITH PARALLEL STUDIES ON NDEA ALONE OF THE EFFECT OF AGE OF STARTING (3, 6 OR 20 WEEKS) AND OF SPECIES (RATS, MICE OR HAMSTERS). IARC SCI PUBL. 57: 627-665.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

753

NITROSODIMETHYLAMINE, N- 000062-75-9

010146 PETO R, R GRAY, P BRANTOM AND P GRASSO. 1984. NITROSAMINE CARCINOGENESIS IN 5120 RODENTS: CHRONIC ADMINISTRATION OF 16 DIFFERENT CONCENTRATIONS OF NDEA, NDMA, NPYR AND NPIP IN THE WATER OF 4440 INBRED RATS, WITH PARALLEL STUDIES ON NDEA ALONE OF THE EFFECT OF AGE OF STARTING (3, 6 OR 20 WEEKS) AND OF SPECIES (RATS, MICE OR HAMSTERS). IARC SCI PUBL. 57: 627-665.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSODIPHENYLAMINE, N- 000086-30-6

005112 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF N-NITROSODIPHENYLAMINE (CAS NO 86-30-6) FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 164, NIH 79-1720. NTIS PB 298-275.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR N-NITROSODIPHENYLAMINE. PREPAREO BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

NITROSOMETHYLETHYLAMINE, N- 010595-95-6

010148 DRUCKREY H. 1967. QUANTITATIVE ASPECTS IN CHEMICAL CARCINOGENS. IN: POTENTIAL CARCINOGENIC HAZARDS FROM DRUGS. UICC MONOGRAPH, SERIES 7. SPRINGER-VERLAG, BERLIN. P 60-78.

DRUCKREY H, R PURESSMAN, S IVANKOVIC AND D SCHMAHL. 1967. ORGANOTROPIC CARCINOGENIC EFFECT OF 65 DIFFERENT N-NITROSO COMPOUNOS ON BD RATS. Z KREBSFORSCH. 69: 103-201.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA ANO ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLIO WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

754

NITROSOMETHYLVINYLAMINE, N 004549-40-0

010149 DRUCKREY H. 1967. QUANTITATIVE ASPECTS IN CHEMICAL CARCINOGENS. IN: POTENTIAL CARCINOGENIC HAZARDS FROM DRUGS. UICC MONOGRAPH. SERIES 7. SPRINGER-VERLAG. BERLIN. P 60-78.

DRUCKREY H. R PURESSMAN. S IVANKOVIC AND D SCHMAHL. 1967. ORGANOTROPIC CARCINOGENIC EFFECT OF 65 DIFFERENT N-NITROSO COMPOUNDS ON BD RATS. Z KREBSFORSCH. 69: 103-201.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR NITROSAMINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

US EPA. 1988. EVALUATION OF THE POTENTIAL CARCINOGENICITY OF N-NITROSOMETHYLVINYLAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. CARCINOGEN ASSESSMENT GROUP. WASHINGTON DC.

NITROSOPYRROLIDINE, N- 000930-55-2

010300 PREUSSMAN R. D SCHMAHL AND G EISENBRAND. 1977. CARCINOGENICITY OF N-NITROSOPYRROLIDINE: DOSE-RESPONSE STUDY IN RATS. Z KREBSFORSCH. 90: 161-166.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

PARATHION 000056-38-2

005116 US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR PARATHION. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE. WASHINGTON. DC.

US EPA. 19B7. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5- 000087-84-3

010150 BLAIR EH. 19B1. TSCA SEC 8(E) SUBMISSION 8E HQ-03B1-0393. 8B-B100295 BY DOW CHEMICAL CO. OFFICE OF TOXIC SUBSTANCES. US EPA. WASHINGTON. DC.

US EPA. 19B5. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 1,2,3,4,5-PENTABROMO-6-CHLOROCYCLOHEXANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT. ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE. CINCINNATI. OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE. WASHINGTON. DC.

755

PENTACHLORONITROBENZENE 000082-68-8

010151 INNES, JRM, BM ULLAND, MG VALERIA, ET AL. 1969. BIOASSAY OF PESTICIDES AND INDUSTRIAL CHEMICALS FOR TUMORIGENICITY IN MICE: A PRELIMINARY NOTE. J NATL CANCER INST. 41: 1101-1114.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PENTACHLORONITROBENZENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PENTACHLOROPHENOL 000087-86-5

0103B1 NTP (NATIONAL TOXICOLOGY PROGRAM). 1989. TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF PENTACHLOROPHENOL (CAS NO 87-86-5) IN B6C3F1 MICE (FEED STUDIES). NTP TECH REPORT NO 349. NIH PUBL NO 89-2804.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

PHENYLENEDIAMINE, O- 000095-54-5

010152 WEISBURGER EK, AB RUSSFIELD AND F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2(2): 325-356.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR O-PHENYLENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

PHENYLPHENOL, 2- 000090-43-7

010153 HIRAGA K AND U FUJII. 1981. INDUCTION OF TUMOURS OF THE URINARY SYSTEM IN F344 RATS BY DIETARY ADMINISTRATION OF SODIUM O-PHENYLPHENATE. FOOD COSMET TOXICOL. 19(3): 303-310.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2-PHENYLPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

POLYBROMINATED BIPHENYLS

010154 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF POLYBROMINATED BIPHENYL MIXTURE IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). FIREMASTER FF-1. CASE NO 67774-32-7. NTP, RESEARCH TRIANGLE PARK, NC.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR POLYBROMINATED BIPHENYLS (PBBS). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

956

POLYCHLORINATED BIPHENYLS 001336-36-3

005118 NORBACK, DH, AND RH WELTMAN. 1985. POLYCHLORINATED BIPHENYL INDUCTION OF HEPATOCELLULAR CARCINOMA IN THE SPRAGUE-DAWLEY RAT. ENVIRON HEALTH PERSPECT. 60: 97-105.

US EPA. 1990. DRINKING WATER CRITERIA DOCUMENT FOR POLYCHLORINATED BIPHENYLS (PCBS). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

PROPYLENE OXIDE 000075-56-9

010156 DUNKELBERG H. 1982. CARCINOGENICITY OF ETHYLENE OXIDE AND 1,2-PROPYLENE OXIDE UPON INTRAGASTRIC ADMINISTRATION TO RATS. BR J CANCER. 46: 924-933.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR PROPYLENE OXIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010155 NTP (NATIONAL TOXICOLOGY PROGRAM). 1985. TOXICOLOGY AND CARCINOGENESIS STUDIES OF PROPYLENE OXIDE (CAS NO 75-56-9) IN F344/N RATS AND B6C3F1 MICE (INHALATION STUDIES). NTP TECH REP SER NO. 267. NTP, RESEARCH TRIANGLE PARK, NC. NIH PUB NO 85-2527.

RENNE RA, WE GIDDENS, GA BOORMAN, R KOVATCH, JE HASEMAN AND WJ CLARKE. 1986. NASAL CAVITY NEOPLASIA IN F344/N RATS AND (C57BL/6XC3H)F1 MICE INHALING PROPYLENE OXIDE FOR UP TO TWO YEARS. J NATL CANCER INST. 77: 573-582.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

QUINOLINE 000091-22-5

010158 HIRAO K, Y SHINOHARA, H TSUDA, ET AL. 1976. CARCINOGENIC ACTIVITY OF QUINOLINE ON RAT LIVER. CANCER RES. 36: 329-335.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR QUINOLINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

757

RDX / (CYCLONITE) 000121-82-4

010157 LISH PM, BS LEVINE, EM FUREDI, EM SAGARTZ AND VS RAC. 1984. DETERMINATION OF THE CHRONIC MAMMALIAN TOXICOLOGICAL EFFECT OF RDX: TWENTY FOUR MONTH CHRONIC TOXICITY/CARCINOGENICITY STUDY OF HEXAHYDRA-1,2,5-TRINITRO-1,3,5-TRIAZINE (RDX) IN THE B6C3F1 HYBRID MOUSE. PHASE VI. VOL 1. ITT RESEARCH INSTITUTE, CHICAGO, IL. US ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND, CONTRACT NO. DAMD 17-79-C-9161. NTIS AD-A181766.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR RDX (CYCLONITE). PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

SELENIUM SULFIDE 007446-34-6

010194 NCI/NTP (NATIONAL CANCER INSTITUTE/NATIONAL TOXICOLOGY PROGRAM). 1980. BIOASSAY OF SELENIUM SULFIDE (GAVAGE) FOR POSSIBLE CARCINOGENICITY. NCI TECHNICAL REPORT SERIES NO. 194. NTP NO. 80-17.

US EPA. 1989. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELENIUM AND COMPOUNDS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

SIMAZINE 000122-34-9

010195 US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR SIMAZINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

SODIUM DIETHYLDITHIOCARBAMATE 000148-18-5

005126 BRL (BIONETICS RESEARCH LABORATORIES). 1968. EVALUATION OF CARCINOGENIC TERATOGENIC AND MUTAGENIC ACTIVITIES OF SELECTED PESTICIDES ON INDUSTRIAL CHEMICALS. VOL. I. CARCINOGENIC STUDY. PREPARED FOR NATIONAL CANCER INSTITUTE. US DEPT COMMERCE, NAT TECH INFO SERV, WASHINGTON, DC NTIS PB223159.

US EPA. 1988. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SODIUM DIETHYLDITHIOCARBAMATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

STYRENE 000100-42-5

010480 CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

758

TCDD, 2,3,7,8- 001746-01-6

005128 KOCIBA, RJ, DG KEYES, JE BOWER ET AL. 1978. RESULTS OF A TWO-YEAR CHRONIC TOXICITY AND ONCOGENICITY STUDY OF 2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN IN RATS. TOXICOL APPL PHARMACOL. 46(2): 279-303.

US EPA. 1985. HEALTH ASSESSMENT DOCUMENT FOR POLYCHLORINATED DIBENZO-P-DIOXIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH. EPA 600/B-84-014F. NTIS PB86-122546.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 2,3,7,8-TCDD. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TETRACHLOROETHANE, 1,1,1,2- 000630-20-6

010302 NTP (NATIONAL TOXICOLOGY PROGRAM). 1983. CARCINOGENESIS STUDIES OF 1,1,1,2-TETRACHLOROETHANE (CAS NO 630-20-6) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). NTP-81-53. NIH PUBL NO 83-1793. NTP TECHNICAL REPORT SERIES NO 237. NTIS, SPRINGFIELD, VA.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1993. REVISED AND UPDATED DRINKING WATER QUANTIFICATION OF TOXICOLOGIC EFFECTS FOR 1,1,1,2-TETRACHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER, WASHINGTON, DC.

TETRACHLOROETHANE, 1,1,2,2- 000079-34-5

005130 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,1,2,2-TETRACHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 27, DHEW NO (NIH) 78-B27.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED ETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TETRACHLOROETHYLENE 000127-18-4

010482 CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

759

TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA- 005216-25-1

005028 FUKADA, KS, MATSASHITA AND K TAKEMOTO. 1979. CARCINOGENICITY OF P-CHLOROBENZOTRICHLORIDE. PROC OF JAPAN ASSOC OF IND HEALTH. P 330-331.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR SELECTED CHLORINATED TOLUENES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TETRACHLOROVINPHOS / (STIROFOS) 000961-11-5

010159 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TETRACHLOROVINPHOS FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 33. NTIS PB278650.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR STIROFOS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOLUENE-2,4-DIAMINE 000095-80-7

010160 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF 2,4-DIAMINOTOLUENE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 162.

US EPA. 1986. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR 2,4-TOLUENEDIAMINE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOLUIDINE, P- 000106-49-0

010162 WEISBURGER EK, AB RUSSFIELD AND F HOMBURGER, ET AL. 1978. TESTING OF TWENTY-ONE ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2(2): 325-356.

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TOLUIDINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TOXAPHENE 008001-35-2

005134 LITTON BIONETICS, INC. 1978. CARCINOGENIC EVALUATION IN MICE: TOXAPHENE. PREPARED BY LITTON BIONETICS, INC., KENSINGTON, MD FOR HERCULES, INC. WILMINGTON, DE. LBI PROJECT NO. 20602.

US EPA. 1987. HEALTH EFFECTS ASSESSMENT FOR TOXAPHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR TOXAPHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

760

TRICHLOROANILINE HYDROCHLORIDE, 2,4,6- 033663-50-2

005142 WEISBURGER, EL, AB RUSSFIELD, R HOMBURGER, ET AL. 1978. TESTING OF 21 ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG-TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROANILINE, 2,4,6- 000634-93-5

010487 WEISBURGER, EL, AB RUSSFIELD, F HOMBURGER, ET AL. 1978. TESTING OF 21 ENVIRONMENTAL AROMATIC AMINES OR DERIVATIVES FOR LONG TERM TOXICITY OR CARCINOGENICITY. J ENVIRON PATHOL TOXICOL. 2: 325-356.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR TRICHLOROANILINES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRICHLOROETHANE, 1,1,2- 000079-00-5

005144 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF 1,1,2-TRICHLOROETHANE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 74, DHEW NO NIH 78-1324.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED ETHANES. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 1,1,2-TRICHLOROETHANE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1986. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TRICHLOROETHYLENE 000079-01-6

010483 CONTACT THE SUPERFUND HEALTH RISK TECHNICAL SUPPORT CENTER: (513) 569-7300.

191

TRICHLOROPHENOL, 2,4,6- 000088-06-2

010428 NCI (NATIONAL CANCER INSTITUTE). 1979. BIOASSAY OF 2,4,6-TRICHLOROPHENOL FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGENESIS TECH REP SER NO 155, DHEW NO NIH 79-1711.

US EPA. 1980. AMBIENT WATER QUALITY CRITERIA DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF WATER REGULATIONS AND STANDARDS, WASHINGTON, DC.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR 2,4,6-TRICHLOROPHENOL. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1987. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR CHLORINATED PHENOLS. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1989. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TRICHLOROPROPANE, 1,2,3- 000096-18-4

010849 NTP (NATIONAL TOXICOLOGY PROGRAM). 1991. NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES OF 1,2,3-TRICHLOROPROPANE (CAS NO 96-18-4) IN F344/N RATS AND B6C3F1 MICE (GAVAGE STUDIES). BOARD DRAFT NTP TR 384. NIH PUB NO 91-2839. US DEPT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH SERVICE, NIH, RESEARCH TRIANGLE PARK, NC.

US EPA. 1993. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

TRIFLURALIN 001582-09-8

010163 EMMERSON JL, EC PIERCE, JP MCGRATH, ET AL. 1980. THE CHRONIC TOXICITY OF COMPOUND 36352 (TRIFLURALIN) GIVEN AS A COMPOUND OF THE DIET TO FISCHER 344 RATS FOR TWO YEARS. STUDIES R-87 AND R-97 (UNPUBLISHED STUDY RECEIVED SEPTEMBER 18, 1980 UNDER 1471-35, SUBMITTED BY ELANCO PRODUCTS CO., DIVISION OF ELI LILLY AND CO., INDIANAPOLIS, IN).

US EPA. 1984. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRIFLURALIN. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1987. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

762

TRIMETHYL PHOSPHATE 000512-56-1

010164 NCI (NATIONAL CANCER INSTITUTE). 1978. BIOASSAY OF TRIMETHYLPHOSPHATE FOR POSSIBLE CARCINOGENICITY. NCI CARCINOGEN TECH REP SER NO. 81.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR TRIMETHYL PHOSPHATE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

TRINITROTOLUENE, 2,4,6- 000118-96-7

010476 US DOD (DEPARTMENT OF DEFENSE). 1984. AD-A168637. DEFENSE TECHNICAL CENTER CAMERON STATION, ALEXANDRIA, VA.

US EPA. 1990. HEALTH AND ENVIRONMENTAL EFFECTS DOCUMENT FOR 2,4,6-TRINITROTOLUENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1988. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

763

VINYL CHLORIDE 000075-01-4

010368 FERON, VJ, CFM HENDRIKSEN, AJ SPEEK, ET AL. 1981. LIFESPAN ORAL TOXICITY STUDY OF VINYL CHLORIDE IN RATS. FOOD COSMET TOXICOL. 19(3): 317-333.

US EPA. 1984. HEALTH EFFECTS ASSESSMENT FOR VINYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF EMERGENCY AND REMEDIAL RESPONSE, WASHINGTON, DC.

US EPA. 1985. DRINKING WATER CRITERIA DOCUMENT FOR VINYL CHLORIDE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI OH FOR THE OFFICE OF DRINKING WATER, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

010367 MALTONI, C, G LEFEMINE, A CILIBERTI ET AL. 1980. VINYL CHLORIDE CARCINOGENICITY BIOASSAYS (BT PROJECT) AS AN EXPERIMENTAL MODEL FOR RISK IDENTIFICATION AND ASSESSMENT IN ENVIRONMENTAL AND OCCUPATIONAL CARCINOGENESIS. EPIDEMIOL ANIM EPIDEMIOL HUM: CAS CHLORURE VINYLE MONOMERE, (REUN CLUB CANCEROG CHIM), 20TH, MEETING DATE 1979, P. 11-112. PUBL ESSENT, PARIS, FRANCE.

MALTONI, C, G LEFEMINE, A CILIBERTI ET AL. 1981. CARCINOGENICITY BIOASSAYS OF VINYL CHLORIDE MONOMER: A MODEL OF RISK ASSESSMENT ON AN EXPERIMENTAL BASIS. ENVIRON HEALTH PERSPECT. 41: 329.

US EPA. 1985. HEALTH AND ENVIRONMENTAL EFFECTS PROFILE FOR CHLOROETHENE. PREPARED BY THE OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, ENVIRONMENTAL CRITERIA AND ASSESSMENT OFFICE, CINCINNATI, OH FOR THE OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, WASHINGTON, DC.

US EPA. 1990. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

US EPA. 1994. CARCINOGEN RISK ASSESSMENT VERIFICATION ENDEAVOR (CRAVE) WORK GROUP.

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Table 4

Radionuclide Carcinogencity -- Slope Factors (In Units of Picocuries)

MAY 1995

NOTE: To convert radionuclide slope factors into the International System (SI) activity units of becquerels (Bq), multiply each value in Table 4 by 3.70E-02.

