ALCO
HAZMAT

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PORT OF OAKLAND

May 5, 1994

Ms. Jennifer Eberle
Hazardous Materials Specialist
Hazardous Materials Division
Alameda County Health
Care Services Agency
80 Swan Way, Rm 200
Oakland, CA 94621

Subject: ***Work Plan for Additional Site Investigation Activities at 801 Maritime Street, Oakland, CA 94607***

Dear Ms. Eberle:

Enclosed, you will find a copy of the Work Plan for Additional Site Investigation Activities at 801 Maritime Street, Port of Oakland, Oakland, California. This work plan is for the installation and monitoring of one well at the former tank site. The Port and it's consultant ERM West believes that one well is adequate because of the extensive amount of groundwater data collected from the adjacent down gradient site (the former Ashland Oil and Mobil Oil Sites).

We understand that the ACDEH prefers three wells in order to determine groundwater direction. In this case there are a sufficient number of nearby wells (approximately 35) that additional wells are not necessary. Please review the enclosed plan and notify the Port as soon as possible if you feel the plan adequately addresses your concerns.

Please call me at 272-1184 if you have any questions or comments.

Sincerely,

Jon Amdur
Port Environmental Scientist

CC: Neil Werner (Environmental Department)

Files

enclosure

530 Water Street ■ Jack London's Waterfront ■ P.O. Box 2064 ■ Oakland, California 94604-2064
Telephone (510) 272-1100 ■ Fax (510) 272-1172 ■ Cable address, PORTOFOAK, Oakland

-West, Inc.

Botelho Drive
260
ut Creek, CA 94596
946-0455
946-9968 (Fax)

May 3, 1994

Mr. Jon Amdur
Port of Oakland
530 Water Street
Oakland, CA 94607

ERM

Subject: 801 Maritime Street
Port of Oakland
Oakland, California

Dear Mr. Amdur:

This workplan was prepared in response to a request to the Port of Oakland by the Alameda County Department of Environmental Health regarding a subsurface investigation. The County's request stemmed from the Port's report submittals by Baseline in 1989 documenting the removal of underground storage tanks and the remediation of soils and ground water at 801 Maritime Street. Presented below is a summary of existing data relating to the site and the proposed site investigation workplan.

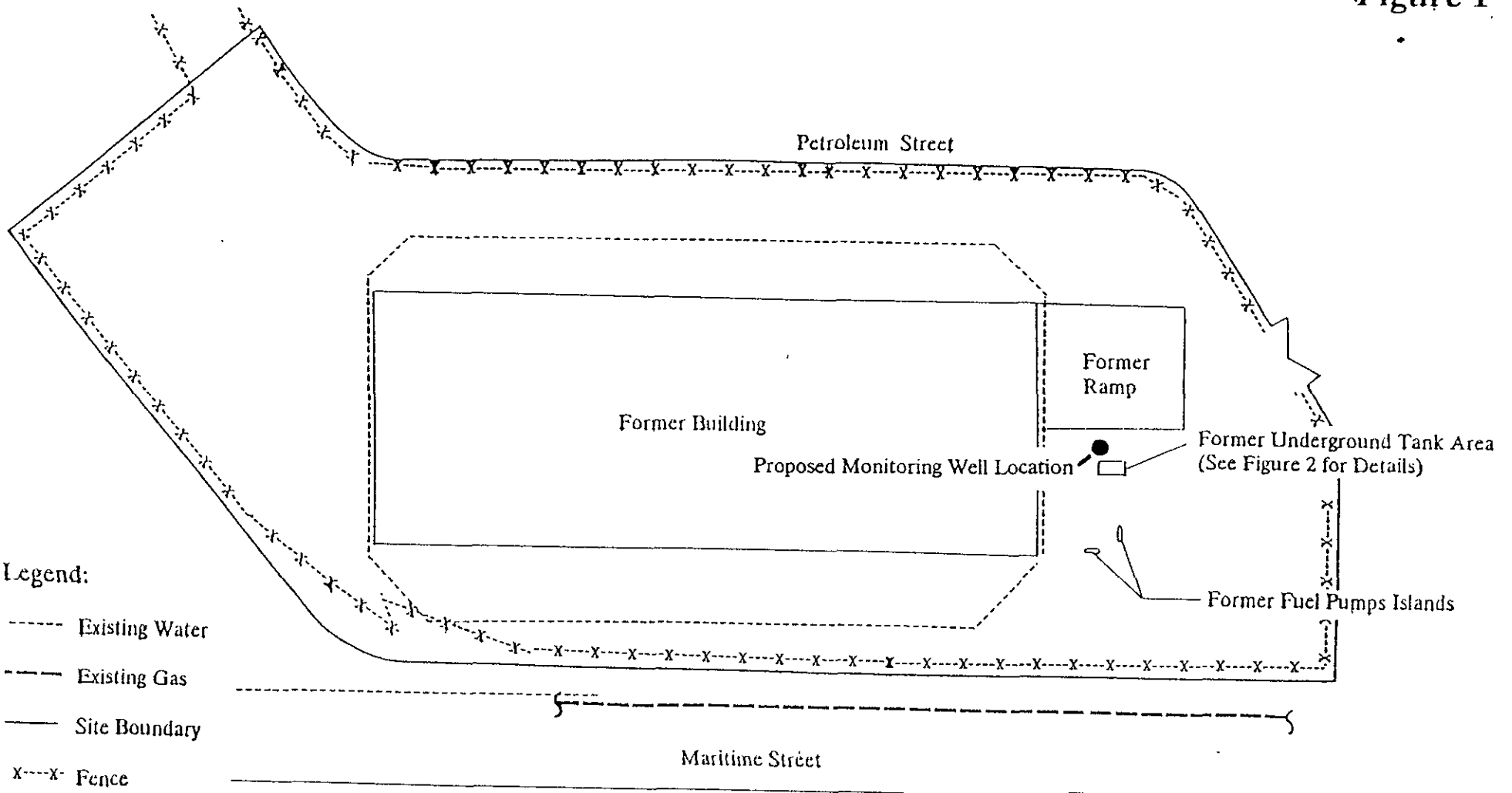
Summary of Existing Data

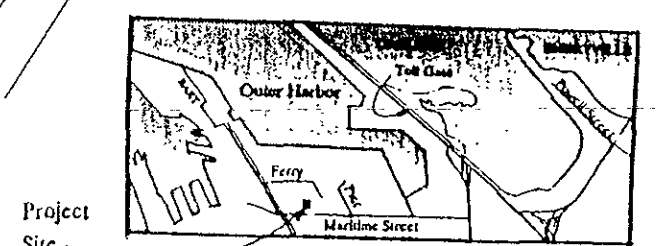
Prior activities at the 801 Maritime Street site have consisted of the removal of three underground storage tanks, soil and ground water sampling, excavation of approximately 1,500 cubic yards of contaminated soils, and on-site bioremediation of the excavated soils (Baseline Environmental Consulting, April and August, 1989). The three underground storage tanks were of single-wall steel construction and were estimated to have been installed in 1959. Two of the tanks had capacities of 10,000 gallons; the third tank had a capacity of 20,000 gallons. Diesel fuel was reportedly stored in the tanks. The tanks were removed on February 16, 1989. Baseline's Figure 1 depicts the location of the site and the former underground storage tanks.