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Actinium (89)	Ac-225	014265-85-1	1.00E+01	D	Y	1.00E-03	1.42E-10	4.16E-09	7.81E-09
	Ac-227	014952-40-0	2.18E+01	Y	Y	1.00E-03	3.52E-10	7.08E-08	2.35E-11
	Ac-227+D	014952-40-0(+D)	2.18E+01	Y	Y	1.00E-03	6.26E-10	7.87E-08	5.97E-07
	Ac-228	014331-83-0	6.13E+00	H	Y	1.00E-03	1.62E-12	3.27E-11	3.28E-06
Americium (95)	Am-241	014596-10-2	4.32E+02	Y	W	1.00E-03	3.28E-10	3.85E-08	4.59E-09
	Am-242	013981-54-9	1.60E+01	H	W	1.00E-03	1.47E-12	1.04E-11	5.76E-09
	Am-242m	013981-54-9(m)	1.52E+02	Y	W	1.00E-03	2.92E-10	3.49E-08	8.76E-11
	Am-243	014993-75-0	7.38E+03	Y	W	1.00E-03	3.27E-10	3.82E-08	2.43E-08
	Am-243+D	014993-75-0(+D)	7.38E+03	Y	W	1.00E-03	3.31E-10	3.82E-08	2.66E-07
Antimony (51)	Sb-122	014374-79-9	2.70E+00	D	W	1.00E-01	6.81E-12	5.46E-12	1.61E-06
	Sb-124	014683-10-4	6.02E+01	D	W	1.00E-01	1.07E-11	1.32E-11	7.35E-06
	Sb-125	014234-35-6	2.77E+00	Y	W	1.00E-01	2.97E-12	5.20E-12	1.34E-06
	Sb-125+D	014234-35-6(+D)	2.77E+00	Y	W	1.00E-01	3.54E-12	5.85E-12	1.34E-06
	Sb-126	015756-32-8	1.24E+01	D	W	1.00E-01	9.73E-12	8.41E-12	1.03E-05
	Sb-126m	015756-32-8(m)	1.90E+01	M	W	1.00E-01	7.28E-14	6.43E-14	5.78E-06
	Sb-127	013968-50-8	3.85E+00	D	W	1.00E-01	8.48E-12	6.05E-12	2.40E-06
	Sb-129	014331-88-5	4.40E+00	H	W	1.00E-01	1.86E-12	8.60E-13	5.56E-06
Argon (18)	Ar-41	014163-25-8	1.83E+00	H	*	---	---	4.71E-16	---

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Astatine (85)	At-217	017239-90-6	3.23E-02	S	D	9.50E-01	8.99E-18	5.14E-16	8.71E-10
Barium (56)	Ba-131	014914-75-1	1.18E+01	D	D	1.00E-01	1.70E-12	4.79E-13	1.27E-06
	Ba-133	013981-41-4	1.05E+01	Y	D	1.00E-01	2.70E-12	4.03E-12	9.15E-07
	Ba-133m	013981-41-4(m)	3.89E+01	H	D	1.00E-01	2.76E-12	5.60E-13	1.00E-07
	Ba-137m	013981-97-0(m)	2.55E+00	M	D	1.00E-01	2.43E-15	1.57E-15	2.21E-06
	Ba-139	014378-25-7	8.31E+01	M	D	1.00E-01	3.04E-13	1.53E-13	8.35E-08
	Ba-140	014798-08-4	1.28E+01	D	D	1.00E-01	1.18E-11	3.17E-12	6.00E-07
Beryllium (4)	Be-7	013966-02-4	5.34E+01	D	Y	5.00E-03	8.64E-14	1.78E-13	1.73E-07
Bismuth (83)	Bi-206	015776-19-9	6.24E+00	D	W	5.00E-02	7.11E-12	5.07E-12	1.20E-05
	Bi-207	013982-38-2	3.34E+01	Y	W	5.00E-02	5.05E-12	9.42E-12	5.49E-06
	Bi-210	014331-79-4	5.01E+00	D	W	5.00E-02	7.29E-12	5.12E-11	0.00E+0
	Bi-211	015229-37-5	2.13E+00	M	W	5.00E-02	1.82E-14	1.74E-12	1.48E-07
	Bi-212	014913-49-6	6.06E+01	M	W	5.00E-02	6.20E-13	3.65E-11	6.67E-07
	Bi-213	015776-20-2	4.57E+01	M	W	5.00E-02	4.40E-13	3.09E-11	4.62E-07
	Bi-214	014733-03-0	1.99E+01	M	W	5.00E-02	1.95E-13	1.46E-11	6.02E-06
Bromine (35)	Br-82	014686-69-2	3.53E+01	H	D	9.50E-01	1.42E-12	7.86E-13	1.01E-05
Cadmium (20)	Cd-109	014109-32-1	4.64E+02	D	Y	5.00E-02	8.01E-12	1.85E-11	5.62E-10
	Cd-115	014336-68-6	5.35E+01	H	Y	5.00E-02	7.29E-12	4.93E-12	7.02E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Cd-115m	014336-68-6(m)	4.46E+01	D	Y	5.00E-02	1.42E-11	1.70E-11	8.55E-08
Calcium (20)	Ca-45	013968-05-7	1.63E+02	D	W	3.00E-01	2.02E-12	2.51E-12	3.88E-18
	Ca-47	001439-99-2	4.54E+00	D	W	3.00E-01	6.66E-12	5.22E-12	4.12E-06
Carbon (6)	C-11	014333-33-6	2.05E+01	M	D	9.50E-01	4.49E-14	3.38E-14	3.61E-06
	C-14	014762-75-5	5.73E+03	Y	*	1.00E+00	1.03E-12	6.99E-15	0.00E+0
	C-15	015929-23-4	2.45E+00	S	D	9.50E-01	6.62E-16	8.06E-16	---
Cerium (58)	Ce-141	013967-74-3	3.25E+01	D	Y	3.00E-04	3.91E-12	4.32E-12	1.41E-07
	Ce-143	014119-19-8	3.30E+01	H	Y	3.00E-04	5.91E-12	3.84E-12	7.32E-07
	Ce-144	014762-78-8	2.84E+02	D	Y	3.00E-04	2.96E-11	1.08E-10	2.58E-08
	Ce-144+D	014762-78-8(+D)	2.84E+02	D	Y	3.00E-04	2.97E-11	1.08E-10	1.56E-07
Cesium (55)	Cs-131	014914-76-2	9.69E+00	D	D	9.50E-01	1.80E-13	1.06E-13	2.34E-09
	Cs-134	013967-70-9	2.06E+00	Y	D	9.50E-01	4.73E-11	2.89E-11	5.88E-06
	Cs-134m	013967-70-9(m)	2.90E+00	H	D	9.50E-01	4.54E-14	3.10E-14	1.96E-08
	Cs-135	015726-30-4	2.30E+06	Y	D	9.50E-01	4.53E-12	2.71E-12	0.00E+0
	Cs-136	014234-29-8	1.32E+01	D	D	9.50E-01	7.74E-12	4.65E-12	8.13E-06
	Cs-137	010045-97-3	3.02E+01	Y	D	9.50E-01	3.16E-11	1.91E-11	0.00E+0
	Cs-137+D	010045-97-3(+D)	3.02E+01	Y	D	9.50E-01	3.16E-11	1.91E-11	2.09E-06
	Cs-138	015758-29-9	3.22E+01	M	D	9.50E-01	1.76E-13	1.30E-13	9.45E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Chlorine (17)	Cl-36	013981-43-6	3.01E+05	Y	D	9.50E-01	2.23E-12	1.30E-12	0.00E+0
	Cl-38	014158-34-0	3.72E+01	M	D	9.50E-01	2.07E-13	1.63E-13	6.47E-06
Chromium (24)	Cr-51	014392-02-0	2.77E+01	D	Y	1.00E-01	1.38E-13	1.74E-13	1.02E-07
Cobalt (27)	Co-57	013981-50-5	2.71E+02	D	Y	3.00E-01	9.71E-13	2.88E-12	2.07E-07
	Co-58	01381-38-9	7.08E+01	D	Y	3.00E-01	2.82E-12	5.17E-12	3.73E-06
	Co-58m	01381-38-9(m)	9.15E+00	H	Y	3.00E-01	9.46E-14	8.90E-14	3.21E-11
	Co-60	010198-40-0	5.27E+00	Y	Y	3.00E-01	1.89E-11	6.88E-11	9.76E-06
Copper (29)	Cu-64	013981-25-4	1.27E+01	H	Y	5.00E-01	5.25E-13	4.18E-13	6.72E-07
Curium (96)	Cm-242	015510-73-3	1.63E+02	D	W	1.00E-03	3.83E-11	3.16E-09	2.34E-11
	Cm-243	015757-87-6	2.85E+01	Y	W	1.00E-03	2.51E-10	2.89E-08	1.71E-07
	Cm-243+D	015757-87-6(+D)	2.85E+01	Y	W	1.00E-03	2.52E-10	2.90E-08	1.72E-07
	Cm-244	013981-15-2	1.81E+01	Y	W	1.00E-03	2.11E-10	2.43E-08	2.07E-11
	Cm-245	015621-76-8	8.50E+03	Y	W	1.00E-03	3.35E-10	3.92E-08	5.51E-08
	Cm-246	015757-90-1	4.75E+03	Y	W	1.00E-03	3.32E-10	3.90E-08	1.81E-11
	Cm-247	015758-32-4	1.56E+07	Y	W	1.00E-03	3.09E-10	3.58E-08	1.03E-06
	Cm-248	015758-33-5	3.39E+05	Y	W	1.00E-03	1.31E-09	1.46E-07	1.47E-11
Dysprosium (66)	Dy-165	013967-64-1	2.33E+00	H	W	3.00E-04	3.26E-13	2.24E-13	6.18E-08
	Dy-166	015840-01-4	8.16E+01	H	W	3.00E-04	9.42E-12	7.82E-12	2.72E-08

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Erbium (63)	Er-169	015840-13-8	9.40E+00	D	W	3.00E-04	2.12E-12	1.51E-12	6.52E-12
	Er-171	014391-45-8	7.52E+00	H	W	3.00E-04	1.63E-12	7.50E-13	1.04E-06
Europium (63)	Eu-152	014683-23-9	1.36E+01	Y	W	1.00E-03	5.73E-12	7.91E-11	4.08E-06
	Eu-154	015585-10-1	8.80E+00	Y	W	1.00E-03	9.37E-12	9.15E-11	4.65E-06
	Eu-155	014391-16-3	4.96E+00	Y	W	1.00E-03	1.65E-12	9.60E-12	6.08E-06
	Eu-156	014280-35-4	1.52E+01	D	W	1.00E-03	1.09E-11	9.26E-12	5.40E-06
Fluorine (9)	F-18	013981-56-1	1.10E+02	M	D	9.50E-01	1.09E-13	6.54E-14	3.50E-06
Francium (87)	Fr-221	015756-41-9	4.80E+00	M	D	9.50E-01	1.45E-13	8.02E-12	6.74E-06
	Fr-223	015756-98-6	2.18E+00	M	D	9.50E-01	4.46E-13	5.90E-13	4.17E-08
Gadolinium (64)	Gd-153	014276-65-4	2.42E+02	D	W	3.00E-04	1.32E-12	3.20E-12	7.22E-08
	Gd-159	014041-42-0	1.86E+01	H	W	3.00E-04	2.60E-12	1.24E-12	9.59E-06
Gallium (31)	Ga-67	014119-09-6	3.26E+00	D	W	1.00E-03	6.36E-13	5.14E-13	3.61E-07
	Ga-72	013962-22-4	1.41E+01	H	W	1.00E-03	4.77E-12	2.17E-12	1.12E-05
Germanium (32)	Ge-71	014374-81-3	1.18E+01	D	W	9.50E-01	1.16E-14	5.84E-14	1.56E-11
Gold (79)	Au-196	014914-16-0	6.18E+00	D	Y	1.00E-01	1.30E-12	1.04E-12	1.41E-06
	Au-198	010043-49-0	2.70E+00	D	Y	1.00E-01	5.28E-12	3.64E-12	1.37E-06
Holmium (67)	Ho-166	013967-65-2	2.68E+01	H	W	3.00E-04	7.57E-12	4.06E-12	6.96E-08
Hydrogen (1)	H-3	010026-17-8	1.23E+01	Y	V	1.00E+00	7.15E-14	9.59E-14	0.00E+0

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Indium (49)	In-113m	014885-78-0(m)	1.66E+00	H	W	2.00E-02	8.30E-14	5.77E-14	7.82E-07
	In-114	013981-55-0	7.19E+01	S	W	2.00E-02	4.53E-15	5.81E-15	1.13E-07
	In-114m	013981-55-0(m)	4.95E+01	D	W	2.00E-02	2.06E-11	2.53E-11	2.00E-07
	In-115	014191-71-0	4.60e+15	Y	W	2.00E-02	3.49E-11	2.07E-10	0.00E+0
	In-115m	014191-71-0(m)	4.36E+00	H	W	2.00E-02	3.42E-13	1.75E-13	4.29E-07
Iodine (53)	I-122	018287-75-7	3.62E+00	M	D	9.50E-01	2.16E-14	2.24E-14	3.41E-06
	I-123	015715-08-9	1.31E+01	H	D	9.50E-01	5.42E-13	2.94E-13	2.52E-07
	I-125	014158-31-7	6.01E+01	D	D	9.50E-01	2.58E-11	1.71E-11	2.39E-09
	I-126	014158-32-8	1.29E+01	D	D	9.50E-01	4.82E-11	3.15E-11	1.49E-06
	I-129	015046-84-1	1.57E+07	Y	D	9.50E-01	1.84E-10	1.22E-10	2.69E-09
	I-130	014914-02-4	1.24E+01	H	D	9.50E-01	4.85E-12	2.61E-12	7.93E-06
	I-131	010043-66-0	8.04E+00	D	D	9.50E-01	3.62E-11	2.33E-11	1.25E-06
	I-132	014683-16-0	2.30E+00	H	D	9.50E-01	6.62E-13	3.52E-13	8.75E-06
	I-133	014834-67-4	2.08E+01	H	D	9.50E-01	1.06E-11	6.02E-12	2.20E-06
	I-134	014914-27-3	5.26E+01	M	D	9.50E-01	2.31E-13	1.38E-13	1.02E-05
	I-135	014834-68-5	6.61E+00	H	D	9.50E-01	2.27E-12	1.18E-12	6.23E-06
Iridium (77)	Ir-190	014981-91-0	1.18E+01	D	Y	1.00E-02	4.95E-12	4.49E-12	4.65E-06
	Ir-194	014158-35-1	1.92E+01	H	Y	1.00E-02	7.00E-12	4.18E-12	3.17E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Iron (26)	Fe-55	014681-59-5	2.70E+00	Y	W	1.00E-01	3.51E-13	5.60E-13	0.00E+0
	Fe-59	014596-12-4	4.46E+01	D	W	1.00E-01	5.87E-12	7.08E-12	4.63E-06
Krypton (36)	Kr-83m	013965-98-5(m)	1.83E+00	H	*	---	---	3.48E-17	---
	Kr-85	013983-27-2	1.07E+01	Y	*	---	---	2.87E-16	---
	Kr-85m	013983-27-2(m)	4.48E+00	H	*	---	---	2.75E-16	---
	Kr-87	014809-68-8	7.63E+01	M	*	---	---	1.20E-15	---
	Kr-88	014995-61-0	2.84E+00	H	*	---	---	2.20E-15	---
	Kr-89	016316-03-3	3.16E+00	M	*	---	---	1.61E-15	---
	Kr-90	015741-13-6	3.23E+01	S	*	---	---	1.60E-15	---
Lanthanum (57)	La-140	013981-28-7	4.02E+01	H	W	1.00E-03	9.46E-12	5.10E-12	9.11E-06
Lead (82)	Pb-203	014687-25-3	5.20E+01	H	D	2.00E-01	1.03E-12	3.10E-13	6.40E-07
	Pb-209	014119-30-3	3.25E+00	H	D	2.00E-01	2.09E-13	6.85E-14	0.00E+0
	Pb-210	014255-04-0	2.23E+01	Y	D	2.00E-01	6.75E-10	1.67E-09	1.12E-10
	Pb-210+D	014255-04-0(+D)	2.23E+01	Y	D	2.00E-01	1.01E-09	3.86E-09	1.45E-10
	Pb-211	015816-77-0	3.61E+01	M	D	2.00E-01	3.38E-13	1.03E-11	1.85E-07
	Pb-212	015092-94-1	1.06E+01	H	D	2.00E-01	1.80E-11	3.85E-11	3.00E-07
	Pb-214	015067-28-4	2.68E+01	M	D	2.00E-01	2.94E-13	6.23E-12	7.09E-07
Lutetium (71)	Lu-177	014265-75-9	6.71E+00	D	Y	3.00E-04	2.95E-12	2.20E-12	7.22E-08

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Manganese (25)	Mn-52	014092-99-0	5.59E+00	D	W	1.00E-01	6.01E-12	4.40E-12	1.34E-05
	Mn-54	013966-31-9	3.13E+02	D	W	1.00E-01	1.96E-12	3.69E-12	3.26E-06
	Mn-56	014681-52-8	2.58E+00	H	W	1.00E-01	8.57E-13	5.21E-13	6.95E-06
Mercury (80)	Hg-197	013981-51-6	6.41E+01	H	W	2.00E-02	1.18E-12	6.95E-13	5.47E-08
	Hg-203	013982-78-0	4.66E+01	D	W	2.00E-02	2.64E-12	3.03E-12	6.27E-07
Molybdenum (42)	Mo-99	014119-15-4	6.60E+01	H	Y	8.00E-01	2.27E-12	4.48E-12	5.46E-07
Neodymium (60)	Nd-147	014269-74-0	1.10E+01	D	Y	3.00E-04	5.88E-12	4.84E-12	3.22E-07
	Nd-149	015749-81-2	1.73E+00	H	Y	3.00E-04	4.55E-13	4.22E-13	1.08E-06
Neptunium (93)	Np-236	015700-36-4	1.15E+05	Y	W	1.00E-03	9.31E-13	3.87E-12	9.22E-08
	Np-237	013994-20-2	2.14E+06	Y	W	1.00E-03	2.95E-10	3.45E-08	7.56E-09
	Np-237+D	013994-20-2(+D)	2.14E+06	Y	W	1.00E-03	3.00E-10	3.45E-08	4.62E-07
	Np-238	015766-25-3	2.12E+00	D	W	1.00E-03	4.56E-12	4.68E-12	1.95E-06
	Np-239	013968-59-7	2.36E+00	D	W	1.00E-03	4.27E-12	2.41E-12	2.42E-07
	Np-240	015690-84-3	6.50E+01	M	W	1.00E-03	1.77E-13	1.31E-13	3.65E-06
	Np-240m	015690-84-3(m)	7.40E+00	M	W	1.00E-03	2.42E-14	2.83E-14	1.05E-06
Nickel (28)	Ni-59	014336-70-0	7.50E+04	Y	W	5.00E-02	1.85E-13	4.01E-13	0.00E+0
	Ni-63	013981-37-8	1.00E+02	Y	W	5.00E-02	5.50E-13	1.01E-12	0.00E+0
	Ni-65	014833-49-9	2.52E+00	H	W	5.00E-02	5.62E-13	3.59E-13	2.14E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Niobium (41)	Nb-93m	007440-03-1(m)	1.48E+01	Y	Y	1.00E-02	6.64E-13	4.33E-12	3.64E-11
	Nb-94	014681-63-1	2.03E+04	Y	Y	1.00E-02	6.91E-12	8.20E-11	6.08E-06
	Nb-95	013967-78-5	3.51E+01	D	Y	1.00E-02	2.25E-12	3.11E-12	2.94E-06
	Nb-95m	013967-76-5(m)	8.66E+01	H	Y	1.00E-02	3.06E-12	2.25E-12	8.71E-08
	Nb-97	018496-04-3	7.21E+01	M	Y	1.00E-02	1.75E-13	2.13E-13	2.49E-06
	Nb-97m	018496-04-3(m)	6.00E+01	S	Y	1.00E-02	3.27E-15	3.34E-15	2.78E-06
Osmium (76)	Os-185	015766-50-4	9.36E+01	D	Y	1.00E-02	1.80E-12	4.62E-12	2.45E-06
	Os-191	014119-24-5	1.54E+01	D	Y	1.00E-02	3.04E-12	2.70E-12	8.74E-08
	Os-191m	014119-24-5(m)	1.30E+01	H	Y	1.00E-02	4.95E-13	3.32E-13	3.22E-09
	Os-193	016057-77-5	3.00E+01	H	Y	1.00E-02	4.36E-12	2.68E-12	1.82E-07
Palladium (46)	Pd-100	015690-69-4	3.64E+00	D	Y	5.00E-03	3.74E-12	3.55E-12	---
	Pd-101	015749-54-9	8.48E+00	H	Y	5.00E-03	3.74E-13	2.29E-13	---
	Pd-103	014967-68-1	1.70E+01	D	Y	5.00E-03	1.05E-12	1.08E-12	5.38E-10
	Pd-107	017637-99-9	6.50E+06	Y	Y	5.00E-03	2.09E-13	1.46E-12	0.00E+0
	Pd-109	014981-64-7	1.35E+01	H	Y	5.00E-03	3.33E-12	1.99E-12	2.43E-09
Phosphorus (15)	P-32	014596-37-3	1.43E+01	D	D	8.00E-01	6.11E-12	2.93E-12	0.00E+0
	P-33	015749-66-3	2.54E+01	D	D	8.00E-01	7.81E-13	3.96E-13	0.00E+0
Platinum (78)	Pt-191	015706-36-2	2.71E+00	D	D	1.00E-02	1.50E-12	4.13E-13	6.74E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Pt-193	015735-70-3	5.00E+01	Y	D	1.00E-02	1.62E-13	7.89E-14	0.00E+0
	Pt-193m	015735-70-3(m)	4.33E+00	D	D	1.00E-02	2.51E-12	5.76E-13	7.44E-09
	Pt-197	015735-74-7	1.83E+01	H	D	1.00E-02	2.12E-12	4.54E-13	3.15E-08
	Pt-197m	015735-74-7(m)	9.44E+01	M	D	1.00E-02	3.25E-13	1.00E-13	1.65E-07
Plutonium (94)	Pu-236	015411-92-4	2.85E+00	Y	Y	1.00E-03	7.68E-11	1.34E-08	2.32E-11
	Pu-238	013981-16-3	8.78E+01	Y	Y	1.00E-03	2.95E-10	2.74E-08	1.94E-11
	Pu-239	015117-48-3	2.41E+04	Y	Y	1.00E-03	3.16E-10	2.78E-08	1.26E-11
	Pu-240	014119-33-6	6.57E+03	Y	Y	1.00E-03	3.15E-10	2.78E-08	1.87E-11
	Pu-241	014119-32-5	1.44E+01	Y	Y	1.00E-03	5.20E-12	2.81E-10	0.00E+0
	Pu-241+D	014119-32-5(+D)	1.44E+01	Y	Y	1.00E-03	3.33E-10	3.88E-08	4.59E-09
	Pu-242	013982-10-0	3.76E+05	Y	Y	1.00E-03	3.00E-10	2.64E-08	1.55E-11
	Pu-243	015706-37-3	4.96E+00	H	Y	1.00E-03	3.69E-13	2.67E-13	1.89E-08
	Pu-244	014119-34-7	8.26E+07	Y	Y	1.00E-03	3.13E-10	2.67E-08	1.29E-11
	Pu-244+D	014119-34-7(+D)	8.26E+07	Y	Y	1.00E-03	3.19E-10	2.67E-08	3.65E-06
Polonium (84)	Po-210	013981-52-7	1.38E+02	D	W	1.00E-01	3.26E-10	2.14E-09	3.30E-11
	Po-212	015389-34-1	2.98E-07	S	W	1.00E-01	4.51E-23	5.93E-21	0.00E+0
	Po-213	015756-57-7	4.20E-06	S	W	1.00E-01	6.70E-22	7.80E-20	1.18E-10
	Po-214	015735-67-8	1.64E-04	S	W	1.00E-01	2.12E-20	2.77E-18	3.23E-10

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Po-215	015706-52-2	1.78E-03	S	W	1.00E-01	4.99E-19	4.48E-17	5.11E-10
	Po-216	015756-58-8	1.46E-01	S	W	1.00E-01	8.79E-17	2.95E-15	5.62E-11
	Po-218	015422-24-9	3.05E+00	M	W	1.00E-01	5.08E-14	3.69E-12	0.00E+0
Potassium (19)	K-40	013966-00-2	1.28E+09	Y	D	9.50E-01	1.25E-11	7.46E-12	6.11E-07
	K-42	014378-21-3	1.24E+01	H	D	9.50E-01	1.29E-12	7.56E-13	1.09E-06
Praseodymium (59)	Pr-142	014191-64-1	1.91E+01	H	Y	3.00E-04	6.98E-12	4.16E-12	2.34E-07
	Pr-143	014981-79-4	1.36E+01	D	Y	3.00E-04	6.60E-12	5.60E-12	3.41E-14
	Pr-144	014119-05-2	1.73E+01	M	Y	3.00E-04	8.08E-14	1.31E-13	1.33E-07
	Pr-144m	014119-05-2(m)	7.20E+00	M	Y	3.00E-04	3.23E-14	5.61E-14	1.85E-09
Promethium (61)	Pm-147	014380-75-7	2.62E+00	Y	Y	3.00E-04	1.41E-12	7.49E-12	6.35E-12
	Pm-148	014683-19-3	5.37E+00	D	Y	3.00E-04	1.44E-11	1.05E-11	2.21E-06
	Pm-148m	014683-19-3(m)	4.13E+01	D	Y	3.00E-04	9.93E-12	2.95E-11	7.32E-06
	Pm-149	015765-31-8	5.31E+01	H	Y	3.00E-04	5.52E-12	3.57E-12	3.65E-08
Protactinium (91)	Pa-231	014331-85-2	3.73E+04	Y	Y	1.00E-03	1.49E-10	2.42E-08	2.71E-08
	Pa-233	013981-14-1	2.70E+01	D	Y	1.00E-03	4.69E-12	4.92E-12	4.54E-07
	Pa-234	015100-28-4	6.70E+00	H	Y	1.00E-03	2.13E-12	1.30E-12	6.60E-06
	Pa-234m	015100-28-4(m)	1.17E+00	M	Y	1.00E-03	4.77E-15	6.27E-15	4.05E-08
Radium (88)	Ra-223	015623-45-7	1.14E+01	D	W	2.00E-01	2.34E-10	3.60E-09	2.44E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Ra-224	013233-32-4	3.62E+00	D	W	2.00E-01	1.49E-10	2.25E-09	2.48E-08
	Ra-225	013981-53-8	1.48E+01	D	W	2.00E-01	1.57E-10	2.38E-09	1.71E-09
	Ra-228	013982-63-3	1.80E+03	Y	W	2.00E-01	2.95E-10	2.72E-09	1.31E-08
	Ra-228+D	013982-63-3(+D)	1.80E+03	Y	W	2.00E-01	2.96E-10	2.75E-09	6.74E-06
	Ra-228	015282-20-1	5.75E+00	Y	W	2.00E-01	2.46E-10	9.61E-10	0.00E+0
	Ra-228+D	015282-20-1(+D)	5.75E+00	Y	W	2.00E-01	2.48E-10	9.94E-10	3.28E-06
Radon (86)	Rn-219	014835-02-0	3.96E+00	S	*	---	---	6.91E-14	1.72E-07
	Rn-220	022481-48-7	5.56E+01	S	*	---	---	1.92E-13	1.88E-09
	Rn-222+D[i]	014859-67-7(+D)	3.82E+00	D	*	---	---	7.57E-12	---
Rhodium (45)	Rh-103m	007440-16-6(m)	5.61E+01	M	Y	5.00E-02	8.19E-15	1.28E-14	5.85E-11
	Rh-105	014913-89-4	3.54E+01	H	Y	5.00E-02	1.93E-12	1.22E-12	2.49E-07
	Rh-105m	014913-89-4(m)	4.50E+01	S	Y	5.00E-02	1.08E-15	9.25E-18	2.27E-08
	Rh-106	014234-34-5	2.99E+01	S	Y	5.00E-02	3.63E-15	4.82E-15	7.57E-07

[i] To derive the inhalation slope factor for Rn-222+D, EPA's Office of Radiation and Indoor Air (ORIA) uses a slightly different risk model and set of exposure assumptions, including an inhalation rate of 2.2E+04 L/day; 50% equilibrium for decay products; and a risk coefficient of 2.36E-4 cases per working level month (WLM). A more detailed description of ORIA's radon risk assessment methodology is provided in the EPA CRAVE Summary Sheet, *Inhaled Rn-222 and its Short Half-Life Decay Products*.

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Rubidium (37)	Rb-82	014391-63-0	1.25E+00	M	D	9.50E-01	1.05E-14	1.17E-14	3.89E-06
	Rb-86	014932-53-7	1.87E+01	D	D	9.50E-01	7.12E-12	4.21E-12	3.71E-07
	Rb-87	013982-13-3	4.73e+10	Y	D	9.50E-01	3.68E-12	2.26E-12	0.00E+0
	Rb-88	014928-36-0	1.78E+01	M	D	9.50E-01	1.46E-13	1.36E-13	2.68E-06
	Rb-89	014191-65-2	1.54E+01	M	D	9.50E-01	8.65E-14	6.92E-14	8.47E-06
Ruthenium (44)	Ru-97	015758-35-7	2.90E+00	D	Y	5.00E-02	5.88E-13	4.09E-13	4.52E-07
	Ru-103	013968-53-1	3.94E+01	D	Y	5.00E-02	3.32E-12	4.59E-12	1.70E-06
	Ru-105	014331-95-4	4.44E+00	H	Y	5.00E-02	1.15E-12	8.02E-13	2.88E-06
	Ru-106	013967-48-1	3.68E+02	D	Y	5.00E-02	3.45E-11	1.15E-10	0.00E+0
	Ru-106+D	013967-48-1(+D)	3.68E+02	D	Y	5.00E-02	3.45E-11	1.15E-10	7.57E-07
Samarium (62)	Sm-147	014392-33-7	1.06e+11	Y	W	3.00E-04	2.51E-11	6.93E-09	0.00E+0
	Sm-151	015715-94-3	9.00E+01	Y	W	3.00E-04	4.60E-13	4.63E-12	2.92E-13
	Sm-153	015766-00-4	4.67E+01	H	W	3.00E-04	4.02E-12	2.18E-12	4.65E-08
Scandium (21)	Sc-46	013967-63-0	8.38E+01	D	Y	1.00E-04	5.73E-12	1.31E-11	7.89E-06
	Sc-47	014391-96-9	3.42E+00	D	Y	1.00E-04	2.95E-12	2.01E-12	2.50E-07
	Sc-48	014391-86-7	4.37E+01	H	Y	1.00E-04	6.65E-12	4.20E-12	1.31E-05
Selenium (34)	Se-75	014265-71-5	1.20E+02	D	W	8.00E-01	6.53E-12	4.92E-12	8.89E-07
Silicon (14)	Si-31	014276-49-4	1.57E+02	M	W	1.00E-02	5.04E-13	3.29E-13	3.45E-09

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Silver (47)	Ag-105	014928-14-4	4.13E+01	D	Y	5.00E-02	1.63E-12	2.33E-12	---
	Ag-108	014391-65-2	2.37E+00	M	Y	5.00E-02	6.94E-15	9.43E-15	5.78E-08
	Ag-108m	014391-65-2m	1.27E+02	Y	Y	5.00E-02	6.05E-12	7.02E-11	5.61E-06
	Ag-108m+D	014391-65-2m(+D)	1.27E+02	Y	Y	5.00E-02	6.05E-12	7.02E-11	5.62E-06
	Ag-109m	014378-38-2(m)	3.96E+01	S	Y	5.00E-02	2.71E-16	3.46E-16	1.16E-09
	Ag-110	014391-76-5	2.46E+01	S	Y	5.00E-02	2.44E-15	3.16E-15	1.13E-07
	Ag-110m	014391-76-5(m)	2.50E+02	D	Y	5.00E-02	8.43E-12	3.21E-11	1.05E-05
	Ag-111	157690-04-0	7.46E+00	D	Y	5.00E-02	6.83E-12	5.24E-12	8.51E-08
Sodium (11)	Na-22	013966-32-0	2.60E+00	Y	D	9.50E-01	8.02E-12	4.88E-12	8.18E-06
	Na-24	013982-04-2	1.50E+01	H	D	9.50E-01	1.38E-12	7.51E-13	1.77E-05
Strontium (38)	Sr-82	014809-50-8	2.50E+01	D	D	3.00E-01	2.58E-11	8.87E-12	9.00E-11
	Sr-85	013967-73-2	6.48E+01	D	D	3.00E-01	1.40E-12	1.14E-12	1.54E-06
	Sr-85m	013967-73-2(m)	6.77E+01	M	D	3.00E-01	1.80E-14	7.13E-15	5.24E-07
	Sr-89	014158-27-1	5.06E+01	D	D	3.00E-01	1.03E-11	3.68E-12	5.38E-10
	Sr-90	010098-97-2	2.86E+01	Y	D	3.00E-01	4.09E-11	5.94E-11	0.00E+0
	Sr-90+D	010098-97-2(+D)	2.86E+01	Y	D	3.00E-01	5.59E-11	6.93E-11	0.00E+0
	Sr-91	014331-91-0	9.50E+00	H	D	3.00E-01	2.82E-12	7.79E-13	2.67E-06
	Sr-92	014928-29-1	2.71E+00	H	D	3.00E-01	2.03E-12	4.70E-13	5.20E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Sulfur (16)	S-35	015117-53-0	8.74E+01	D	D	8.00E-01	4.16E-13	1.85E-13	0.00E+0
Tantalum (73)	Ta-182	013982-00-8	1.15E+02	D	Y	1.00E-03	7.03E-12	1.65E-11	4.66E-06
Technelium (43)	Tc-95	014809-56-4	2.00E+01	H	W	8.00E-01	6.81E-14	3.38E-14	2.72E-06
	Tc-95m	014809-56-4(m)	6.10E+01	D	W	8.00E-01	1.24E-12	2.10E-12	2.08E-06
	Tc-96	014808-44-7	4.28E+00	D	W	8.00E-01	2.28E-12	1.94E-12	9.36E-06
	Tc-96m	014808-44-7(m)	5.15E+01	M	W	8.00E-01	2.61E-14	2.26E-14	7.72E-08
	Tc-97	015759-35-0	2.60E+06	Y	W	8.00E-01	1.58E-13	3.44E-13	2.49E-10
	Tc-97m	015759-35-0(m)	8.90E+01	D	W	8.00E-01	1.20E-12	1.96E-12	2.67E-10
	Tc-99	014133-76-7	2.13E+05	Y	W	8.00E-01	1.40E-12	2.89E-12	6.19E-13
	Tc-99m	014133-76-7(m)	6.02E+00	H	W	8.00E-01	5.58E-14	3.49E-14	2.51E-07
Tellurium (52)	Te-125m	014390-73-9(m)	5.80E+01	D	W	2.00E-01	2.51E-12	2.85E-12	2.16E-09
	Te-127	013981-49-2	9.35E+00	H	W	2.00E-01	8.55E-13	4.32E-13	1.62E-08
	Te-127m	013981-49-2(m)	1.09E+02	D	W	2.00E-01	6.01E-12	1.31E-11	7.10E-10
	Te-129	014269-71-7	6.96E+01	M	W	2.00E-01	1.48E-13	1.46E-13	1.46E-07
	Te-129m	014269-71-7(m)	3.36E+01	D	W	2.00E-01	1.17E-11	1.33E-11	6.92E-08
	Te-131	014683-12-6	2.50E+01	M	W	2.00E-01	3.90E-13	2.48E-13	1.35E-06
	Te-131m	014683-12-6(m)	3.00E+01	H	W	2.00E-01	8.81E-12	8.40E-12	5.31E-06
	Te-132	014234-28-7	7.82E+01	H	W	2.00E-01	1.22E-11	8.38E-12	4.31E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Terbium (65)	Tb-158	015759-55-4	1.50E+02	Y	W	3.00E-04	4.20E-12	7.04E-11	---
	Tb-160	013981-29-8	7.23E+01	D	W	3.00E-04	7.62E-12	1.14E-11	4.03E-06
Thallium (81)	Tl-202	015720-57-7	1.22E+01	D	D	9.50E-01	1.01E-12	6.07E-13	1.42E-06
	Tl-204	013968-51-9	3.78E+00	Y	D	9.50E-01	1.97E-12	1.15E-12	8.72E-10
	Tl-208	014913-50-9	3.05E+00	M	D	9.50E-01	1.75E-14	1.36E-14	1.45E-05
	Tl-209	015690-73-0	2.20E+00	M	D	9.50E-01	1.40E-14	1.12E-14	7.83E-06
Thorium (90)	Th-227	015623-47-9	1.87E+01	D	Y	2.00E-04	4.04E-11	4.31E-09	1.74E-07
	Th-228	014274-82-9	1.91E+00	Y	Y	2.00E-04	6.29E-11	9.45E-08	5.28E-10
	Th-228+D	014274-82-9(+D)	1.91E+00	Y	Y	2.00E-04	2.31E-10	9.68E-08	9.94E-07
	Th-229	015594-54-4	7.34E+03	Y	Y	2.00E-04	5.65E-11	7.60E-08	5.94E-08
	Th-229+D	015594-54-4(+D)	7.34E+03	Y	Y	2.00E-04	3.56E-10	8.26E-08	5.99E-07
	Th-230	014269-63-7	7.70E+04	Y	Y	2.00E-04	3.75E-11	1.72E-08	4.40E-11
	Th-231	014932-40-2	2.55E+01	H	Y	2.00E-04	1.79E-12	1.10E-12	2.09E-09
	Th-232	007440-29-1	1.41E+10	Y	Y	2.00E-04	3.28E-11	1.93E-08	1.97E-11
	Th-234	015065-10-8	2.41E+01	D	Y	2.00E-04	1.93E-11	1.90E-11	3.50E-09
Thulium (69)	Tm-170	013981-30-1	1.29E+02	D	W	3.00E-04	7.50E-12	1.10E-11	3.84E-09
	Tm-171	014333-45-0	1.92E+00	Y	W	3.00E-04	5.86E-13	1.84E-12	3.15E-10
Tin (50)	Sn-113	013966-06-8	1.15E+02	D	W	2.00E-02	3.72E-12	6.61E-12	2.96E-09