During tank removal activities, discolored soils, and petroleum odors were noted. Ground water that accumulated in the excavation reportedly contained oil, and a sheen was noted on the water surface. Floating product, however, was not observed. Soil and water samples collected were analyzed for the presence of petroleum-based fuels and associated compounds (See Baseline's Table 1 and

REGIONAL LOCATION AND SITE PLAN

Figure 1





Port of Oakland
801 Maritime Street
Oakland, California

BASELINE

Figure 2). Diesel fuel was detected at elevated concentrations in samples B-2 at 3,600 mg/Kg and in C-2 at 1,600 mg/kg. Low concentrations of benzene, toluene, xylene, ethylbenzenes (BTE & X) were detected in sample C-1.

Following removal of the tanks, soils were removed and stockpiled on site. Soils that contained concentrations of hydrocarbons in excess of 1,000 mg/Kg were separately stockpiled. The final dimensions of the excavation were approximately 52 by 64 feet and reached a maximum depth of 12 feet below ground surface. The excavation was subsequently filled with concrete rubble derived from a building demolished at the site and base rock.

Samples were collected of ground water that had accumulated in the excavation and analyzed for the same compounds as the soils. Dissolved concentrations of gasoline and diesel fuels were reported as well as BTE & X compounds (See Baseline's Table 1).

Discussion of Findings

The tank removal report has documented the release of diesel and gasoline fuels and BTE & X compounds to the soils below the former tanks. Fuel-affected soils were reported in excess of 1,000 mg/kg fuel hydrocarbons; however, these soils were reportedly excavated and treated on site by bioremediation. In addition, any remaining compounds and/or product in the ground undoubtedly have been subject to 5 years of in situ breakdown due to microbiological activities. Even if the concentrations of individual components of concern (benzene, toluene, ethylbenzene, and xylenes) had remained in the soils at their highest reported values, they would not exceed the preliminary remediation goals (PRGs) for industrial sites. The relevant PRGs for industrial site soils are benzene 4.6 mg/kg, toluene 280 mg/kg, ethylbenzene 310 mg/kg, and xylenes (mixed) 99 mg/kg.

PRGs!?

Baseline reported the presence of hydrocarbons in ground water in the excavation. They also noted that "the presence of hydrocarbons in the water may have been due to tank removal activities." Furthermore, Baseline attempted to remediate the hydrocarbons that were released during tank removal by withdrawal of the ground water that had accumulated in the excavation. The ground water was subsequently transported to H & H Ship Services for disposal. Of the fuel components originally reported to be present in the ground water, only benzene exceeded its California maximum contaminant level (MCL) of 1 µg/l. If benzene is still present in the ground water, the compound should be present at a location hydraulically downgradient from the former tank site. The MCLs for the other compounds

pumping ?

quantity ?

TABLE 1

SOIL AND WATER SAMPLING ANALYTICAL RESULTS
FOR UNDERGROUND TANK REMOVAL
801 Maritime Street, Oakland

Sample ID[1]	Depth (feet)	Total Volatile HC	Total Extractable HC	Benzene	Toluene	Xylenes	Ethylbenzene
Tank Area							
Soil Samples (mg/kg) (2/16/89)							
A-1	8	ND	27[2]	ND	ND	ND	ND
A-2	8	ND	ND	ND	0.017	0.029	ND
A-3	8	ND	ND	ND	ND	ND	ND
B-1	9.5	ND	ND	ND	ND	ND	ND
B-2	9.5	ND	3,600[3,9]	ND	ND	ND	ND
C-1	6	ND	ND	0.025	0.035	0.045	0.025
C-2	6	25	1,600[4,9]	<0.5	<0.5	<0.5	<0.5
C-3	6	ND	ND	ND	ND	ND	ND
M-1	10	ND	ND	ND	0.1	0.145	ND
M-2	10	10	ND	ND	0.26	0.4	0.08
Tank Area Water Sample (mg/L) (2/16/89)							
W-1/W-2/W-3		0.48	21	0.019	0.026	0.078	0.017
Stockpile Soil Samples (mg/kg) (2/16/89 and 2/21/89)							
ST-1	-	ND	ND	ND	ND	ND	ND
ST-2	-	ND	920[5]	ND	ND	ND	ND
ST-3a & b[6]	-	ND	ND	ND	ND	ND	ND
ST-4a & b[6]	-	ND	ND	ND	ND	ND	ND
ST-5a & b[6]	-	ND	110[2]	ND	ND	ND	ND
ST-5c & d[6]	-	<2.5	149	ND	ND	0.0062	ND
Product Line Trench Samples (mg/kg) (4/7/89)							
T-1	1.5	ND[7]	6.6	0.0063	ND	ND	0.0051
T-2	1	ND[7]	17.8	0.0167	ND	ND	ND
T-3	1	ND[7]	ND[8]	ND	ND	ND	ND
T-4	0.25	ND[7]	ND[8]	ND	ND	ND	ND
T-5	0.5	ND[7]	ND[8]	ND	ND	ND	ND
T-6	0.5	2.6	ND[8]	0.0165	0.0051	ND	ND
Detection Limit (mg/kg)		10	10	0.005	0.005	0.005	0.005
(mg/L)		0.05	500	0.001	0.001	0.001	0.001
EPA Method		8015/5030	8015	8020/602	8020/602	8020/602	8020/602

TABLE 1 (continued)

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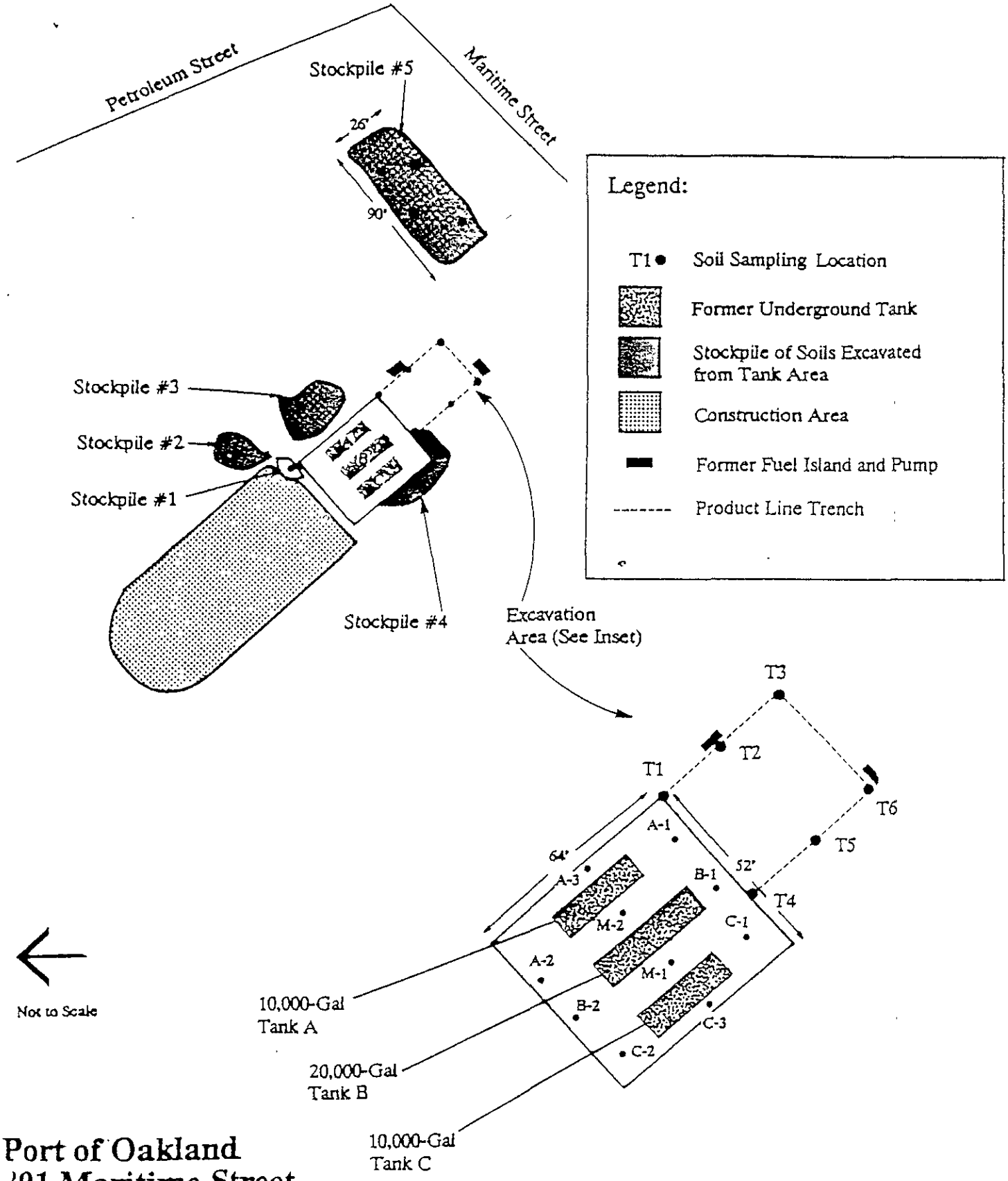
[1] Samples collected by Baseline Environmental Consulting. See Figure 1 for soil sampling locations. Water sample was collected in tank area (in three containers).
[2] As diesel.
[3] Quantitation based on largest peaks in the C-6 to C-20 boiling range.
[4] Quantitation based on largest peaks in the C-6 to C-9 boiling range.
[5] Quantitation based on largest peaks in the C-12 to C-24 boiling range.
[6] Composite sample.
[7] Detection limit = 2.5 mg/kg.
[8] Detection limit = 5 mg/kg.
[9] Soils subsequently removed and placed in stockpiles #2 and #5.
- = Not Applicable.
NA = not analyzed.
ND = not detected.

SOIL SAMPLING LOCATIONS

Figure 2



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BASELINE

are toluene 1000 µg/l (EPA), ethylbenzene 680 µg/l (California), and xylenes 1,750 µg/l (California).

In summary, past work has accomplished the removal of soils contaminated with petroleum fuels and compounds. Moreover, further soil sampling in the area of the former tank excavation would be futile due to the presence of concrete rubble and rock backfill material. An attempt was made to remediate the ground water at the site, but it is unknown if any fuels and their components remain. Therefore, ERM-West, Inc., recommends that additional site investigation be accomplished by the construction of one monitoring well. The well should be located hydraulically downgradient from the former underground storage tanks in an area likely to intercept any release to ground water.

Field Investigation

This section presents and discusses the proposed site investigation activities, report preparation, and scheduling.

Permitting

Prior to the start of field activities, a Groundwater Protection Ordinance Permit will be obtained from Zone 7, Alameda County Flood Control and Water Conservation District.

Monitoring Well Location, Depth and Construction

Ongoing quarterly monitoring data from the former Mobil and Ashland Oil sites located approximately 1,000 feet to the north of the 801 Maritime site have indicated the presence of ground water at a depth of approximately 8 feet below ground surface (bgs) and a flow direction toward San Francisco Bay (Alisto Engineering Group, February 18, 1994). Therefore, a monitoring well should be placed downgradient of the underground storage tank site at the location shown in Baseline's Figure 1.

which direction?

Well drilling will be accomplished through the use of a decontaminated truck-mounted drill equipped with hollow-stem auger. During drilling, the soils encountered will be described by a geologist according to the Unified Soil Classification System (USCS) and recorded on a standardized logging form. At the discretion of the geologist, samples of the soils may be collected at discrete intervals as a spot check of the soils descriptions.

on 3-2-94 gw at Mobil flowed variable (N, W, + SW)
12-7-93 variable (W, SW,)

The well will be drilled to a depth of approximately 20 feet bgs and screened in a depth range of approximately 5 to 15 feet bgs. The well casing, screen, and bottom plug material will be flush-threaded, Schedule 40 PVC. The well screen will have 0.01-inch machined slots. The filter pack sand will be Lonestar # 2/12 or equivalent. A layer of bentonite pellets will be located above the filter pack and will be at least 2 feet in thickness. The remainder of the annular space will be filled with bentonite-cement grout. At the ground surface, the well head will be enclosed in a weather-tight traffic-type box. Access to the well casing will be secured with a locking cap. The details of the construction, including the quantities of materials used, will be recorded on a separate form.

Development and Sampling

24-72 hrs.

Development of the well will be accomplished through pumping and/or bailing. The procedure will continue until at least three well volumes of water have been purged and the physical parameters of temperature, pH, and conductivity have stabilized. The quantity of water, depth to water, clarity, and the measured parameters will be recorded. The purge water will be retained in DOT-approved 55-gallon steel drum(s) and sealed and stored on site.

24-72 hrs. no

The well will be sampled immediately after development has been completed. Water samples will be collected with a clean Teflon sampling bailer equipped with a new cord. The sampled water will be transferred to laboratory-supplied bottles, capped, labeled, sealed in a Ziplock-type plastic bag, then placed on ice in a cooler.

Laboratory Analyses

All samples will be submitted to D & M Laboratories, a State of California certified laboratory under chain of custody. The samples will be analyzed according to EPA Methods 8015-M and 8020 for petroleum fuels and hydrocarbons. specify

Health and Safety

A site-specific Health and Safety Plan will be prepared prior to the start of field activities. The plan will designate the field health and safety officer, include recommended action levels, and list emergency phone numbers.