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Sn-121	014683-06-8	2.71E+01	H	W	2.00E-02	1.22E-12	6.13E-13	---
	Sn-121m	014683-06-8(m)	5.55E+01	Y	W	2.00E-02	2.00E-12	7.46E-12	---
	Sn-125	014683-08-0	9.64E+00	D	W	2.00E-02	1.68E-11	1.19E-11	1.21E-06
	Sn-126	015832-50-5	1.00E+05	Y	W	2.00E-02	2.12E-11	4.26E-11	3.32E-08
Tungsten (74)	W-181	015749-46-9	1.21E+02	D	D	3.00E-01	2.72E-13	8.02E-14	2 11E-08
	W-185	014932-41-3	7.51E+01	D	D	3.00E-01	2.04E-12	4.26E-13	5.03E-11
	W-187	014983-48-3	2.38E+01	H	D	3.00E-01	2.46E-12	5.29E-13	1.63E-06
Uranium (92)	U-232	014158-29-3	7.20E+01	Y	Y	5.00E-02	8.12E-11	5.29E-08	3.42E-11
	U-233	013968-55-3	1.59E+05	Y	Y	5.00E-02	4.48E-11	1.41E-08	3.52E-11
	U-234	013966-29-5	2.45E+05	Y	Y	5.00E-02	4.44E-11	1.40E-08	2.14E-11
	U-235	015117-96-1	7.04E+08	Y	Y	5.00E-02	4.52E-11	1.30E-08	2.63E-07
	U-235+D	015117-96-1(+D)	7.04E+08	Y	Y	5.00E-02	4.70E-11	1.30E-08	2.65E-07
	U-236	013982-70-2	2.34E+07	Y	Y	5.00E-02	4.21E-11	1.32E-08	1.72E-11
	U-237	014269-75-1	6.75E+00	D	Y	5.00E-02	3.98E-12	3.12E-12	1.37E-07
	U-238	007440-61-1	4.47E+09	Y	Y	5.00E-02	4.27E-11	1.24E-08	1.50E-11
	U-238+D	007440-61-1(+D)	4.47E+09	Y	Y	5.00E-02	6.20E-11	1.24E-08	5.25E-08
	U-240	015687-53-3	1.41E+01	H	Y	5.00E-02	5.47E-12	3.35E-12	1.09E-10
Vanadium (23)	V-48	014331-97-6	1.60E+01	D	W	1.00E-02	7.56E-12	6.84E-12	1.12E-05

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

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Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
Xenon (54)	Xe-122	015151-09-4	2.01E+01	H	*	---	---	3.08E-15	---
	Xe-123	015700-10-4	2.14E+00	H	*	---	---	8.92E-16	---
	Xe-125	013994-18-8	1.68E+01	H	*	---	---	1.20E-15	---
	Xe-127	013994-19-9	3.64E+01	D	*	---	---	4.09E-16	---
	Xe-129m	013965-99-6(m)	8.89E+00	D	*	---	---	5.74E-16	---
	Xe-131m	014683-11-5(m)	1.18E+01	D	*	---	---	4.13E-16	---
	Xe-133	014932-42-4	5.25E+00	D	*	---	---	4.14E-16	---
	Xe-133m	014932-42-4(m)	2.19E+00	D	*	---	---	5.12E-16	---
	Xe-135	014995-62-1	9.11E+00	H	*	---	---	7.45E-16	---
	Xe-135m	014995-62-1(m)	1.54E+01	M	*	---	---	1.88E-16	---
	Xe-137	014835-21-3	3.83E+00	M	*	---	---	1.39E-15	---
	Xe-138	015751-81-2	1.41E+01	M	*	---	---	2.06E-15	---
Yttrium (39)	Y-90	010098-91-6	6.41E+01	H	Y	1.00E-04	1.50E-11	9.90E-12	0.00E+0
	Y-91	014234-24-3	5.85E+01	D	Y	1.00E-04	1.35E-11	1.85E-11	1.41E-08
	Y-91m	014234-24-3(m)	4.97E+01	M	Y	1.00E-04	3.69E-14	2.99E-14	1.90E-06
	Y-92	015751-59-4	3.54E+00	H	Y	1.00E-04	1.95E-12	1.61E-12	9.80E-07
	Y-93	014981-70-5	1.01E+01	H	Y	1.00E-04	5.74E-12	3.48E-12	3.41E-07
Zinc (30)	Zn-65	013982-39-3	2.44E+02	D	Y	5.00E-01	9.93E-12	9.98E-12	2.27E-06

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

Element (Atomic Number)	Isotope[c]	CASRN[d]	Radioactive Half-life[e]		ICRP Lung Class[f]	GI Absorption Factor (f_1)[g]	Slope Factor Lifetime Excess Total Cancer Risk Per Unit Intake or Exposure: Ingestion (Risk/pCi)	Inhalation (Risk/pCi)	External Exposure (Risk/yr per pCi/g soil)
	Zn-69	013982-23-5	5.56E+01	M	Y	5.00E-01	6.19E-14	1.04E-13	2.03E-11
	Zn-69m	013982-23-5(m)	1.38E+01	H	Y	5.00E-01	1.52E-12	1.17E-12	1.43E-06
Zirconium (40)	Zr-93	015751-77-6	1.53E+06	Y	W	2.00E-03	5.21E-13	5.26E-12	0.00E+0
	Zr-95	013967-71-0	6.40E+01	D	W	2.00E-03	3.92E-12	6.48E-12	2.81E-06
	Zr-97	014928-30-4	1.69E+01	H	W	2.00E-03	1.04E-11	4.73E-12	6.85E-07

[Table 4 continues on the following page: Refer to Endnotes on the last page.]

Table 4: Radionuclide Carcinogenicity -- Slope Factors[a] (In Units of Picocuries[b])

MAY 1995

ENDNOTES:

[a] EPA classifies all radionuclides as Group A (known human) carcinogens. Radionuclide slope factors are calculated by EPA's Office of Radiation and Indoor Air (ORIA) to assist HEAST users with risk-related evaluations and decision-making at various stages of the remediation process. Ingestion and inhalation slope factors are central estimates in a linear model of the age-averaged, lifetime attributable radiation cancer incidence (fatal and nonfatal cancer) risk per unit of activity inhaled or ingested, expressed as risk/picocurie (pCi). External exposure slope factors are central estimates of the lifetime attributable radiation cancer incidence risk for each year of exposure to external radiation from photon-emitting radionuclides distributed uniformly in a thick layer of soil, and are expressed as risk/yr per pCi/gram of soil. If required, slope factors in Table 4 can be converted into the International System (SI) units of becquerels (1 Bq = 1 nuclear transformation per second) by dividing each inhalation, ingestion, or external exposure value by 27.03. Users can calculate cancer risks using slope factors expressed in either customary units or SI units with equivalent results, provided that they also use air, water and soil concentration values in the same system of units. For a discussion on the derivation of radionuclide slope factors and guidance on their use, refer to the User's Guide section on radionuclide carcinogenicity.

[b] A curie (Ci), the customary unit of activity, is equal to 3.7×10^{10} nuclear transformations per second. 1 picocurie (pCi) = 10^{12} Ci.

[c] For each radionuclide listed, slope factors correspond to the risks per unit intake or exposure for that radionuclide only, except when marked with a "+D" to indicate that the risks from associated short-lived radioactive decay products (i.e., those decay products with radioactive half-lives less than or equal to 6 months) are also included. Refer to Exhibit 1 in the User's Guide section on radionuclide carcinogenicity for guidance on determining slope factors for partial or complete radioactive decay chains.

[d] Chemical Abstract Service Reference Number (CASRN). For risk calculations involving decay chains, a CASRN should be reported for the parent radionuclide <u>and</u> each chain member.

[e] Radioactive half-life: S = Second, M = Minute, D = Day, Y = Year. For those radionuclides with decay products (+D), half-lives are listed for the parent radionuclide.

[f] Lung clearance classification recommended by the International Commission on Radiological Protection (ICRP): Y = Year, W = Week, D = Day, * = Gas.

[g] Gastrointestinal (GI) absorption factors are the fractional amounts of each radionuclide absorbed across the GI tract into the bloodstream. Lung clearance classifications and GI absorption factors are provided <u>for reference only</u>. <u>Do not</u> use these factors to adjust inhalation or ingestion slope factors. See the User's Guide for instructions.

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APPENDIX A: TECHNICAL INFORMATION

I. DATA SOURCES AND SELECTION CRITERIA USED IN HEAST

II. DOSE CONVERSIONS ON HEAST

III. CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE

IV. EFFECT LEVEL DEFINITIONS

V. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

APPENDIX A-I

I. DATA SOURCES AND SELECTION CRITERIA USED IN HEAST

A. Description of Sources and Documents Cited in HEAST

1. The Integrated Risk Information System (IRIS)

IRIS is an on-line data base developed by the EPA for compilation of risk assessment and regulatory information on chemicals and physical agents. IRIS is the primary communications mechanism for distribution of health hazard assessment information derived by the various intra-Agency Work Groups. The primary intent of IRIS is to provide guidance to EPA personnel in making risk management decisions. An IRIS chemical file contains a Work Group verified summary of the available information on hazard and dose-response assessment for noncarcinogenic and/or carcinogenic effects for that chemical and is not an extensive toxicologic data base. Risk assessment values placed on IRIS are considered Agency consensus and take precedence over differing risk assessment values from other EPA sources. Each file includes referenced citations and EPA contacts for obtaining further information on any specific chemical or agent. The IRIS data base was made available to State and local governments, as well as to the public, in April 1988.

* Questions concerning IRIS: Call RISK INFORMATION HOTLINE at (513) 569-7254

2. EPA Work Groups:

Risk assessment values for chemicals currently being considered by EPA Work Groups, but not yet on IRIS, are included in HEAST. The EPA Reference Dose/Reference Concentration (RfD/RfC) Work Group and the Carcinogen Risk Assessment Verification Endeavor (CRAVE) Work Group validates Agency systemic toxicity and carcinogen risk assessments, respectively. These Work Groups are also responsible for resolving any conflicts regarding toxicity values developed by various Program Offices. Work Group members represent many different EPA offices and are scientists experienced in issues related to both the qualitative and quantitative risk assessment of carcinogenic and toxic agents. Values verified by these Work Groups have undergone extensive peer review and represent an Agency consensus. Verified risk assessment values are entered into the IRIS data base monthly.

* Questions concerning RfD/RfC Work Group: Call Annie Jarabek NCEA-Research Triangle Park (RTP) at (919) 541-4847

* Questions concerning CRAVE Work Group: Call Jim Cogliano at (202) 260-3814 NCEA-Washington, DC

3. Office of Research and Development (ORD/National Center for Environmental Assessment (NCEA) OSWER-OAQPS (Office of Solid Waste and Emergency Response-Office of Air Quality Planning and Standards) Documents:

A listing of most ORD/NCEA OSWER-OAQPS documents can be found in the Chemical Assessments and Related Activities (CARA) list (available through NTIS) or in the CERI (Center for Environmental Research Information) Office of Research and Development publications list. The CARA is produced by the National Center for Environmental Assessment (NCEA). All OSWER-OAQPS documents are subject to a minimum of internal EPA peer review or a maximum of EPA/Peer Review Workshop/Science Advisory Board and public comments prior to finalization.

* Information on the availability of OSWER-OAQPS documents can be obtained from the following sources:

All Documents:

Technical Information Staff
National Center for Environmental Assessment (RD-689)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460
(202) 260-7345

Published Documents:

Technology Transfer and Support Division, National Risk Management Research Laboratory†
Office of Research and Development
U.S. Environmental Protection Agency
26 W. Martin Luther King Drive
Cincinnati, OH 45268
(513) 569-7562
†Formerly, Center for Environmental Research Information (CERI)

Documents Available Through RCRA/Superfund:

Hotline Number 1-800-424-9346

Documents Available from NTIS:

National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
(703) 487-4650

Health Effects Assessments (HEAs): This document series was prepared by the National Center for Environmental Assessment (NCEA-CIN) for the Office of Emergency and Remedial Response (Superfund). HEAs are intended for use by the OERR in evaluating risk for its preliminary assessment process at uncontrolled sites, and for appraising clean-up alternatives in its remedial investigation/feasibility studies. HEAs are brief, quantitatively oriented, preliminary assessment of relevant health effects data. HEAs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment. Final drafts of HEAs become part of the RCRA and Superfund dockets and are available through NTIS. This series has recently been incorporated into the following HEED series.

Health and Environmental Effects Documents (HEEDs): This document series is prepared by the National Center for Environmental Assessment (NCEA-CIN) for the Office of Solid Waste and Emergency Response (OSWER). HEEDs are intended to support listings under the Resource Conservation and Recovery Act (RCRA) as well as to provide health-related limits and goals for emergency and remedial actions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Within a HEED, both published literature and information within Agency Program Offices are evaluated as they pertain to potential human health, aquatic life and environmental effects of hazardous waste constituents. Quantitative estimates, including reference doses for chronic and subchronic duration for both inhalation and oral exposures, carcinogenic potency factors, unit risk estimates for air and drinking water, and reportable quantities (RQs) based on chronic toxicity and carcinogenicity are determined when sufficient data are available. HEEDs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Pesticides and Toxic Substances. Final drafts of HEEDs become part of the RCRA and Superfund public dockets and are available through NTIS.

Health and Environmental Effects Profiles (HEEPs): This document series was prepared by the National Center for Environmental Assessment (NCEA-CIN) for the Office of Solid Waste and Emergency Response (OSWER). HEEPs have been superseded by HEEDs since mid-FY87. HEEPs are intended to support listings of hazardous constituents of a wide range of waste streams under Section 3001 of the Resource Conservation and Recovery Act (RCRA), as well as to provide health-related limits for emergency actions under Section 010 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). HEEPs are summaries of the

literature concerning health hazards associated with environmental exposures to chemicals or compounds and are very similar to HEEDs as described above. HEEPs were subject to internal EPA review by staff within the Office of Health and Environmental Assessment. HEEPS are part of the RCRA and CERCLA public dockets. Final drafts are available through NTIS.

Air Quality Criteria Documents (AQCDs): This document series is prepared by the National Center for Environmental Assessment (NCEA-RTP) for the Office of Air and Radiation (OAR). AQCDs are intended to support National Ambient Air Quality Standards (NAAQS) set under Sections 108-110 of the Clean Air Act. These documents are evaluations of the available scientific literature on the potential health effects of air pollutants. AQCDs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Air and Radiation. Further review is conducted by the Science Advisory Board/Clean Air Scientific Advisory Committee, and then, these documents are subject to peer review workshops and public comments. The AQCDs are mandated by the Clean Air Act and are revised at 5-year intervals. AQCDs become part of the OAR public docket and final drafts are available through NTIS.

Health Assessment Documents (HADs): This document series is prepared by the National Center for Environmental Assessment (NCEA-RTP and NCEA-CIN) for the Office of Air and Radiation (OAR). HADs are intended for use by the Office of Air Quality Planning and Standards (OAQPS) to determine possible listing of hazardous air pollutants (HAP) under sections 111 and 112 of the Clean Air Act. These documents are evaluations of the available scientific literature on the potential health effects of air pollutants and serve as the scientific data base for establishing relationships between exposure concentrations and potential health risks. HADs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Air and Radiation. Further review is conducted by the Science Advisory Board/Clean Air Scientific Advisory Committee, and then, these documents are subject to peer review workshops and public comments. HADs become part of the OAR public docket and final drafts are available through NTIS.

4. Miscellaneous Documents:

Drinking Water Criteria Documents (DWCDs): The National Center for Environmental Assessment (NCEA-CIN) prepares a portion of this document series for the Office of Water (OW). DWCDs are intended to assist the OW in deriving criteria standards for chemicals in drinking water, as required under Section 412(b)(3)(A) of the Safe Drinking Water Act, as amended in 1986. The DWCDs are comprehensive evaluations of potential health effects, including mechanisms of toxicity, with specific emphasis on data providing dose-response information. DWCDs contain Health Advisories (Has) for 1-day, 10-day and longer-term exposures and drinking water equivalent levels for

lifetime exposures. DWCDs are subject to internal EPA review by staff within the Office of Health and Environmental Assessment and the Office of Water. Selected documents are reviewed by the Science Advisory Board and are subject to peer review workshops and public comments. DWCDs become part of the Safe Drinking Water (SDW) public docket and final drafts are available through NTIS.

B. Selection Criteria and Sources of HEAST Values

Chemicals with derived noncarcinogenic and/or carcinogen risk assessment values that have had some level of peer review (i.e., those in peer reviewed EPA documents or under review by EPA Work Groups) are included in HEAST; this does not include many interim values (values not found in final EPA documents or not being considered by Work Groups) derived for various purposes within Superfund and other Program Offices. In updating the HEAST, the first source that is checked is the Integrated Risk Information System (IRIS) for revised or newly added risk assessment values. Secondly, the status of chemicals under discussion by the RfD/RfC and CRAVE Work Groups is reviewed. The National Center for Environmental Assessment's Chemical Assessments and Related Activities (CARA) list is also reviewed for new Office of Water, Office of Air Quality Planning and Standards, and Office of Solid Waste and Emergency Response risk assessment documents (HEEDs, HEEPs, HEAs, HADs, AQCDs, DWCDs).

The HEAST also contains chemicals commonly found at RCRA (Resource Conservation and Recovery Act) sites as identified by the Office of Solid Waste's Technical Assessment Branch. Questions about RCRA chemicals may be addressed by calling the Health Assessment Section (Office of Solid Waste) at (202) 260-4761. Finally, the Office of Radiation Programs provides data on radionuclides for Table 4A and 4B of the HEAST. Radionuclides included are those thought to be most commonly encountered at Superfund sites. Questions concerning radionuclides carcinogenicity should first be addressed by contacting the appropriate Regional Radiation Program Manager. A listing of these managers and several contacts in the Office of Radiation Programs can be found in Exhibit 2 of the User's Guide -Radionuclide Carcinogenicity.

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APPENDIX A-II

II. DOSE CONVERSIONS ON HEAST

In January 1991, the decision was made to replace inhalation Reference Doses (RfDi) for noncancer toxicity and inhalation slope factors for carcinogenicity, previously available on the IRIS data base, with Reference Concentrations (RFC) and inhalation unit risks, respectively. RfCs and unit risks are expressed in terms of concentration in air (mg/m^3), not in terms of "dose" (mg/kg-day) like the RfDs and the oral and inhalation slope factors. This presents a problem for the Superfund program, since the current Hazard Ranking System (HRS) and the Risk Assessment Guidance for superfund (RAGS): Human Health Evaluation manual, Parts A and B were developed using chronic daily intakes and health criteria expressed in units of mg/kg-day.

The decision to replace inhalation slope factors and RfDi values expressed in mg/kg-day with unit risk and RfC values expressed in mg/m_3 was based on two major factors: 1) the workgroups felt that it was technically more accurate to base toxicity values directly on measured air concentrations instead of making the metabolic pharmacokinetic and/or surface area adjustments required to estimate an "internal dose"; and 2) there are compounds that elicit route-of-entry effects (e.g., sensitizers and irritants) where the toxic effect is to the respiratory system or exchange boundary where a measure of "internal dose" might inappropriately imply effects to other organ systems or effects from other exposure routes.

Superfund recognizes the importance of these issues and is actively working with EPA's Office of Research and Development to evaluate the impact of these changes on its program regulations and guidance. In the short term, however, modification of program regulations and guidance is not a viable option. Therefore, the chairs of the RfD/RfC and CRAVE Work Groups were consulted regarding Superfund's need to make the conversion from a concentration in air to dose. There was agreement that, in many cases, converting the air concentration data to a dose (in mg/kg-day) may not add significant uncertainty to the Superfund risk assessment process, and therefore may be a reasonable use of the data <u>given appropriate circumstances and Superfund program objectives.</u> These Work Groups will continue to work with the Superfund program to identify specific instances where it is not appropriate to make the conversion from unit risk/RfC to inhalation slope factor/RfD due to the large uncertainty introduced by the assumptions used in the conversion.

Generally, the Superfund Health Risk Technical Support Center will be responsible for making all appropriate conversions and the values will be identified with appropriate highlights or footnotes in the Health Effects Assessment Summary Tables (HEAST). Therefore, <u>HEAST users are strongly advised against making such conversions themselves.</u> However, it is a critical responsibility of the risk assessor to

consult the original reports cited in the HEAST and to appropriately characterize or caveat the resulting risk estimates derived from these values so that managers are fully informed of their origin and related uncertainties.

APPENDIX A-III

III. CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE

This section lists chemicals and their respective Chemical Abstracts Service Registry Number (CASRN) for cross referencing on the HEAST. Chemicals may be searched either alphabetically by chemical name or numerically by the CASRN.

CHEMICAL NAME AND CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER CROSS REFERENCE
(LISTED BY NAME)

May 1995

ACENAPHTHENE	000083-32-9
ACENAPTHYLENE	000208-96-8
ACEPHATE	030560-19-1
ACETONE	000067-64-1
ACETONE CYANOHYDRIN	000075-86-5
ACETONITRILE	000075-05-8
ACETOPHENONE	000098-86-2
ACROLEIN	000107-02-8
ACRYLAMIDE	000079-06-1
ACRYLIC ACID	000079-10-7
ACRYLONITRILE	000107-13-1
ADIPONITRILE	000111-69-3
ALACHLOR	015972-60-8
ALDICARB	000116-06-3
ALDRIN	000309-00-2
ALLIDOCHLOR	000093-71-0
ALLYL ALCOHOL	000107-18-6
ALLYL CHLORIDE	000107-05-1
ALUMINUM	007429-90-5
ALUMINUM PHOSPHIDE	020859-73-8
AMETRYN	000834-12-8
AMINO-2-NAPHTHOL, 1-	002834-92-6
AMINO-2-NAPHTOL HYDROCHLORIDE, 1-	001198-27-2
AMINOPHENOL, M-	000591-27-5
AMINOPHENOL, O-	000095-55-6
AMINOPHENOL, P-	000123-30-8
AMINOPYRIDINE, 4-	000504-24-5
AMMONIA	007664-41-7
ANILINE	000062-53-3
ANTHRACENE	000120-12-7
ANTIMONY, METALLIC	007440-36-0
ANTIMONY PENTOXIDE	001314-60-9
ANTIMONY POTASSIUM TARTRATE	000304-61-0
ANTIMONY TETROXIDE	001332-81-6
ANTIMONY TRIOXIDE	001309-64-4
ARAMITE	000140-57-8
AROCLOR 1248	012672-29-6
AROCLOR 1254	011097-69-1
ARSENIC, INORGANIC	007440-38-2
ASBESTOS	001332-21-4
ATRAZINE	001912-24-9
AZOBENZENE	000103-33-3
BARIUM	007440-39-3
BARIUM CYANIDE	000542-62-1
BENEFIN	001861-40-1
BENZAL CHLORIDE	000098-87-3
BENZALDEHYDE	000100-52-7
BENZALDEHYDE CYANOHYDRIN	000532-28-5
BENZENE	000071-43-2
BENZENETHIOL / (THIOPHENOL)	000108-98-5
BENZIDINE	000092-87-5
BENZOIC ACID	000065-85-0
BENZOTRICHLORIDE	000098-07-7
BENZO[A]ANTHRACENE	000056-55-3
BENZO[A]PYRENE	000050-32-8
BENZO[B]FLUORANTHENE	000205-99-2
BENZO[K]FLUORANTHENE	000207-08-9
BENZYL ALCOHOL	000100-51-6
BENZYL CHLORIDE	000100-44-7
BERYLLIUM	007440-41-7
BIPHENYL, 1,1'	000092-52-4
BIS(2-CHLOROETHYL) ETHER	000111-44-4
BIS(2-CHLOROISOPROPYL) ETHER	039638-32-9
BIS(2-CHLORO-1-METHYLETHYL) ETHER	000108-06-1
BIS(2-ETHYLHEXYL) PHTHALATE / (DEHP)	000117-81-7
BIS(CHLOROMETHYL) ETHER	000542-88-1
BISPHENOL A	000080-05-7
BORON, ELEMENTAL	007440-42-8
BORON TRIFLUORIDE	007637-07-2
BROMINATED DIBENZO-P-DIOXINS	NO CASRN
BROMINATED DIBENZOFURANS	NO CASRN
BROMOACETONE	000598-31-2
BROMOCHLOROETHANES	NO CASRN
BROMODICHLOROMETHANE	000075-27-4
BROMOETHENE / (VINYL BROMIDE)	000593-60-2
BROMOFORM	000075-25-2
BROMOMETHANE	000074-83-9
BROMOPHENYL PHENYL ETHER, 4-	000101-55-3
BROMOPHOS	002104-96-3
BROMOXYNIL	001689-84-5
BROMOXYNIL OCTANOATE	001689-99-2
BUSAN 77	031512-74-0
BUSAN 90	002491-38-5
BUTADIENE, 1,3-	000106-99-0
BUTANOL, 1-	000071-36-3
BUTYL BENZYL PHTHALATE, N-	000085-68-7
BUTYLATE	002008-41-5
BUTYLCHLORIDE, T-	000507-20-0
BUTYROLACTONE, GAMMA-	000096-48-0
CACODYLIC ACID	000075-60-5
CADMIUM	007440-43-9
CALCIUM CYANIDE	000592-01-8
CAPROLACTAM	000105-60-2
CAPTAFOL	002425-06-1
CAPTAN	000133-06-2
CARBARYL	000063-25-2
CARBAZOLE	000086-74-8
CARBOFURAN	001563-66-2
CARBON DISULFIDE	000075-15-0
CARBON MONOXIDE	000630-05-0
CARBON TETRACHLORIDE	000056-23-5
CHLORAL	000075-87-6
CHLORANIL	000118-75-2
CHLORDANE	000057-74-9
CHLORINE CYANIDE	000506-77-4
CHLORO-1,3-BUTADIENE, 2- / (CHLOROPRENE)	000126-99-8
CHLORO-2-METHYLANILINE, 4-	000095-69-2
CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4-	003165-93-3
CHLORO-M-CRESOL, P-	000059-50-7
CHLOROACETALDEHYDE	000107-20-0
CHLOROACETIC ACID	000079-11-8
CHLOROANILINE, 2-	000095-51-2
CHLOROANILINE, 3-	000108-42-9
CHLOROANILINE, 4-	000106-47-8
CHLOROBENZENE	000108-90-7
CHLOROBENZILATE	000510-15-6
CHLOROBENZOIC ACID, P-	000074-11-3
CHLOROBENZOTRIFLUORIDE, 4-	000098-56-6
CHLOROBUTANE, 1-	000109-69-3
CHLOROBUTANE, 2-	000078-86-4
CHLOROCYCLOPENTADIENE	041851-50-7
CHLOROFORM	000067-66-3
CHLOROMETHANE / (METHYL CHLORIDE)	000074-87-3
CHLOROMETHYL METHYL ETHER	000107-30-2
CHLORONITROBENZENE, M-	000121-73-3
CHLORONITROBENZENE, O-	000088-73-3
CHLORONITROBENZENE, P-	000100-00-5
CHLOROPHENOL, 2-	000095-57-8
CHLOROPHENOL, 3-	000108-43-0
CHLOROPHENOL, 4-	000106-48-9
CHLOROPRENE	000126-99-8
CHLOROPROPANE, 2-	000075-29-6
CHLOROTHALONIL	001897-45-6
CHLOROTOLUENE, M-	000108-41-8
CHLOROTOLUENE, O-	000095-49-8
CHLOROTOLUENE, P-	000106-43-4
CHLORPYRIFOS	002921-88-2
CHLORPYRIFOS METHYL	005598-13-0
CHLORTHIOPHOS	060238-56-4
CHROMIUM(III)	016065-83-1
CHROMIUM(VI)	018540-29-9
CHRYSENE	000218-01-9

COKE OVEN EMISSIONS	008007-45-2
COPPER	007440-50-8
COPPER CYANIDE	000544-92-3
CREOSOTE, COAL TAR	008001-58-9
CRESOL, M- / (3-METHYLPHENOL)	000108-39-4
CRESOL, O- / (2-METHYLPHENOL)	000095-48-7
CRESOL, P- / (4-METHYLPHENOL)	000106-44-5
CROTONALDEHYDE	000123-73-9
CUMENE	000098-82-8
CYANAZINE	021725-46-2
CYANIDE	000057-12-5
CYANOGEN	000460-19-5
CYANOGEN BROMIDE	000506-68-3
CYCLOATE	001134-23-2
CYCLOHEXANOL	000108-93-0
CYCLOHEXYLAMINE	000108-91-8
CYCLONITE	000121-82-4
CYCLOPENTADIENE	000542-92-7
DACTHAL	001861-32-1
DALAPON	000075-99-0
2,4-DB	000094-82-6
DDD	000072-54-8
DDE	000072-55-9
DDT	000050-29-3
DECABROMODIPHENYL ETHER	001163-19-5
DEHP	000117-81-7
DI-N-OCTYL PHTHALATE	000117-84-0
DIALLATE	002303-16-4
DIAZINON	000333-41-5
DIBENZOFURAN	000132-64-9
DIBENZO[A,H]ANTHRACENE	000053-70-3
DIBROMO-3-CHLOROPROPANE, 1,2	000096-12-8
DIBROMOBENZENE, 1,4-	000106-37-6
DIBROMOCHLOROMETHANE	000124-48-1
DIBROMOETHANE, 1,2-	000106-93-4
DIBUTYL PHTHALATE	000084-74-2
DICAMBA	001918-00-9
DICHLORO-2-BUTENE, 1,4-	000764-41-0
DICHLOROBENZENE, 1,2-	000095-50-1
DICHLOROBENZENE, 1,3-	000541-73-1
DICHLOROBENZENE, 1,4-	000106-46-7
DICHLOROBENZIDINE, 3,3'-	000091-94-1
DICHLOROBUTENES	NO CASRN
DICHLORODIFLUOROMETHANE	000075-71-8
DICHLOROETHANE, 1,1-	000075-34-3
DICHLOROETHANE, 1,2-	000107-06-2
DICHLOROETHYLENE, 1,1-	000075-35-4
DICHLOROETHYLENE, 1,2- (MIXED ISOMERS)	000540-59-0
DICHLOROETHYLENE, 1,2-C-	000156-59-2
DICHLOROETHYLENE, 1,2-T-	000156-60-5
DICHLOROMETHANE	000075-09-2
DICHLOROPHENOL, 2,3-	000576-24-9
DICHLOROPHENOL, 2,4-	000120-83-2
DICHLOROPHENOL, 2,5-	000583-78-8
DICHLOROPHENOL, 2,6-	000087-65-0
DICHLOROPHENOL, 3,4-	000095-77-2
DICHLOROPHENOL, 3,5-	000591-35-5
DICHLOROPHENOXY ACETIC ACID, 2,4-	000094-75-7
DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4- / (2,4-DB)	000094-82-6
DICHLOROPROPANE, 1,1-	000078-99-9
DICHLOROPROPANE, 1,2-	000078-87-5
DICHLOROPROPANE, 1,3-	000142-28-9
DICHLOROPROPANE, 2,2-	000594-20-7
DICHLOROPROPENE, 1,3- / (TELONE II)	000542-75-6
DICHLORPROP	000120-36-5
DICYCLOPENTADIENE	000077-73-6
DIELDRIN	000060-57-1
DIETHYL-P-NITROPHENYL PHOSPHATE	000311-45-5
DIETHYL PHTHALATE	000084-66-2
DIETHYLANILINE, N,N-	000091-66-7
DIETHYLENE GLYCOL MONOBUTYL ETHER	000112-34-5
DIETHYLENE GLYCOL MONOETHYL ETHER	000111-90-0
DIETHYLFORMAMIDE	000617-84-5
DIETHYLHYDRAZINE, 1,2-	001615-80-1
DIETHYLSTILBESTROL	000056-53-1
DIMETHOATE	000060-51-5
DIMETHOXYBENZIDINE, 3,3'-	000119-90-4
DIMETHYLANILINE, 2,4-	000095-68-1
DIMETHYLANILINE HYDROCHLORIDE, 2,4-	021436-96-4
DIMETHYLANILINE, N,N-	000121-69-7
DIMETHYLBENZIDINE, 3,3'-	000119-93-7
DIMETHYLBENZ[A]ANTHRACENE, 7,12-	000057-97-6
DIMETHYLFORMAMIDE, N,N-	000068-12-2
DIMETHYLHYDRAZINE, 1,1-	000057-14-7
DIMETHYLHYDRAZINE, 1,2-	000540-73-8
DIMETHYLPHENOL, 2,3-	000526-75-0
DIMETHYLPHENOL, 2,4-	000105-67-9
DIMETHYLPHENOL, 2,5-	000095-87-4
DIMETHYLPHENOL, 2,6-	000576-26-1
DIMETHYLPHENOL, 3,4-	000095-65-8
DIMETHYLPHTHALATE	000131-11-3
DIMETHYLSULFATE	000077-78-1
DIMETHYLTEREPHTHALATE	000120-61-6
DIMETHYLUREA, N,N-	000598-94-7
DINITRO-O-CRESOL, 4,6-	000534-52-1
DINITRO-P-CRESOL, 2,6-	000609-93-8
DINITROBENZENE, 1,2-	000528-29-0
DINITROBENZENE, 1,3-	000099-65-0
DINITROBENZENE, 1,4-	000100-25-4
DINITROPHENOL, 2,3-	000066-56-8
DINITROPHENOL, 2,4-	000051-28-5
DINITROPHENOL, 2,5-	000329-71-5
DINITROPHENOL, 2,6-	000573-56-8
DINITROPHENOL, 3,5-	000586-11-8
DINITROTOLUENE, 2,3-	000602-01-7
DINITROTOLUENE, 2,4	000121-14-2
DINITROTOLUENE, 2,5-	000619-15-8
DINITROTOLUENE, 2,6-	000606-20-2
DINITROTOLUENE, 3,4-	000610-39-9
DINOSEB	000088-85-7
DIOXANE, 1,4-	000123-91-1
DIPHENYLAMINE, N,N-	000122-39-4
DIPHENYLHYDRAZINE, 1,2-	000122-66-7
DIPHENYLMETHANE DIISOCYANATE	000101-68-8
DIRECT BLACK 38	001937-37-7
DIRECT BLUE 6	002602-46-2
DIRECT BROWN 95	016071-86-6
DIRECT LIGHTFAST BLUE	004399-55-7
DIRECT SKY BLUE 6B	002610-05-1
DISULFOTON	000298-04-4
ENDOSULFAN	000115-29-7
ENDOTHALL	000145-73-3
ENDRIN	000072-20-8
EPICHLOROHYDRIN	000106-89-8
EPTC	000759-94-4
ETHOPROP	013194-48-4
ETHOXYETHANOL, 2-	000110-80-5
ETHOXYETHANOL ACETATE, 2-	000111-15-9
ETHOXYETHANOL ACRYLATE, 2-	000106-74-1
ETHOXYETHANOL DODECANOATE, 2-	000106-13-8
ETHOXYETHANOL PHOSPHATE, 2-	068554-00-7
ETHOXYETHYL METHACRYLATE, 2-	002370-63-0
ETHYL ACETATE	000141-78-6
ETHYL ACRYLATE	000140-88-5
ETHYL BENZENE	000100-41-4
ETHYL CHLORIDE	000075-00-3
ETHYL ETHER	000060-29-7
ETHYL METHACRYLATE	000097-63-2
ETHYL-O-XYLENE, 4-	000934-80-5
ETHYLANILINE, N-	000103-69-5
ETHYLENE CYANOHYDRIN	000109-78-4
ETHYLENE DIAMINE	000107-15-3