Field Quality Assurance/Quality Control

The QA/QC procedures described below will provide a system of checks designed to ensure the minimization of errors:

- Steam cleaning the drilling equipment prior to the start of drilling;
- Using a fresh pair of disposable gloves with each sampling event; and
- Carefully preparing sample labels and cross-comparing of labels against chain-of-custody lists and field notes.

Cuttings

Soil cuttings generated during the borings will be retained in DOT-approved 55-gallon steel drum(s). After each drum is filled, it will be sealed, labeled, and removed from the immediate work site. The sealed and labeled drums will be left at the site. NOT – follow up

Report of Findings and Schedule

After the field work has been completed and the analytical results have been forwarded by the laboratory, a report will be prepared. The report will document the construction and sampling of the monitoring well. Supporting material will be included as attachments.

The activities outlined above are tentatively scheduled to start on May 16, 1994. We therefore ask that you review this plan prior to that date. If you have any questions, please contact the undersigned.

ERM-WEST, INC.

John R. Prall, R.G.
Senior Geologist

JRP/jrp/2162.13

Attachments

References Cited

Alisto Engineering Group, February 18, 1994. *Groundwater Monitoring and Sampling Report, Former Mobil Oil Bulk Terminal, 909 Ferry Street, Oakland, California.*

Baseline Environmental Consulting, April 1989. *Report on Tank Removal and Remediation Activities, 801 Maritime Street, Oakland, California.*

Baseline Environmental Consulting, August 1989. *Bioremediation Program for Soils From 801 Maritime Street, Oakland, California.*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

February 1, 1994

Subject: Region IX Preliminary Remediation Goals (PRGs) First Half 1994

From: Stanford J. Smucker, Ph.D.
Regional Toxicologist (H-9-3)

To: PRG Table Mailing List

Please find the update to the Region IX PRG tables. The tables have been revised to reflect the most current EPA information. Updates to toxicity values were obtained from IRIS through January 1994 and HEAST through July 1993. Exposure factors have not changed from previous issues and reflect assumptions in RAGS Supplemental Guidance (OSWER Directive 9285.6-03, EPA 1991).

The tables provide useful risk-based information for Region IX risk assessors and managers. However, the tables have no official status and may be in conflict with local state requirements. They should be used only as a predictor of single-contaminant risk estimates for a specific environmental media (soil, air, and tap water).

A contaminant concentration that exceeds a PRG level does not, in itself, mean that there is an unacceptable health threat. However, exceedances should be evaluated further. It is recommended that the reader verify the numbers with a toxicologist because the toxicity/exposure information in the table may contain errors or need to be refined based on further evaluation. If you find an error please send me a note via fax at (415) 744-1916.

To get on the PRG Table Mailing List, please make the request through EPA's project manager working on your site. Another option, to obtain the most recent version of the table, is to download the PRG Reference Tables (including text and physico-chemical information) directly from California Regional Water Board's Bulletin Board System at (510) 286-0404. I have tried it out and found it to be very user friendly.

INTRODUCTION

Region IX PRG Tables combine EPA toxicity values (updated biannually) with health-protective exposure assumptions to estimate "safe" contaminant levels in environmental media (e.g. soil, air, and water). When applicable, Region IX PRGs can be used as a rapid reference for screening concentrations in environmental media, as "triggers" for further investigation at CERCLA/RCRA sites, and as initial cleanup goals. In general, chemical concentrations above the levels in the table suggest a need for a closer look by a toxicologist.

Before applying the PRGs as initial cleanup goals at a site, the user of the Tables should consider whether the exposure pathways at the site are fully accounted for in the PRG calculation. Region IX PRGs are based on direct exposures (i.e. ingestion, dermal contact, and inhalation) for specific land-use assumptions. To determine the appropriateness of Region IX PRGs, the following questions should be asked:

- Are there potential ecological concerns?
- Is there potential for land use other than those covered by the PRGs (that is, residential and industrial)?
- Are there other likely human exposure pathways that were not considered in development of the PRGs (e.g. impact to groundwater, local fish consumption; raising beef, dairy, or other livestock)?
- Are there unusual site conditions (e.g. large areas of contamination, high fugitive dust levels)?

If any of these four conditions exist, the PRG may need to be modified to reflect this new information. In general, PRGs are refined in the site conceptual model developed as part of a site-specific risk assessment.

DISCLAIMER

Preliminary remediation goals (PRGs) focus on dominant exposure pathways and may not consider all exposure pathways encountered at CERCLA/RCRA sites (Exhibit 1-1). PRGs do not consider impact to groundwater or address ecological concerns. PRGs are specifically not intended as a (1) stand-alone decision-making tool, (2) as a substitute for EPA guidance for preparing baseline risk assessments, (3) a source of site-specific cleanup levels, or (4) a rule to determine if a waste is hazardous under RCRA.

READING THE PRG REFERENCE TABLE

General Considerations:

The PRG Table can be used for general risk screening purposes for residents and workers. Generally, the maximum concentration (or 95 UCL of the arithmetic mean) should be compared against the PRG concentrations. This comparison should only be performed after an extensive records search and compilation of existing data. As noted, before applying the PRG concentrations to a site, it is important to make sure that the exposure pathways and assumptions contained in the PRGs match those at the site. Region IX PRGs are based on standard EPA assumptions for direct exposures (i.e. ingestion, inhalation, and dermal contact) presented in RAGS Supplemental Guidance; OSWER Directive 9285.6-03). Additional pathways not covered by the PRGs require further evaluation.

If more than a handful of chemicals are present at a site, it is recommended that multiple chemical additivity be considered for screening risks at a site. This can be done fairly simply by summing the ratios of measured concentrations to PRG concentrations (e.g. maximum value/PRG value). Cancer and noncancer based PRGs should be segregated when summing ratios. For carcinogens that also have noncancer endpoints, noncancer PRGs (which, in most cases are not presented in the tables) must also be calculated in addition to the cancer PRGs presented in the tables. For more information on screening site risks, the reader should contact EPA Region IX's Technical Support Section.

In the PRG Table, separate cancer and noncancer concentrations were calculated based on a lifetime cancer risk of 10^{-6} risk and a noncancer hazard quotient of 1. The PRG Table presents the lower of the two values. Generally, PRG concentrations for carcinogens are based on cancer effects and for noncarcinogens are based on noncancer effects. However, additional considerations were necessary for soils. For some noncarcinogens, risk-based PRG concentrations were very high, higher than what is physically possible. In these cases a reasonable "ceiling limit" for the amount of chemical that may be in the soil matrix was estimated. For volatiles, the "ceiling limit" is based on the soil saturation limit ("sat") described below. For nonvolatiles, the "ceiling limit" is set at a maximum value ("max") of roughly 10 percent in soils (i.e. 100,000 mg/kg).