ETHYLENE GLYCOL	000107-21-1
ETHYLENE GLYCOL MONOBUTYL ETHER	000111-76-2
ETHYLENE OXIDE	000075-21-8
ETHYLENE THIOUREA	000096-45-7
ETHYLTOLUENE, M-	000620-14-4
ETHYLTOLUENE, O-	000611-14-3
ETHYLTOLUENE, P-	000622-96-8
FLUORANTHENE	000206-44-0
FLUORENE	000086-73-7
FLUORINE / (SOLUBLE FLUORIDE)	007782-41-4
FLURIDONE	059756-60-4
FOLPET	000133-07-3
FORMALDEHYDE	000050-00-0
FORMALDEHYDE CYANOHYDRIN	000107-16-4
FORMIC ACID	000064-18-6
FURAN	000110-00-9
FURAZOLIDONE	000067-45-8
FURFURAL	000098-01-1
FURIUM	000531-82-8
GLYCIDALDEHYDE	000765-34-4
HEPTACHLOR	000076-44-8
HEPTACHLOR EPOXIDE	001024-57-3
HEPTANE, N-	000142-82-5
HEXABROMOBENZENE	000087-82-1
HEXACHLOROBENZENE	000118-74-1
HEXACHLOROBUTADIENE	000087-68-3
HEXACHLOROCYCLOHEXANE, ALPHA-	000319-84-6
HEXACHLOROCYCLOHEXANE, BETA-	000319-85-7
HEXACHLOROCYCLOHEXANE, DELTA-	000319-86-8
HEXACHLOROCYCLOHEXANE, EPSILON-	006108-10-7
HEXACHLOROCYCLOHEXANE, GAMMA-	000058-89-9
HEXACHLOROCYCLOHEXANE-TECHNICAL	000608-73-1
HEXACHLOROCYCLOPENTADIENE	000077-47-4
HEXACHLOROETHANE	000067-72-1
HEXACHLOROPHENE	000070-30-4
HEXAMETHYLENE DIAMINE	000124-09-4
HEXANE, N-	000110-54-3
HEXANONE, 2-	000591-78-6
HYDRAZINE	000302-01-2
HYDRAZINE SULFATE	010034-93-2
HYDROGEN SULFIDE	007783-06-4
HYDROQUINONE	000123-31-9
INDENO[1,2,3-CD]PYRENE	000193-39-5
IRON	007439-89-6
ISOBUTYL ALCOHOL	000078-83-1
ISOPHORONE	000078-59-1
ISOPROPALIN	033820-53-0
LACTONITRILE	000078-97-7
LEAD	007439-92-1
LEAD ALKYLS	NO CASRN
LINURON	000330-55-2
MALATHION	000121-75-5
MALEIC ANHYDRIDE	000108-31-6
MALEIC HYDRAZIDE	000123-33-1
MALONONITRILE	000109-77-3
MANCOZEB	008018-01-7
MANEB	012427-38-2
MANGANESE	007439-96-5
MEPHOSFOLAN	000950-10-7
MERCURIC CHLORIDE	007487-94-7
MERCURY, ELEMENTAL	007439-97-6
MERPHOS	000150-50-5
MERPHOS OXIDE	000078-48-8
METHACRYLONITRILE	000126-98-7
METHANOL	000067-56-1
METHOMYL	016752-77-5
METHOXY-5-NITROANILINE, 2-	000099-59-2
METHOXYCHLOR	000072-43-5
METHOXYETHANOL, 2-	000109-86-4
METHOXYETHANOL ACETATE, 2-	000110-49-6
METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2-	000094-81-5
METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2-	000093-65-2
METHYL-4-CHLOROPHENOXY ACETIC ACID, 2-	000094-74-6
METHYL-5-NITROANILINE, 2-	000099-55-8
METHYL ACETATE	000079-20-9
METHYL ACRYLATE	000096-33-3
METHYL CHLORIDE	000074-87-3
METHYL CHLOROCARBONATE	000079-22-1
METHYL ETHYL KETONE	000078-93-3
METHYL ETHYL KETONE PEROXIDE	001338-23-4
METHYL HYDRAZINE	000060-34-4
METHYL ISOBUTYL KETONE	000108-10-1
METHYL ISOCYANATE	000624-83-9
METHYL MERCURY	022967-92-6
METHYL METHACRYLATE	000080-62-6
METHYL PARATHION	000298-00-0
METHYL STYRENE (MIXED ISOMERS)	025013-15-4
METHYL STYRENE, ALPHA	000098-83-9
METHYLANILINE, 2-	000095-53-4
METHYLANILINE HYDROCHLORIDE, 2-	000636-21-5
METHYLCHOLANTHRACENE, 3-	000056-49-5
METHYLCYCLOHEXANE	000108-87-2
METHYLENE-BIS(2-CHLOROANILINE), 4,4'-	000101-14-4
METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'-	000101-61-1
METHYLENE BROMIDE	000074-95-3
METHYLENE CHLORIDE / (DICHLOROMETHANE)	000075-09-2
METHYLENE-BIS(BENZENEAMINE), 4,4- / (METHYLENE DIANILINE, 4,4-)	000101-77-9
METHYLENEDIPHENYL ISOCYANATE, 4,4- / (DIPHENYLMETHANE DIISOCYANATE)	000101-68-8
2-METHYLLACTONITRILE	000075-86-5
2-METHYLPHENOL	000095-48-7
3-METHYLPHENOL	000108-39-4
4-METHYLPHENOL	000106-44-5
METOLACHLOR	051218-45-2
METRIBUZIN	021087-64-9
MIREX	002385-85-5
MOLINATE	002212-67-1
MOLYBDENUM	007439-98-7
MONOCHLORAMINE	010599-90-3
NAPHTHALENE	000091-20-3
NAPHTHOQUINONE, 1,4-	000130-15-4
NIAGARA BLUE 4B	002429-74-5
NICKEL CYANIDE	000557-19-7
NICKEL, REFINERY DUST	NO CASRN
NICKEL, SOLUBLE SALTS	Various
NICKEL SUBSULFIDE	012035-72-2
NICOTINONITRILE	000100-54-9
NITRIC OXIDE	010102-43-9
NITRITE	014797-65-0
NITROANILINE, 2-	000088-74-4
NITROANILINE, M-	000099-09-2
NITROANILINE, P-	000100-01-6
NITROBENZENE	000098-95-3
NITROFURANTOIN	000067-20-9
NITROFURAZONE	000059-87-0
NITROGEN DIOXIDE	010102-44-0
NITROGEN OXIDES	NO CASRN
NITROMETHANE	000075-52-5
NITROPHENOLS	NO CASRN
NITROPROPANE, 2-	000079-46-9
NITROSO-DI-N-BUTYLAMINE, N-	000924-16-3
NITROSO-DI-N-PROPYLAMINE, N-	000621-64-7
NITROSO-N-ETHYLUREA, N-	000759-73-9
NITROSO-N-METHYLUREA, N-	000684-93-5
NITROSODIETHANOLAMINE, N-	001116-54-7
NITROSODIETHYLAMINE, N-	000055-18-5
NITROSODIMETHYLAMINE, N-	000062-75-9

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NITROSODIPHENYLAMINE, P-	000156-10-5
NITROSODIPHENYLAMINE, N-	000086-30-6
NITROSOMETHYLETHYLAMINE, N-	010595-95-6
NITROSOMETHYLVINYLAMINE, N	004549-40-0
NITROSOPYRROLIDINE, N-	000930-55-2
NITROTOLUENE, M-	000099-08-1
NITROTOLUENE, O-	000088-72-2
NITROTOLUENE, P-	000099-99-0
OCTABROMODIPHENYL ETHER	032536-52-0
OCTAMETHYLPYROPHOSPHORAMIDE	000152-16-9
OSMIUM TETROXIDE	020816-12-0
OZONE	010028-15-6
PARALDEHYDE	000123-63-7
PARATHION	000056-38-2
PARTICULATE MATTER	NO CASRN
PEBULATE	001114-71-2
PENDIMETHALIN	040487-42-1
PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5-	000087-84-3
PENTABROMODIPHENYL ETHER	032534-81-9
PENTACHLOROBENZENE	000608-93-5
PENTACHLOROCYCLOPENTADIENE	025329-35-5
PENTACHLORONITROBENZENE	000082-68-8
PENTACHLOROPHENOL	000087-86-5
PENTACHLOROPROPENE, 1,1,2,3,3,-	001600-37-9
PENTANE, N-	000109-66-0
PHENANTHRENE	000085-01-8
PHENOL	000108-95-2
PHENYLENEDIAMINE, M-	000108-45-2
PHENYLENEDIAMINE, O-	000095-54-5
PHENYLENEDIAMINE, P-	000106-50-3
PHENYLMERCURIC ACETATE	000062-38-4
PHENYLPHENOL, 2-	000090-43-7
PHORATE	000298-02-2
PHOSGENE	000075-44-5
PHOSPHINE	007803-51-2
PHOSPHORUS, WHITE	007723-14-0
PHOTOCHEMICAL OXIDANTS	NO CASRN
PHTHALIC ACID, M-	000121-91-5
PHTHALIC ACID, O-	000088-99-3
PHTHALIC ACID, P-	000100-21-0
PHTHALIC ANHYDRIDE	000085-44-9
POLYBROMINATED BIPHENYLS	NO CASRN
POLYCHLORINATED BIPHENYLS	001336-36-3
POTASSIUM CYANIDE	000151-50-8
POTASSIUM SILVER CYANIDE	000506-61-6
PROFLURALIN	026399-36-0
PRONAMIDE	023950-58-5
PROPACHLOR	001918-16-7
PROPAZINE	000139-40-2
PROPIONITRILE	000107-12-0
PROPYL ALCOHOL, N-	000071-23-8
PROPYLENE GLYCOL	000057-55-6
PROPYLENE GLYCOL MONOETHYL ETHER	001569-02-4
PROPYLENE GLYCOL MONOMETHYL ETHER	000107-98-2
PROPYLENE OXIDE	000075-56-9
PYRENE	000129-00-0
PYRIDINE	000110-86-1
QUINOLINE	000091-22-5
ROX / (CYCLONITE)	000121-82-4
RONNEL	000299-84-3
SELENIOUS ACID	007783-00-8
SELENIUM	007782-49-2
SELENIUM SULFIDE	007446-34-6
SELENOUREA	000630-10-4
SILVER	007440-22-4
SILVER CYANIDE	000506-64-9
SIMAZINE	000122-34-9
SODIUM CYANIDE	000143-33-9
SODIUM DIETHYLDITHIOCARBAMATE	000148-18-5
SODIUM METAVANADATE	013718-26-8
STIROPHOS	000961-11-5
STRONTIUM, STABLE	007440-24-6
STRYCHNINE	000057-24-9
STYRENE	000100-42-5
SUCCINONITRILE	000110-61-2
SULFUR DIOXIDE	007446-09-5
SULFUR OXIDES	NO CASRN
SULFURIC ACID	007664-93-9
TCDD, 2,3,7,8-	001746-01-6
TELONE II	000542-75-6
TEMEPHOS	003383-96-8
TERBUFOS	013071-79-9
TEREPHTHALIC ACID	000100-21-0
TETRACHLOROAZOXYBENZENE	021232-47-3
TETRACHLOROBENZENE, 1,2,4,5-	000095-94-3
TETRACHLOROCYCLOPENTADIENE	000695-77-2
TETRACHLOROETHANE, 1,1,1,2-	000630-20-6
TETRACHLOROETHANE, 1,1,2,2-	000079-34-5
TETRACHLOROETHYLENE	000127-18-4
TETRACHLOROHYDRAZOBENZENE	071753-42-9
TETRACHLOROPHENOL, 2,3,4,5-	004901-51-3
TETRACHLOROPHENOL, 2,3,4,6-	000058-90-2
TETRACHLOROPHENOL, 2,3,5,6-	000935-95-5
TETRACHLOROPROPENE, 1,1,2,3-	010436-39-2
TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA-	005216-25-1
TETRACHLOROVINPHOS / (STIROPHOS)	000961-11-5
TETRAETHYL DITHIOPYROPHOSPHATE	003689-24-5
THALLIC OXIDE	001314-32-5
THALLIUM (I) ACETATE	000563-68-8
THALLIUM (I) CARBONATE	006533-73-9
THALLIUM (I) CHLORIDE	007791-12-0
THALLIUM, INSOLUBLE SALTS	NO CASRN
THALLIUM (I) NITRATE	010102-45-1
THALLIUM SELENITE	012039-52-0
THALLIUM (I) SULFATE	007446-18-6
THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(	021564-17-0
THIOFANOX	013196-18-4
THIOPHENOL	000108-98-5
THIRAM	000137-26-8
TIN AND COMPOUNDS	NO CASRN
TOLUENE	000108-88-3
TOLUENE-2,4-DIAMINE	000095-80-7
TOLUENE-2,5-DIAMINE	000095-70-5
TOLUENE-2,6-DIAMINE	000823-40-5
TOLUENEDIAMINE, 2,3-	002687-25-4
TOLUENEDIAMINE, 3,4-	000496-72-0
TOLUIDINE, M-	000108-44-1
TOLUIDINE, P-	000106-49-0
TOXAPHENE	008001-35-2
TRIALLATE	002303-17-5
TRIBROMOBENZENE, 1,2,4-	000615-54-3
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	000076-13-1
TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'-	003380-34-5
TRICHLOROANILINE, 2,4,6-	000634-93-5
TRICHLOROANILINE HYDROCHLORIDE, 2,4,6-	033663-50-2
TRICHLOROBENZENE, 1,2,4-	000120-82-1
TRICHLOROCYCLOPENTADIENE	077323-84-3
TRICHLOROETHANE, 1,1,1-	000071-55-6
TRICHLOROETHANE, 1,1,2-	000079-00-5
TRICHLOROETHYLENE	000079-01-6
TRICHLOROFLUOROMETHANE	000075-69-4
TRICHLOROPHENOL, 2,3,4-	015950-66-0
TRICHLOROPHENOL, 2,3,5-	000933-78-8
TRICHLOROPHENOL, 2,3,6-	000933-75-5
TRICHLOROPHENOL, 2,4,5-	000095-95-4

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TRICHLOROPHENOL, 2,4,6-	000088-06-2
TRICHLOROPHENOL, 3,4,5-	000609-19-8
TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5-	000093-72-1
TRICHLOROPHENOXY ACETIC ACID, 2,4,5-	000093-76-5
TRICHLOROPROPANE, 1,1,1-	007789-89-1
TRICHLOROPROPANE, 1,1,2-	000598-77-6
TRICHLOROPROPANE, 1,2,2-	003175-23-3
TRICHLOROPROPANE, 1,2,3-	000096-18-4
TRICHLOROPROPENE, 1,2,3-	000096-19-5
TRICHLOROTOLUENE, 2,3,6-	002077-46-5
TRICHLOROTOLUENE, ALPHA,2,6-	002014-83-7
TRIFLURALIN	001582-09-8
TRIMETHYL PHOSPHATE	000512-56-1
TRIMETHYLBENZENES	NO CASRN
TRINITROBENZENE, 1,3,5-	000099-35-4
TRINITROPHENOLS	NO CASRN
TRINITROPHENYLMETHYLNITRAMINE	000479-45-8
TRINITROTOLUENE, 2,4,6-	000118-96-7
URANIUM, SOLUBLE SALTS	NO CASRN
VANADIUM	007440-62-2
VANADIUM PENTOXIDE	001314-62-1
VANADIUM SULFATE	036907-42-3
VERNAM / (VERNOLATE)	001929-77-7
VERNOLATE	001929-77-7
VINYL-1-CYCLOHEXENE, 4-	000100-40-3
VINYL ACETATE	000108-05-4
VINYL BROMIDE	000593-60-2
VINYL CHLORIDE	000075-01-4
WARFARIN	000081-81-2
XYLENE, M-	000108-38-3
XYLENE, MIXTURE	001330-20-7
XYLENE, O-	000095-47-6
XYLENE, P-	000106-42-3
ZINC (METALLIC)	007440-66-6
ZINC CYANIDE	000557-21-1
ZINC PHOSPHIDE	001314-84-7
ZINEB	012122-67-7