Toxicity Values:

EPA toxicity values, known as "safe" reference doses (RfD) and carcinogenic slope factors (SF) were obtained from IRIS through January 1994, HEAST through July 1993, and ECAO-Cincinnati. The priority among sources of toxicological constants used are as follows: (1) IRIS (indicated by "i"), (2) HEAST ("h"), (3) ECAO-

Cincinnati ("e"), and (4) withdrawn from IRIS or HEAST ("x"). For polycyclic aromatic hydrocarbons, a toxicity equivalency factor ("t") was applied (ECAO-Cincinnati). **Note that in some cases, state toxicity values may differ from the federal numbers or even be promulgated as ARARs. These numbers and the resultant PRGs should also be considered as initial cleanup goals.**

Route-to-route extapolations ("r") were frequently used when there were no toxicity values available for a given route. Oral cancer slope factors ("oSF") and reference doses ("oRfD") were used for both oral and inhaled exposures for organic compounds lacking inhalation values. Inhaled slope factors ("iSF") and reference doses ("iRfD") were used for both inhaled and oral exposures for organic compounds lacking oral values.

Volatile Chemicals in Soil and Water:

For volatile chemicals, a volatilization factor or constant was incorporated into the PRG equations for soil and water. Volatile organic chemicals (VOCs) are indicated by "1" in the PRG Table and are defined as those chemicals having a Henry's Law constant greater than 10^{-5} (atm-m^3/mol) and a molecular weight less than 200 g/mole).

For tap water, an upperbound volatilization constant (K) is used that is based on all uses of household water (e.g showering, laundering, dish washing). Certain assumptions were made. For example, it is assumed that the volume of water used in a residence for a family of four is 720 L/day, the volume of the dwelling is 150,000 L and the air exchange rate is 0.25 air changes/hour (Andelman in RAGS Part B). Furthermore, it is assumed that the average transfer efficiency weighted by water use is 50 percent (i.e., half of the concentration of each chemical in water will be transfered into air by all water uses [the range extends from 30% for toilets to 90% for dishwashers]).

Volatilization factors for soils (VF) are chemical specific. Physical-chemical parameters (e.g. Henry's Law Constants, Diffusivity Coefficients, etc.) were obtained from a number of sources including Superfund Exposure Assessment Manual (reference "1")(EPA 1988), Superfund Public Health Evaluation Manual (reference "2")(EPA 1986), Subsurface Contamination Reference Guide (reference "3")(EPA 1990) and Fate and Exposure Data (reference "4")(Howard 1991) and are presented in Attachment A. In those cases where Diffusivity Coefficients (Di) were not provided in existing literature, Di's were calculated using Fuller's Method described in SEAM. A surrogate VF for contaminants in soil was required for some chemicals that lacked physicochemical information. In these cases, a proxy chemical of similar structure was used that may over- or under-estimate the PRG for soils.

The basic principle of the VF model is applicable only if the soil

contaminant concentration is at or below soil saturation. If the PRG calculated using VF was greater than the calculated soil saturation ("sat"), the PRG was set equal to "sat" in accordance with Risk Assessment Guidance for Superfund - Part B (EPA, 1991).

Dermal Absorption of Contaminants in Soil:

Much uncertainty surrounds the determination of hazards associated with dermal contact with soils. Acute irritation, sensitization reactions, and/or cancer concerns associated with dermal exposures may need to be considered. However, in most cases there are scientific limitations with evaluating these direct contact exposures quantitatively.

Region IX PRGs do consider dermal absorption of contaminants in soil. For volatiles and inorganics, dermal absorption is considered negligible relative to ingestion and/or inhalation exposures. For semivolatiles, a default of 10% dermal absorption is assumed. At this % absorption, the dermal dose is estimated to equal the ingestion dose, using the best estimate default values in Dermal Exposure Assessment: Principles and Applications (EPA 1992). Therefore, to take into account dermal exposures to semivolatiles in soil, the PRG based on ingestion is simply divided by a factor of 2 (that is, the ingestion dose is doubled to account for dermal exposure).

Chemicals Adsorbed to Airborne Particles:

Inhalation of chemicals adsorbed to respirable particles (PM_{10}) were assessed using a default particulate emission factor (PEF) equal to 4.63×10^9 m^3/kg that relates the contaminant concentration in soil with the concentration of respirable particles in the air due to fugitive dust emissions from contaminated soils. The relationship is derived by Cowherd (1985) for a rapid assessment procedure applicable to a typical hazardous waste site where the surface contamination provides a relatively continuous and constant potential for emission over an extended period of time (e.g. years). **This may not be an appropriate assumption for all sites.**

With the possible exception of cadmium, chromium, and nickel, inhalation of airborne particles does not significantly affect the PRG for soils and therefore is not considered further in this memorandum. As written, the Soil PRG equations do not incorporate a PEF value. To incorporate the PEF in the PRG equation (either the default value or a site-specific value), the user simply substitutes the PEF value for the VF value (see below). For more details regarding specific parameters used in the PEF model, the reader is referred to RAGS Part B (EPA, 1991).

EXHIBIT 1-1
TYPICAL EXPOSURE PATHWAYS BY MEDIUM
FOR RESIDENTIAL AND INDUSTRIAL LAND USES[a]

	EXPOSURE PATHWAYS, ASSUMING:	
MEDIUM	RESIDENTIAL LAND USE	INDUSTRIAL LAND USE
Ground Water	**Ingestion from drinking**	Ingestion from drinking
	Inhalation of volatiles	Inhalation of volatiles
	Dermal absorption from bathing	Dermal absorption
Surface Water	**Ingestion from drinking**	Ingestion from drinking
	Inhalation of volatiles	Inhalation of volatiles
	Dermal absorption from bathing	Dermal absorption
	Ingestion during swimming	
	Ingestion of contaminated fish	
Soil	**Ingestion**	**Ingestion**
	Inhalation of particulates	**Inhalation of particulates**
	Inhalation of volatiles	**Inhalation of volatiles**
	Exposure to indoor air from soil gas	Exposure to indoor air from soil gas
	Exposure to ground water contaminated by soil leachate	Exposure to ground water contaminated by soil leachate
	Ingestion via plant uptake	Inhalation of particulates from trucks and heavy equipment
	Dermal absorption	**Dermal absorption**

Footnote:
[a]Exposure pathways considered in the PRG calculations are indicated in bold print.

EXPOSURE ASSUMPTIONS

Parameter	Definition (units)	Default
CSF_o	Cancer slope factor oral $(mg/kg-d)^{-1}$	--
CSF_i	Cancer slope factor inhaled $(mg/kg-d)^{-1}$	--
RfD_o	Reference dose oral (mg/kg-d)	--
RfD_i	Reference dose inhaled (mg/kg-d)	--
TR	Target cancer risk	10^{-6}
THQ	Target hazard quotient	1
BW_a	Body weight, adult (kg)	70
BW_c	Body weight, child (kg)	15
AT	Averaging time (years of life)	70[a]
IR_a	Air breathed (m^3/day)	20, 15[b]
IR_w	Drinking water ingestion (L/day)	2
IRS_a	Soil ingestion - lifetime resident (mg/day)	100
IRS_c	Soil ingestion - child resident (age 1-6), (mg/day)	200
IRS_o	Soil ingestion - occupational (mg/day)	50
EF_r	Exposure frequency - residential (d/y)	350
EF_o	Exposure frequency - occupational (d/y)	250
ED_r	Exposure duration - residential (years)	30, 6[c]
ED_o	Exposure duration - occupational (years)	25
K	Volatilization factor for water (unitless) (Andelman 1990)	0.5

Footnote:

[a]Seventy years is the averaging time for carcinogens. For noncarcinogens, the averaging time is set equal to the exposure duration (AT = ED).

[b]15 m^3/day is the daily intake rate for indoor air. This assumption is used in the tap water equation on page 8.

[c]Exposure duration for lifetime residents is assumed to be 30 years and for child residents is assumed to be 6 years (age 1 thru 6).

PRG EQUATIONS

1. Residential Soil

a. Carcinogens:

$$C(mg/kg) = \frac{TR \times BW_a \times AT \times 365 d/y}{EF_r \times ED_r \left[\left(\frac{IRS_a \times CSF_o}{10^6 mg/kg} \right) + \left(\frac{IR_a \times CSF_i}{VF} \right) \right]}$$

b. Non-carcinogens:

(1) Child

$$C(mg/kg) = \frac{THQ \times RfD_o \times BW_c \times ED_r \times 365 d/y}{EF_r \times ED_r \times \frac{IRS_c}{10^6 mg/kg}}$$

(2) Adult (for volatiles only)

$$C(mg/kg) = \frac{THQ \times BW_a \times ED_r \times 365 d/y}{EF_r \times ED_r \times \left[\left(\frac{1}{RfD_o} \times \frac{IRS_a}{10^6 mg/kg} \right) + \left(\frac{1}{RfD_i} \times \frac{IR_a}{VF} \right) \right]}$$

2. Industrial Soil

a. Carcinogens

$$C(mg/kg) = \frac{TR \times BW_a \times AT \times 365 d/y}{EF_c \times ED_c \times \left[\left(\frac{IRS_c \times CSF_o}{10^6 mg/kg} \right) + \left(\frac{IR_a \times CSF_i}{VF} \right) \right]}$$

b. Non-carcinogens

$$C(mg/kg) = \frac{THQ \times BW_a \times ED_c \times 365 d/y}{EF_c \times ED_c \times \left[\left(\frac{1}{RfD_o} \times \frac{IRS_o}{10^6 mg/kg} \right) + \left(\frac{1}{RfD_i} \times \frac{IR_a}{VF} \right) \right]}$$

3. Drinking water

a. Carcinogens

$$C(ug/L) = \frac{TR \times BW_a \times AT \times 365d/y \times 10^3 ug/mg}{EF_r \times ED_r \times [(IR_w \times CSF_o) + (K \times IR_a \times CSF_i)]}$$

b. Non-carcinogens

$$C(ug/L) = \frac{THQ \times BW_a \times ED_r \times 365d/y \times 10^3 ug/mg}{EF_r \times ED_r \times [(\frac{IR_w}{RfD_o}) + (\frac{K \times IR_a}{RfD_i})]}$$

4. Air

a. Carcinogens

$$C(ug/m^3) = \frac{TR \times BW_a \times AT \times 365d/y \times 10^3 ug/mg}{EF_r \times ED_r \times IR_a \times CSF_i}$$

b. Non-carcinogens

$$C(ug/m^3) = \frac{THQ \times RfD_i \times BW_a \times ED_r \times 365d/y \times 10^3 ug/mg}{EF_r \times ED_r \times IR_a}$$

SOIL-TO-AIR VOLATILIZATION FACTOR (VF)

$$VF(m^3/kg) = \frac{(LS \times V \times DH)}{A} \times \frac{(3.14 \times \alpha \times T)^{1/2}}{(2 \times D_{ei} \times P_a \times K_{as} \times 10^{-3} kg/g)}$$

where:

$$\alpha = \frac{D_{ei} \times P_a}{P_a + (\rho_s)(1-P_a)/K_{as}}$$

Parameter	Definition (units)	Default
VF	Volatilization factor (m^3/kg)	--
LS	Length of side of contaminated area (m)	45
V	Windspeed in mixing zone (m/s)	2.25
DH	Diffusion height (m)	2
A	Area of contamination (cm^2)	20,250,000
D_{ei}	Effective diffusivity (cm^2/s)	$D_i(P_a^{3.33}/P_t^2)$
P_a	Air filled soil porosity (unitless)	$P_t - \theta\beta$
P_t	Total soil porosity (unitless)	$1-(\beta/\rho_s)$
θ	Soil moisture content (cm^3-water/g-soil)	10% or 0.1
β	Soil bulk density (g/cm^3)	1.5
ρ_s	True soil density or particle density (g/cm^3)	2.65
K_{as}	Soil-air partition coefficient (g-soil/cm^3-air)	(H/K_d) x 41 (41 is a conversion factor)
T	Exposure interval (s)	7.9×10^8
D_i	Diffusivity in air (cm^2/s)	Chemical-specific
H	Henry's Law constant (atm-m^3/mol)	Chemical-specific
K_d	Soil-water partition coefficient (cm^3/g)	K_{oc} x OC
K_{oc}	Organic carbon partition coefficient (cm^3/g)	Chemical-specific
OC	Organic carbon content of soil (fraction)	2% or 0.02

SOIL SATURATION CONCENTRATION (C_{sat})

$$C_{sat} = \frac{(K_d \times C_w \times \beta) + (C_w \times P_w) + (C_w \times H' \times P_a)}{\beta}$$

Parameter	Definition (units)	Default
C_{sat}	Soil saturation concentration (mg/kg)	--
K_d	Soil-water partition coefficient (L/kg)	K_{oc} x OC
K_{oc}	Organic carbon partition	Chemical-specific
OC	Organic carbon content of soil (fraction)	2% or 0.02
C_w	Upper limit of free moisture in soil (mg/L-water)	S x θ
S	Solubility in water (mg/L-water)	Chemical-specific
β	Soil bulk density (kg/L)	1.5
P_w	Water filled soil porosity	$P_t - P_a$
H'	Henry's Law constant (unitless)	H x 41, where 41 is a conversion factor
P_a	Air-filled soil porosity	$P_t - \theta\beta$
θ	Soil moisture content (kg-water/kg-soil)	10% or 0.1
P_t	Total soil porosity (unitless)	$1 - (\beta/\rho_s)$
ρ_s	True soil density or particle density (kg/L)	2.65