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CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER AND CHEMICAL NAME CROSS REFERENCE
(LISTED BY CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER)

May 1995

000050-00-0	FORMALDEHYDE
000050-29-3	DDT
000050-32-8	BENZO[A]PYRENE
000051-28-5	DINITROPHENOL, 2,4-
000053-70-3	DIBENZO[A,H]ANTHRACENE
000055-18-5	NITROSODIETHYLAMINE, N-
000056-23-5	CARBON TETRACHLORIDE
000056-38-2	PARATHION
000056-49-5	METHYLCHOLANTHRACENE, 3-
000056-53-1	DIETHYLSTILBESTROL
000056-55-3	BENZO[A]ANTHRACENE
000057-12-5	CYANIDE
000057-14-7	DIMETHYLHYDRAZINE, 1,1-
000057-24-9	STRYCHNINE
000057-55-6	PROPYLENE GLYCOL
000057-74-9	CHLORDANE
000057-97-6	DIMETHYLBENZ[A]ANTHRACENE, 7,12-
000058-89-9	HEXACHLOROCYCLOHEXANE, GAMMA-
000058-90-2	TETRACHLOROPHENOL, 2,3,4,6-
000059-50-7	CHLORO-M-CRESOL, P-
000059-87-0	NITROFURAZONE
000060-29-7	ETHYL ETHER
000060-34-4	METHYL HYDRAZINE
000060-51-5	DIMETHOATE
000060-57-1	DIELDRIN
000062-38-4	PHENYLMERCURIC ACETATE
000062-53-3	ANILINE
000062-75-9	NITROSODIMETHYLAMINE, N-
000063-25-2	CARBARYL
000064-18-6	FORMIC ACID
000065-85-0	BENZOIC ACID
000066-56-8	DINITROPHENOL, 2,3-
000067-20-9	NITROFURANTOIN
000067-45-8	FURAZOLIDONE
000067-56-1	METHANOL
000067-64-1	ACETONE
000067-66-3	CHLOROFORM
D00067-72-1	HEXACHLOROETHANE
000068-12-2	DIMETHYLFORMAMIDE, N,N-
000070-30-4	HEXACHLOROPHENE
000071-23-8	PROPYL ALCOHOL, N-
000071-36-3	BUTANOL, 1-
000071-43-2	BENZENE
000071-55-6	TRICHLOROETHANE, 1,1,1-
000072-20-8	ENDRIN
000072-43-5	METHOXYCHLOR
000072-54-8	DDD
000072-55-9	DDE
000074-11-3	CHLOROBENZOIC ACID, P-
000074-83-9	BROMOMETHANE
000074-87-3	METHYL CHLORIDE
000074-87-3	CHLOROMETHANE
000074-95-3	METHYLENE BROMIDE
000075-00-3	ETHYL CHLORIDE
000075-01-4	VINYL CHLORIDE
000075-05-8	ACETONITRILE
000075-09-2	METHYLENE CHLORIDE
000075-09-2	DICHLOROMETHANE
000075-15-0	CARBON DISULFIDE
000075-21-8	ETHYLENE OXIOE
000075-25-2	BROMOFORM
000075-27-4	BROMODICHLOROMETHANE
000075-29-6	CHLOROPROPANE, 2-
000075-34-3	DICHLOROETHANE, 1,1-
000075-35-4	DICHLOROETHYLENE, 1,1-
000075-44-5	PHOSGENE
000075-52-5	NITROMETHANE
000075-56-9	PROPYLENE OXIDE
000075-60-5	CACODYLIC ACID
000075-69-4	TRICHLOROFLUOROMETHANE
000075-71-8	DICHLORODIFLUOROMETHANE
000075-86-5	2-METHYLLACTONITRILE
000075-86-5	ACETONE CYANOHYDRIN
000075-87-6	CHLORAL
000075-99-0	DALAPON
000076-13-1	TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-
000076-44-8	HEPTACHLOR
000077-47-4	HEXACHLOROCYCLOPENTADIENE
000077-73-6	DICYCLOPENTADIENE
000077-78-1	DIMETHYLSULFATE
000078-48-8	MERPHOS OXIDE
000078-59-1	ISOPHORONE
000078-83-1	ISOBUTYL ALCOHOL
000078-86-4	CHLOROBUTANE, 2-
000078-87-5	DICHLOROPROPANE, 1,2-
000078-93-3	METHYL ETHYL KETONE
000078-97-7	LACTONITRILE
000078-99-9	DICHLOROPROPANE, 1,1-
000079-00-5	TRICHLOROETHANE, 1,1,2-
000079-01-6	TRICHLOROETHYLENE
000079-06-1	ACRYLAMIDE
000079-10-7	ACRYLIC ACID
000079-11-8	CHLOROACETIC ACID
000079-20-9	METHYL ACETATE
000079-22-1	METHYL CHLOROCARBONATE
000079-34-5	TETRACHLOROETHANE, 1,1,2,2-
000079-46-9	NITROPROPANE, 2-
000080-05-7	BISPHENOL A
000080-62-6	METHYL METHACRYLATE
000081-81-2	WARFARIN
000082-68-8	PENTACHLORONITROBENZENE
000083-32-9	ACENAPHTHENE
000084-66-2	DIETHYL PHTHALATE
000084-74-2	DIBUTYL PHTHALATE
000085-01-8	PHENANTHRENE
000085-44-9	PHTHALIC ANHYDRIDE
000085-68-7	BUTYL BENZYL PHTHALATE, N-
000086-30-6	NITROSODIPHENYLAMINE, N-
000086-73-7	FLUORENE
000086-74-8	CARBAZOLE
000087-65-0	DICHLOROPHENOL, 2,6-
000087-68-3	HEXACHLOROBUTADIENE
000087-82-1	HEXABROMOBENZENE
000087-84-3	PENTABROMO-6-CHLOROCYCLOHEXANE, 1,2,3,4,5-
000087-86-5	PENTACHLOROPHENOL
000088-06-2	TRICHLOROPHENOL, 2,4,6-
000088-72-2	NITROTOLUENE, O-
000088-73-3	CHLORONITROBENZENE, O-
000088-74-4	NITROANILINE, 2-
000088-85-7	DINOSEB
000088-99-3	PHTHALIC ACID, O-
000090-43-7	PHENYLPHENOL, 2-
000091-20-3	NAPHTHALENE
000091-22-5	QUINOLINE
000091-66-7	DIETHYLANILINE, N,N-
000091-94-1	DICHLOROBENZIDINE, 3,3'-
000092-52-4	BIPHENYL, 1,1'
000092-87-5	BENZIDINE
000093-65-2	METHYL-4-CHLOROPHENOXY) PROPIONIC ACID, 2-(2-
000093-71-0	ALLIDOCHLOR
000093-72-1	TRICHLOROPHENOXY) PROPIONIC ACID, 2(2,4,5-
000093-76-5	TRICHLOROPHENOXY ACETIC ACID, 2,4,5-
000094-74-6	METHYL-4-CHLOROPHENOXY ACETIC ACID, 2-
000094-75-7	DICHLOROPHENOXY ACETIC ACID, 2,4-
000094-81-5	METHYL-4-CHLOROPHENOXY) BUTYRIC ACID, 4-(2-
000094-82-6	2,4-DB
000094-82-6	

DICHLOROPHENOXY) BUTYRIC ACID, 4-(2,4-
000095-47-6 XYLENE, O-
000095-48-7 CRESOL, O-
000095-48-7 2-METHYLPHENOL
000095-49-8 CHLOROTOLUENE, O-
000095-50-1 DICHLOROBENZENE, 1,2-
000095-51-2 CHLOROANILINE, 2-
000095-53-4 METHYLANILINE, 2-
000095-54-5 PHENYLENEDIAMINE, O-
000095-55-6 AMINOPHENOL, O-
000095-57-8 CHLOROPHENOL, 2-
000095-65-8 DIMETHYLPHENOL, 3,4-
000095-68-1 DIMETHYLANILINE, 2,4-
000095-69-2 CHLORO-2-METHYLANILINE, 4-
000095-70-5 TOLUENE-2,5-DIAMINE
000095-77-2 DICHLOROPHENOL, 3,4-
000095-80-7 TOLUENE-2,4-DIAMINE
000095-87-4 DIMETHYLPHENOL, 2,5-
000095-94-3 TETRACHLOROBENZENE, 1,2,4,5-
000095-95-4 TRICHLOROPHENOL, 2,4,5-
000096-12-8 DIBROMO-3-CHLOROPROPANE, 1,2
000096-18-4 TRICHLOROPROPANE, 1,2,3-
000096-19-5 TRICHLOROPROPENE, 1,2,3-
000096-33-3 METHYL ACRYLATE
000096-45-7 ETHYLENE THIOUREA
000096-48-0 BUTYROLACTONE, GAMMA-
000097-63-2 ETHYL METHACRYLATE
000098-01-1 FURFURAL
000098-07-7 BENZOTRICHLORIDE
000098-56-6 CHLOROBENZOTRIFLUORIDE, 4-
000098-82-8 CUMENE
000098-83-9 METHYL STYRENE, ALPHA
000098-86-2 ACETOPHENONE
000098-87-3 BENZAL CHLORIDE
000098-95-3 NITROBENZENE
000099-08-1 NITROTOLUENE, M-
000099-09-2 NITROANILINE, M-
000099-35-4 TRINITROBENZENE, 1,3,5-
000099-55-8 METHYL-5-NITROANILINE, 2-
000099-59-2 METHOXY-5-NITROANILINE, 2-
000099-65-0 DINITROBENZENE, 1,3-
000099-99-0 NITROTOLUENE, P-
000100-00-5 CHLORONITROBENZENE, P-
000100-01-6 NITROANILINE, P-
000100-21-0 PHTHALIC ACID, P-
000100-21-0 TEREPHTHALIC ACID
000100-25-4 DINITROBENZENE, 1,4-
000100-40-3 VINYL-1-CYCLOHEXENE, 4-
000100-41-4 ETHYL BENZENE
000100-42-5 STYRENE
000100-44-7 BENZYL CHLORIDE
000100-51-6 BENZYL ALCOHOL
000100-52-7 BENZALDEHYDE
000100-54-9 NICOTINONITRILE
000101-14-4
METHYLENE-BIS(2-CHLOROANILINE), 4,4'-
000101-55-3 BROMOPHENYL PHENYL ETHER, 4-
000101-61-1
METHYLENE-BIS(N,N'-DIMETHYL)ANILINE, 4,4'-
000101-68-8 DIPHENYLMETHANE DIISOCYANATE
000101-68-8
METHYLENEDIPHENYL ISOCYANATE, 4,4-
000101-77-9 METHYLENE-BIS(BENZENEAMINE), 4,4-
000103-33-3 AZOBENZENE
000103-69-5 ETHYLANILINE, N-
000105-60-2 CAPROLACTAM
000105-67-9 DIMETHYLPHENOL, 2,4-
000106-13-8 ETHOXYETHANOL DODECANOATE, 2-
000106-37-6 DIBROMOBENZENE, 1,4-
000106-42-3 XYLENE, P-
000106-43-4 CHLOROTOLUENE, P-
000106-44-5 4-METHYLPHENOL
000106-44-5 CRESOL, P-
000106-46-7 DICHLOROBENZENE, 1,4-
000106-47-8 CHLOROANILINE, 4-
000106-48-9 CHLOROPHENOL, 4-
000106-49-0 TOLUIDINE, P-
000106-50-3 PHENYLENEDIAMINE, P-
000106-74-1 ETHOXYETHANOL ACRYLATE, 2-
000106-89-8 EPICHLOROHYDRIN
000106-93-4 DIBROMOETHANE, 1,2-
000106-99-0 BUTADIENE, 1,3-
000107-02-8 ACROLEIN
000107-05-1 ALLYL CHLORIDE
000107-06-2 DICHLOROETHANE, 1,2-
000107-12-0 PROPIONITRILE
000107-13-1 ACRYLONITRILE
000107-15-3 ETHYLENE DIAMINE
000107-16-4 FORMALDEHYDE CYANOHYDRIN
000107-18-6 ALLYL ALCOHOL
000107-20-0 CHLOROACETALDEHYDE
000107-21-1 ETHYLENE GLYCOL
000107-30-2 CHLOROMETHYL METHYL ETHER
000107-98-2 PROPYLENE GLYCOL MONOMETHYL ETHER
000108-05-4 VINYL ACETATE
000108-10-1 METHYL ISOBUTYL KETONE
000108-31-6 MALEIC ANHYDRIDE
000108-38-3 XYLENE, M-
000108-39-4 3-METHYLPHENOL
000108-39-4 CRESOL, M-
000108-41-8 CHLOROTOLUENE, M-
000108-42-9 CHLOROANILINE, 3-
000108-43-0 CHLOROPHENOL, 3-
000108-44-1 TOLUIDINE, M-
000108-45-2 PHENYLENEDIAMINE, M-
000108-87-2 METHYLCYCLOHEXANE
000108-88-3 TOLUENE
000108-90-7 CHLOROBENZENE
000108-91-8 CYCLOHEXYLAMINE
000108-93-0 CYCLOHEXANOL

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000108-95-2	PHENOL
000108-98-5	THIOPHENOL
000108-98-5	BENZENETHIOL
000108-06-1	BIS(2-CHLORO-1-METHYLETHYL) ETHER
000109-66-0	PENTANE, N-
000109-69-3	CHLOROBUTANE, 1-
000109-77-3	MALONONITRILE
000109-78-4	ETHYLENE CYANOHYDRIN
000109-86-4	METHOXYETHANOL, 2-
000110-00-9	FURAN
000110-49-6	METHOXYETHANOL ACETATE, 2-
000110-54-3	HEXANE, N-
000110-61-2	SUCCINONITRILE
000110-80-5	ETHOXYETHANOL, 2-
000110-86-1	PYRIDINE
000111-15-9	ETHOXYETHANOL ACETATE, 2-
000111-44-4	BIS(2-CHLOROETHYL) ETHER
000111-69-3	ADIPONITRILE
000111-76-2	ETHYLENE GLYCOL MONOBUTYL ETHER
000111-90-0	DIETHYLENE GLYCOL MONOETHYL ETHER
000112-34-5	DIETHYLENE GLYCOL MONOBUTYL ETHER
000115-29-7	ENDOSULFAN
000116-06-3	ALDICARB
000117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE
000117-81-7	DEHP
000117-84-0	DI-N-OCTYL PHTHALATE
000118-74-1	HEXACHLOROBENZENE
000118-75-2	CHLORANIL
000118-96-7	TRINITROTOLUENE, 2,4,6-
000119-90-4	DIMETHOXYBENZIDINE, 3,3'-
000119-93-7	DIMETHYLBENZIDINE, 3,3'-
000120-12-7	ANTHRACENE
000120-36-5	DICHLORPROP
000120-61-6	DIMETHYLTEREPHTHALATE
000120-82-1	TRICHLOROBENZENE, 1,2,4-
000120-83-2	DICHLOROPHENOL, 2,4-
000121-14-2	DINITROTOLUENE, 2,4
000121-69-7	DIMETHYLANILINE, N,N-
000121-73-3	CHLORONITROBENZENE, M-
000121-75-5	MALATHION
000121-82-4	CYCLONITE
000121-82-4	RDX
000121-91-5	PHTHALIC ACID, M-
000122-34-9	SIMAZINE
000122-39-4	DIPHENYLAMINE, N,N-
000122-66-7	DIPHENYLHYDRAZINE, 1,2-
000123-30-8	AMINOPHENOL, P-
000123-31-9	HYDROQUINONE
000123-33-1	MALEIC HYDRAZIDE
000123-63-7	PARALDEHYDE
000123-73-9	CROTONALDEHYDE
000123-91-1	DIOXANE, 1,4-
000124-09-4	HEXAMETHYLENE DIAMINE
000124-48-1	DIBROMOCHLOROMETHANE
000126-98-7	METHACRYLONITRILE
000126-99-8	CHLORO-1,3-BUTADIENE, 2-
000126-99-8	CHLOROPRENE
000127-18-4	TETRACHLOROETHYLENE
000129-00-0	PYRENE
000130-15-4	NAPHTHOQUINONE, 1,4-
000131-11-3	DIMETHYLPHTHALATE
000132-64-9	DIBENZOFURAN
000133-06-2	CAPTAN
000133-07-3	FOLPET
000137-26-8	THIRAM
000139-40-2	PROPAZINE
000140-57-8	ARAMITE
000140-88-5	ETHYL ACRYLATE
000141-78-6	ETHYL ACETATE
000142-28-9	DICHLOROPROPANE, 1,3-
000142-82-5	HEPTANE, N-
000143-33-9	SODIUM CYANIDE
000145-73-3	ENDOTHALL
000148-18-5	SODIUM DIETHYLDITHIOCARBAMATE
000150-50-5	MERPHOS
000151-50-8	POTASSIUM CYANIDE
000152-16-9	OCTAMETHYLPYROPHOSPHORAMIDE
000156-10-5	NITROSODIPHENYLAMINE, P-
000156-59-2	DICHLOROETHYLENE, 1,2-C-
000156-60-5	DICHLOROETHYLENE, 1,2-T-
000193-39-5	INDENO[1,2,3-CD]PYRENE
000205-99-2	BENZO[B]FLUORANTHENE
000206-44-0	FLUORANTHENE
000207-08-9	BENZO[K]FLUORANTHENE
000208-96-8	ACENAPTHYLENE
000218-01-9	CHRYSENE
000298-00-0	METHYL PARATHION
000298-02-2	PHORATE
000298-04-4	DISULFOTON
000299-84-3	RONNEL
000302-01-2	HYDRAZINE
000304-61-0	ANTIMONY POTASSIUM TARTRATE
000309-00-2	ALDRIN
000311-45-5	DIETHYL-P-NITROPHENYL PHOSPHATE
000319-84-6	HEXACHLOROCYCLOHEXANE, ALPHA-
000319-85-7	HEXACHLOROCYCLOHEXANE, BETA-
000319-86-8	HEXACHLOROCYCLOHEXANE, DELTA-
000329-71-5	DINITROPHENOL, 2,5-
000330-55-2	LINURON
000333-41-5	DIAZINON
000460-19-5	CYANOGEN
000479-45-8	TRINITROPHENYLMETHYLNITRAMINE
000496-72-0	TOLUENEDIAMINE, 3,4-
000504-24-5	AMINOPYRIDINE, 4-
000506-61-6	POTASSIUM SILVER CYANIDE
000506-64-9	SILVER CYANIDE
000506-68-3	CYANOGEN BROMIDE
000506-77-4	CHLORINE CYANIDE
000507-20-0	BUTYLCHLORIDE, T-
000510-15-6	CHLOROBENZILATE
000512-56-1	TRIMETHYL PHOSPHATE
000526-75-0	DIMETHYLPHENOL, 2,3-
000528-29-0	DINITROBENZENE, 1,2-
000531-82-8	FURIUM
000532-28-5	BENZALDEHYDE CYANOHYDRIN
000534-52-1	DINITRO-O-CRESOL, 4,6-
000540-59-0	DICHLOROETHYLENE, 1,2- (MIXED ISOMERS)
000540-73-8	DIMETHYLHYDRAZINE, 1,2-
000541-73-1	DICHLOROBENZENE, 1,3-
000542-62-1	BARIUM CYANIDE
000542-75-6	TELONE II
000542-75-6	DICHLOROPROPENE, 1,3-
000542-88-1	BIS(CHLOROMETHYL) ETHER
000542-92-7	CYCLOPENTADIENE
000544-92-3	COPPER CYANIDE
000557-19-7	NICKEL CYANIDE
000557-21-1	ZINC CYANIDE
000563-68-8	THALLIUM (I) ACETATE
000573-56-8	DINITROPHENOL, 2,6-
000576-24-9	DICHLOROPHENOL, 2,3-
000576-26-1	DIMETHYLPHENOL, 2,6-
000583-78-8	DICHLOROPHENOL, 2,5-
000586-11-8	DINITROPHENOL, 3,5-
000591-27-5	AMINOPHENOL, M-
000591-35-5	DICHLOROPHENOL, 3,5-
000591-78-6	HEXANONE, 2-
000592-01-8	CALCIUM CYANIDE
000593-60-2	VINYL BROMIDE
000593-60-2	BROMOETHENE
000594-20-7	DICHLOROPROPANE, 2,2-
000598-31-2	BROMOACETONE
000598-77-6	TRICHLOROPROPANE, 1,1,2-
000598-94-7	DIMETHYLUREA, N,N-
000602-01-7	DINITROTOLUENE, 2,3-