ATTACHMENT A

PHYSICAL-CHEMICAL CONSTANTS USED IN CALCULATING SOIL PRGs FOR VOLATILE ORGANIC CHEMICALS

	MW (g/mol)	Henry's Law (atm-m^3/mol)	Diffusivity in Air (cm^2/s)	Koc (ml/g)	Water Solubility (mg/l)	References
Acetone	58	0 000021	0 100	2 2	1000000	1,2
Acrylonitrile	53	0.000088	0 110	0 9	79000	1,2
Ammonia	17	0 000320	0.260	3 1	530000	1,2
Benzene	78	0 005500	0 088	65 0	1800	1,2,3
Benzyl chloride	130	0 000051	0 067	50 0	3300	1,2
Bis(2-chloroethyl)ether	140	0 000290	0 070	14 0	10000	1,2,4
Bis(2-chloroisopropyl)ether	170	0.000110	0 063	61 0	1700	1,2
Bis(chloromethyl)ether	120	0.000200	0 089	1 2	22000	1,2
Bromodichloromethane	160	0 001600	0 080	100 0	4700	2,4
Bromoethene (Surrogate = Bromomethane)	108	0 006200	0 100	130 0	18000	2,4
Bromomethane	95	0.006200	0 100	130.0	18000	2,4
1,3-Butadiene	54	0 180000	0 096	120.0	740	1,2
Carbon disulfide	76	0 012000	0 110	54 0	2900	1,2
Carbon tetrachloride	150	0.024000	0 080	110.0	760	2,3
Chlorine dioxide						
Chloroacetaldehyde						
2-Chloroacetophenone (Surrogate = Chlorobenzene)	150	0.003500	0.072	160.0	470	2,3
Chlorobenzene	110	0 003500	0.072	160.0	470	2,3
2-Chloro-1,3-butadiene	88	0.032000	0 110	50.0	660	2,4
1-Chlorobutane (Surrogate = 2-Chloro-1,3-butadiene)	93	0.032000	0 110	50 0	660	2,4
Chlorodifluoromethane (Surrogate = Dichlorodifluoromethane)	120	0.100000	0.080	58.0	280	1,2,4
1-Chloroethyl vinyl ether						
Chloroform	120	0 003800	0 089	31 0	8200	1,2,4
Chloromethane	51	0 024000	0 110	35.0	8200	1,2,4
2-Chloropropane	79	0 002300	0 080	51.0	2700	1,2
o-Chlorotoluene	127	0 003500	0 072	160 0	470	2,3
Crotonaldehyde (Surrogate = Methyl methacrylate)	70	0 240000	0 091	840 0	20	1,2
Cumene (Surrogate = Ethylbenzene)	120	0 006400	0 075	220 0	150	2,3
1,2-Dibromoethane	190	0 000320	0 073	28 0	3400	2,3
1,2-Dichlorobenzene	150	0 001900	0 130	1100 0	100	2,3
1,3-Dichlorobenzene	150	0 001900	0 130	1200 0	120	2,3
1,4-Dichlorobenzene	150	0.001600	0 130	1200.0	79	2,3
1,4-Dichloro-2-butene (Surrogate = 2-Chloro-1 3-butadiene)	122	0 032000	0 110	50 0	660	1,2
Dichlorodifluoromethane	120	0 100000	0 080	58 0	280	1,2,4
1,1-Dichloroethane	99	0.004300	0 091	30 0	5500	2,3
1,2-Dichloroethane (EDC)	99	0 001200	0 091	14 0	8700	2,3
1,1-Dichloroethylene	97	0 150000	0 079	65 0	400	2,3
1,2-Dichloroethylene (trans)	97	0 006600	0 079	59 0	6300	2,3
1,2-Dichloroethylene (mixture)	97	0.006600	0 079	59 0	6300	2,3
1,2-Dichloropropane	110	0 003600	0 080	51 0	2700	1,2,4
1,3-Dichloropropane	110	0 001300	0 080	48 0	2800	1,2
1,3-Dichloropropene	110	0 001300	0 081	48 0	2800	1,2
Dicyclopentadiene						
Dimethylamine	45	0.000090	0 120	2.2	1000000	1,2
1,4-Dioxane	88	0 000011	0 085	3 5	430000	1,2
Epichlorohydrin	93	0 000032	0 088	3.5	60000	1,2
Ethyl acrylate (Surrogate = Methyl methacrylate)	100	0.240000	0 091	840 0	20	1,2
Ethylbenzene	110	0 007900	0.075	220.0	680	2,3
Ethylene oxide	44	0 000076	0 130	2 2	1000000	1,2
Ethyl chloride	65	0 011000	0 100	15 0	5700	2,3
Ethyl ether	74	0 000013	0 070	14 0	10000	1,2,4
Ethyl methacrylate (Surrogate = Methyl methacrylate)	120	0 240000	0 091	840 0	20	1,2
Hydrogen sulfide						
Methacrylonitrile (Surrogate = Acrylonitrile)	93	0.000088	0 110	0 9	79000	1,2
Methyl acetate (Surrogate = Acetone)	74	0 000021	0 100	2 2	1000000	1,2
Methyl acrylate (Surrogate = Methyl methacrylate)	100	0.240000	0 091	840.0	20	1,2
Methylene chloride	85	0 002600	0 100	8 8	13200	2,3
Methyl ethyl ketone	72	0 000027	0 090	4 5	270000	2,3
Methyl styrene (mixture) (Surrogate = Styrene)	119	0 002300	0 071	360.0	300	2,3
Methyl styrene (alpha) (Surrogate = Styrene)	119	0.002300	0 071	360.0	300	2,3
Nitrogen dioxide						
2-Nitropropane						
Polynuclear aromatic hydrocarbons						
Acenaphthene	150	0.001200	0 064	4600.0	4	2,3
Anthracene	180	0.000034	0 058	13000.0	0	2,3
Fluorene	170	0.000064	0.061	7900.0	2	2,3
Naphthalene	130	0.001300	0 069	1300 0	31	2,3
Phenanthrene	180	0.000040	0 058	14000 0	1	2,3
Propylene oxide	58					
Styrene	100	0.002300	0 071	360.0	300	2,3
1,1,1,2-Tetrachloroethane	170	0 000380	0 073	54 0	2900	1,2
1,1,2,2-Tetrachloroethane	170	0.000500	0.073	220.0	2900	2,3
Tetrachloroethylene (PCE)	170	0.023000	0 072	660.0	150	2,3
Tetrahydrofuran	72	0 000110	0.089			2,3
Toluene	92	0 006600	0 078	260.0	520	2,3
1,2,4-Trichlorobenzene	180	0.002300	0 062	9200.0	30	1,2
1,1,1-Trichloroethane	130	0.002800	0.080	150 0	950	2,3
1,1,2-Trichloroethane	130	0.001200	0.080	56.0	4500	2,3
Trichloroethylene (TCE)	130	0 008920	0.081	130.0	1000	2,3
Trichlorofluoromethane	137	0.097000	0 087	160.0	1100	1,2,4
1,1,2-Trichloropropane (Surrogate = 1,2-Dichloropropane)	147	0.003600	0 080	51.0	2700	1,2
1,2,3-Trichloropropane (Surrogate = 1,2-Dichloropropane)	147	0.003600	0.080	51.0	2700	1,2
1,2,3-Trichloropropene (Surrogate = 1,3-Dichloropropene)	146	0.001300	0.081	48.0	2800	1,2
1,1,2-Trichloro-1,2,2-trifluoroethane (S = Trichlorofluoromethane)	186	0.058000	0.087	160.0	1100	1,2,4
Triethylamine (Surrogate = Dimethylamine)	86	0.000090	0.120	2.2	1000000	1,2
Vinyl chloride	63	0.700000	0.110	57.0	1100	2,3
m-Xylene	110	0.006900	0.087	240.0	200	2,3
o-Xylene	110	0.004900	0 087	240.0	200	2,3
p-Xylene	110	0 007000	0 087	240 0	200	2,3
Xylene (mixed)	110	0 005300	0.087	240.0	200	2,3