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000606-20-2	DINITROTOLUENE, 2,6-
000608-73-1	HEXACHLOROCYCLOHEXANE-TECHNICAL
000608-93-5	PENTACHLOROBENZENE
000609-19-8	TRICHLOROPHENOL, 3,4,5-
000609-93-8	DINITRO-P-CRESOL, 2,6-
000610-39-9	DINITROTOLUENE, 3,4-
000611-14-3	ETHYLTOLUENE, O-
000615-54-3	TRIBROMOBENZENE, 1,2,4-
000617-84-5	DIETHYLFORMAMIDE
000619-15-8	DINITROTOLUENE, 2,5-
000620-14-4	ETHYLTOLUENE, M-
000621-64-7	NITROSO-DI-N-PROPYLAMINE, N-
000622-96-8	ETHYLTOLUENE, P-
000624-83-9	METHYL ISOCYANATE
000630-05-0	CARBON MONOXIDE
000630-10-4	SELENOUREA
000630-20-6	TETRACHLOROETHANE, 1,1,1,2-
000634-93-5	TRICHLOROANILINE, 2,4,6-
000636-21-5	METHYLANILINE HYDROCHLORIDE, 2-
000684-93-5	NITROSO-N-METHYLUREA, N-
000695-77-2	TETRACHLOROCYCLOPENTADIENE
000759-73-9	NITROSO-N-ETHYLUREA, N-
000759-94-4	EPTC
000764-41-0	DICHLORO-2-BUTENE, 1,4-
000765-34-4	GLYCIDALDEHYDE
000823-40-5	TOLUENE-2,6-DIAMINE
000834-12-8	AMETRYN
000924-16-3	NITROSO-DI-N-BUTYLAMINE, N-
000930-55-2	NITROSOPYRROLIDINE, N-
000933-75-5	TRICHLOROPHENOL, 2,3,6-
000933-78-8	TRICHLOROPHENOL, 2,3,5-
000934-80-5	ETHYL-O-XYLENE, 4-
000935-95-5	TETRACHLOROPHENOL, 2,3,5,6-
000950-10-7	MEPHOSFOLAN
000961-11-5	TETRACHLOROVINPHOS
000961-11-5	STIROPHOS
001024-57-3	HEPTACHLOR EPOXIDE
001114-71-2	PEBULATE
001116-54-7	NITROSODIETHANOLAMINE, N-
001134-23-2	CYCLOATE
001163-19-5	DECABROMODIPHENYL ETHER
001198-27-2	AMINO-2-NAPHTOL HYDROCHLORIDE, 1-
001309-64-4	ANTIMONY TRIOXIDE
001314-32-5	THALLIC OXIDE
001314-60-9	ANTIMONY PENTOXIDE
001314-62-1	VANADIUM PENTOXIDE
001314-84-7	ZINC PHOSPHIDE
001330-20-7	XYLENE, MIXTURE
001332-21-4	ASBESTOS
001332-81-6	ANTIMONY TETROXIDE
001336-36-3	POLYCHLORINATED BIPHENYLS
001338-23-4	METHYL ETHYL KETONE PEROXIDE
001563-66-2	CARBOFURAN
001569-02-4	PROPYLENE GLYCOL MONOETHYL ETHER
001582-09-8	TRIFLURALIN
001600-37-9	PENTACHLOROPROPENE, 1,1,2,3,3,-
001615-80-1	DIETHYLHYDRAZINE, 1,2-
001689-84-5	001689-99-2BROMOXYNIL OCTANOATE
001746-01-6	TCDD, 2,3,7,8-
001861-32-1	DACTHAL
001861-40-1	BENEFIN
001897-45-6	CHLOROTHALONIL
001912-24-9	ATRAZINE
001918-00-9	DICAMBA
001918-16-7	PROPACHLOR
001929-77-7	VERNOLATE
001929-77-7	VERNAM
001937-37-7	DIRECT BLACK 38
002008-41-5	BUTYLATE
002014-83-7	TRICHLOROTOLUENE, ALPHA,2,6-
002077-46-5	TRICHLOROTOLUENE, 2,3,6-
002104-96-3	BROMOPHOS
002212-67-1	MOLINATE
002303-16-4	DIALLATE
002303-17-5	TRIALLATE
002370-63-0	ETHOXYETHYL METHACRYLATE, 2-
002385-85-5	MIREX
002425-06-1	CAPTAFOL
002429-74-5	NIAGARA BLUE 4B
002491-38-5	BUSAN 90
002602-46-2	DIRECT BLUE 6
002610-05-1	DIRECT SKY BLUE 6B
002687-25-4	TOLUENEDIAMINE, 2,3-
002834-92-6	AMINO-2-NAPHTHOL, 1-
002921-88-2	CHLORPYRIFOS
003165-93-3	CHLORO-2-METHYLANILINE HYDROCHLORIDE, 4-
003175-23-3	TRICHLOROPROPANE, 1,2,2-
003380-34-5	TRICHLORO-2'-HYDROXYDIPHENYLETHER, 2,2,4'-
003383-96-8	TEMEPHOS
003689-24-5	TETRAETHYL DITHIOPYROPHOSPHATE
004399-55-7	DIRECT LIGHTFAST BLUE
004549-40-0	NITROSOMETHYLVINYLAMINE, N
004901-51-3	TETRACHLOROPHENOL, 2,3,4,5-
005216-25-1	TETRACHLOROTOLUENE, PARA, ALPHA, ALPHA, ALPHA-
005598-13-0	CHLORPYRIFOS METHYL
006108-10-7	HEXACHLOROCYCLOHEXANE, EPSILON-
006533-73-9	THALLIUM (I) CARBONATE
007429-90-5	ALUMINUM
007439-89-6	IRON
007439-92-1	LEAD
007439-96-5	MANGANESE
007439-97-6	MERCURY, ELEMENTAL
007439-98-7	MOLYBDENUM
007440-22-4	SILVER
007440-24-6	STRONTIUM, STABLE
007440-36-0	ANTIMONY, METALLIC
007440-38-2	ARSENIC, INORGANIC
007440-39-3	BARIUM
007440-41-7	BERYLLIUM
007440-42-8	BORON, ELEMENTAL
007440-43-9	CADMIUM
007440-50-8	COPPER
007440-62-2	VANADIUM
007440-66-6	ZINC (METALLIC)
007446-09-5	SULFUR DIOXIDE
007446-18-6	THALLIUM (I) SULFATE
007446-34-6	SELENIUM SULFIDE
007487-94-7	MERCURIC CHLORIDE
007637-07-2	BORON TRIFLUORIDE
007664-41-7	AMMONIA
007664-93-9	SULFURIC ACID
007723-14-0	PHOSPHORUS, WHITE
007782-41-4	FLUORINE / (SOLUBLE FLUORIDE)
007782-49-2	SELENIUM
007783-00-8	SELENIOUS ACID
007783-06-4	HYDROGEN SULFIDE
007789-89-1	TRICHLOROPROPANE, 1,1,1-
007791-12-0	THALLIUM (I) CHLORIDE
007803-51-2	PHOSPHINE
008001-35-2	TOXAPHENE
008001-58-9	CREOSOTE, COAL TAR
008007-45-2	COKE OVEN EMISSIONS
008018-01-7	MANCOZEB
010028-15-6	OZONE
010034-93-2	HYDRAZINE SULFATE
010102-43-9	NITRIC OXIDE
010102-44-0	NITROGEN DIOXIDE
010102-45-1	THALLIUM (I) NITRATE
010436-39-2	TETRACHLOROPROPENE, 1,1,2,3-
010595-95-6	NITROSOMETHYLETHYLAMINE, N-
010599-90-3	MONOCHLORAMINE

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011097-69-1	AROCLOR 1254
012035-72-2	NICKEL SUBSULFIDE
012039-52-0	THALLIUM SELENITE
012122-67-7	ZINEB
012427-38-2	MANEB
012672-29-6	AROCLOR 1248
013071-79-9	TERBUFOS
013194-48-4	ETHOPROP
013196-18-4	THIOFANOX
013718-26-8	SODIUM METAVANADATE
014797-65-0	NITRITE
015950-66-0	TRICHLOROPHENOL, 2,3,4-
015972-60-8	ALACHLOR
016065-83-1	CHROMIUM(III)
016071-86-6	DIRECT BROWN 95
016752-77-5	METHOMYL
018540-29-9	CHROMIUM(VI)
020816-12-0	OSMIUM TETROXIDE
020859-73-8	ALUMINUM PHOSPHIDE
021087-64-9	METRIBUZIN
021232-47-3	TETRACHLOROAZOXYBENZENE
021436-96-4	DIMETHYLANILINE HYDROCHLORIDE, 2,4-
021564-17-0	THIOCYANOMETHYLTHIO)BENZOTHIAZOLE, 2-(
021725-46-2	CYANAZINE
022967-92-6	METHYL MERCURY
023950-58-5	PRONAMIDE
025013-15-4	METHYL STYRENE (MIXED ISOMERS)
025329-35-5	PENTACHLOROCYCLOPENTADIENE
026399-36-0	PROFLURALIN
030560-19-1	ACEPHATE
031512-74-0	BUSAN 77
032534-81-9	PENTABROMODIPHENYL ETHER
032536-52-0	OCTABROMODIPHENYL ETHER
033663-50-2	TRICHLOROANILINE HYDROCHLORIDE, 2,4,6-
033820-53-0	ISOPROPALIN
036907-42-3	VANADIUM SULFATE
039638-32-9	BIS(2-CHLOROISOPROPYL) ETHER
040487-42-1	PENDIMETHALIN
041851-50-7	CHLOROCYCLOPENTADIENE
051218-45-2	METOLACHLOR
059756-60-4	FLURIDONE
060238-56-4	CHLORTHIOPHOS
068554-00-7	ETHOXYETHANOL PHOSPHATE, 2-
071753-42-9	TETRACHLOROHYDRAZOBENZENE
077323-84-3	TRICHLOROCYCLOPENTADIENE
VARIOUS	BROMINATED DIBENZOFURANS
NO CASRN	BROMINATED DIBENZO-P-DIOXINS
NO CASRN	BROMOCHLOROETHANES
NO CASRN	DICHLOROBUTENES
NO CASRN	LEAD ALKYLS
NO CASRN	NICKEL, REFINERY DUST
VARIOUS	NICKEL, SOLUBLE SALTS
NO CASRN	NITROGEN OXIDES
NO CASRN	NITROPHENOLS
NO CASRN	PARTICULATE MATTER
NO CASRN	PHOTOCHEMICAL OXIDANTS
NO CASRN	POLYBROMINATED BIPHENYLS
NO CASRN	SULFUR OXIDES
NO CASRN	THALLIUM, INSOLUBLE SALTS
NO CASRN	TIN AND COMPOUNDS
NO CASRN	TRIMETHYLBENZENES
NO CASRN	TRINITROPHENOLS
NO CASRN	URANIUM, SOLUBLE SALTS

APPENDIX A-IV

IV. EFFECT LEVEL DEFINITIONS

Adverse effect. A biochemical change, functional impairment, or pathologic lesion that either singly or in combination adversely affects the performance of the whole organism, or reduces an organism's ability to respond to an additional environmental challenge.

Frank-effect-level (FEL). The exposure level at which there are statistically or biologically significant increases in frequency or severity of severe effects between the exposed population and its appropriate control group. These severe effects produce an unmistakable adverse health effect (such as severe convulsions or death).

Lowest-observed-adverse-effect level (LOAEL). The lowest exposure level at which there are statistically or biologically significant increases in frequency or severity of adverse effects between the exposed population and its appropriate control group.

Lowest-observed-effect level (LOEL). The lowest exposure level at which there are statistically or biologically significant increases in frequency or severity of any effects between the exposed population and its appropriate control group. The effects that are seen at this level may or may not be considered as adverse.

No-observed-adverse-effect level (NOAEL). An exposure level at which there are no statistically or biologically significant increases in the frequency or severity of adverse effects between the exposed population and its appropriate control; some effects may be produced at this level, but they are not considered to be adverse.

No-observed-effect level (NOEL). An exposure level at which there are no statistically or biologically significant increases in the frequency or severity of any effect between the exposed population and its appropriate control.

Adapted from: U.S. EPA. 1991. Integrated Risk Information System (IRIS). Online. National Center for Environmental Assessment, Cincinnati, OH.

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APPENDIX A-V

V. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS)

The Clean Air Act requires that National Ambient Air Quality Standards (NAAQS) be set and ultimately met for any air pollutant which, if present in air, may reasonably be anticipated to endanger public health or welfare and whose presence in the air results from numerous or diverse mobile and/or stationary sources. Since the primary NAAQS and the inhalation RfC serve essentially the same function, and the primary NAAQS have extensive data bases rigorously reviewed, the primary NAAQS with annual averaging times should be used *in lieu* of an inhalation RfC, except for lead. In deriving a risk assessment number for lead (Pb), the Integrated Exposure Uptake Biokinetics (IEUBK) model should be used instead of the RfC. Primary standards are designed to protect public health and secondary standards are designed to protect public welfare. Each primary NAAQS has either one or two averaging times depending on the health effects of the chemical. To date, six NAAQS have been established: Carbon Monoxide (CO), Lead (Pb), Nitrogen Dioxide (NO_2), Particulate Matter, less than 10 µm in size, (PM_{10}), Ozone (O_3) and Sulfur Dioxide (SO_2). A table of the most recent NAAQS is provided as Table A-V-1.

The process of establishing and revising the NAAQS is detailed by Padgett and Richmond (Journal of the Air Pollution Control Association, 33:13-16, 1983). The primary NAAQS are solely health based and designed to protect the most sensitive group of individuals (but not necessarily the most sensitive members of that group) against adverse health effects. Thus, by definition, the NAAQS primary standards define allowable pollutant concentrations which can be present in the atmosphere without causing adverse effects, and essentially serve the same function as an inhalation RfC in a risk assessment/risk management decision, except for lead. The data bases supporting each of the NAAQS are extensive. More importantly, the NAAQS are set by the USEPA Administrator as mandated by Congress after numerous reviews and a public comment process.

TABLE A-V-1

NATIONAL AMBIENT AIR QUALITY STANDARDS[a]
(as of December 2, 1991)

Pollutant	Primary Standards[b]	Averaging Time	Secondary Standards[b]
Carbon monoxide (CO)	9 ppm (10 mg/m^3) 35 ppm (40 mg/m^3)	8 hour[c] 1 hour[c]	None
Lead (Pb) (and Lead compounds	1.5 µg/m^3	Quarterly	Same as primary
Nitrogen dioxide (NO_2) (Nitrogen oxide) (Nitric oxide)	0.053 ppm (100 µg/m^3)	Annual	Same as primary
Particulate Matter (PM_{10})	50 µg/m^3 150 µg/m^3	Annual[d] 24 hours[e]	Same as primary
Ozone (O_3)	0.12 ppm (235 µg/m^3)	1 hour[f]	Same as primary
Sulfur dioxide (SO_2) (Sulfur oxide)	0.03 ppm (80 µg/m^3)	Annual	—
	0.14 ppm (365 µg/m^3)	24 hours[c]	—
	—	3 hours[c]	0.5 ppm (1300 µg/m^3)

[a]Source: U.S. EPA 1991. Subchapter C - Air Programs. Part 50 -National Primary and Secondary Ambient Air Quality Standards. Code of Federal Regulations 50: 693-697. Revised 7/1/91.

[b]Primary standards are designed to protect public health; Secondary standards are designed to protect public welfare.

[c]Not to be exceeded more than once per year.

[d]The standard is attained when the expected annual arithmetic mean concentration is less than or equal to 50 µg/m^3.

[e]The standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1.

[f]The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is equal to or less than 1.

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