CONTAMINANT	TOXICITY VALUES oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	V O C	PRELIMINARY REMEDIATION GOALS (PRGS) Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Acephate	8.7E-03 i	4.0E-03 i	8.7E-03 r	4.0E-03 r	0	9.8E+01 ca**	3.3E+02 ca*	9.8E-01 ca*	9.8E+00 ca*
Acetaldehyde		2.6E-03 r		2.6E-03 i	0	1.0E+02 nc	2.7E+03 nc	9.4E+00 nc	9.5E+01 nc
Acetochlor		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Acetone		1.0E-01 i		1.0E-01 r	1	9.2E+03 nc	1.3E+04 nc	3.7E+02 nc	7.7E+02 nc
Acetone cyanohydrin		7.0E-02 h		2.9E-03 h	0	2.7E+03 nc	7.2E+04 nc	1.0E+01 nc	2.6E+03 nc
Acetonitrile		6.0E-03 i		1.4E-02 h	0	2.3E+02 nc	6.1E+03 nc	5.2E+01 nc	2.2E+02 nc
Acetophenone		1.0E-01 i		5.7E-06 x	0	3.9E+03 nc	1.0E+05 nc	2.1E-02 nc	3.7E+03 nc
Acifluorfen		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Acrolein		2.0E-02 h		5.7E-06 t	0	7.8E+02 nc	2.0E+04 nc	2.1E-02 nc	7.3E+02 nc
Acrylamide	4.5E+00 i	2.0E-04 i	4.5E+00 i	2.0E-04 r	0	1.9E-01 ca*	6.3E-01 ca	1.9E-03 ca	1.9E-02 ca
Acrylic acid		8.0E-02 i		8.6E-05 i	0	3.1E+03 nc	8.2E+04 nc	3.1E-01 nc	2.9E+03 nc
Acrylonitrile	5.4E-01 i	5.7E-04 r	2.4E-01 i	5.7E-04 i	1	2.6E-01 ca*	4.5E-01 ca*	3.6E-02 ca*	5.9E-02 ca*
Alachlor	8.1E-02 h	1.0E-02 i	8.0E-02 r	1.0E-02 r	0	1.1E+01 ca*	3.6E+01 ca	1.1E-01 ca	1.1E+00 ca
Alar		1.5E-01 i		1.5E-01 r	0	5.9E+03 nc	1.0E+05 max	5.5E+02 nc	5.5E+03 nc
Aldicarb		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Aldicarb sulfone		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Aldrin	1.7E+01 i	3.0E-05 i	1.7E+01 i	3.0E-05 r	0	5.0E-02 ca*	1.7E-01 ca	5.0E-04 ca	5.0E-03 ca
Ally		2.5E-01 i		2.5E-01 r	0	9.8E+03 nc	1.0E+05 max	9.1E+02 nc	9.1E+03 nc
Allyl alcohol		5.0E-03 x		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Allyl chloride		5.0E-02 h		2.9E-04 i	0	2.0E+03 nc	5.1E+04 nc	1.0E+00 nc	1.8E+03 nc
Aluminum		1.0E+00 e			0	7.8E+04 nc	1.0E+05 max		3.7E+04 nc
Aluminum phosphide		4.0E-04 i			0	3.1E+01 nc	8.2E+02 nc		1.5E+01 nc
Amdro		3.0E-04 i		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
Ametryn		9.0E-03 i		9.0E-03 r	0	3.5E+02 nc	9.2E+03 nc	3.3E+01 nc	3.3E+02 nc
m-Aminophenol		7.0E-02 h		7.0E-02 r	0	2.7E+03 nc	7.2E+04 nc	2.6E+02 nc	2.6E+03 nc
4-Aminopyridine		2.0E-05 h		2.0E-05 r	0	7.8E-01 nc	2.0E+01 nc	7.3E-02 nc	7.3E-01 nc
Amitraz		2.5E-03 i		2.5E-03 r	0	9.8E+01 nc	2.6E+03 nc	9.1E+00 nc	9.1E+01 nc
Ammonia				2.9E-02 i	0			1.0E+02 nc	
Ammonium sulfamate		2.0E-01 i			0	7.8E+03 nc	1.0E+05 max		7.3E+03 nc
Aniline	5.7E-03 i	2.9E-04 r	5.7E-03 r	2.9E-04 i	0	1.1E+01 nc	3.0E+02 nc	1.0E+00 nc	1.1E+01 nc
Antimony and compounds		4.0E-04 i			0	3.1E+01 nc	8.2E+02 nc		1.5E+01 nc
Antimony pentoxide		5.0E-04 h			0	3.9E+01 nc	1.0E+03 nc		1.8E+01 nc
Antimony potassium tartrate		9.0E-04 h			0	7.0E+01 nc	1.8E+03 nc		3.3E+01 nc

Key: i=IRIS h=HEAST e=ECAO x=WITHDRAWN r=ROUTE EXTRAP. t=TOX. EQUIV. ca=CANCER PRG nc=NONCANCER PRG sat=SOIL SAT. max=MAX. LIMIT *=nc < 100X ca **=nc < 10X ca

CONTAMINANT	TOXICITY VALUES oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	V 0 C	PRELIMINARY REMEDIATION GOALS (PRGS) Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Antimony tetroxide		4.0E-04 h			0	3.1E+01 nc	8.2E+02 nc		1.5E+01 nc
Antimony trioxide		4.0E-04 h			0	3.1E+01 nc	8.2E+02 nc		1.5E+01 nc
Apollo		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Aramite	2.5E-02 i	5.0E-02 h	2.5E-02 i	5.0E-02 r	0	3.4E+01 ca*	1.1E+02 ca	3.4E-01 ca	3.4E+00 ca
Arsenic (noncancer endpoint)		3.0E-04 i			0	2.3E+01 nc			
Arsenic (cancer endpoint)	1.8E+00 i	3.0E-04 i	1.5E+01 i		0	9.7E-01 ca*	3.3E+00 ca	5.7E-04 ca	4.9E-02 ca
Assure		9.0E-03 i		9.0E-03 r	0	3.5E+02 nc	9.2E+03 nc	3.3E+01 nc	3.3E+02 nc
Asulam		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Atrazine	2.2E-01 h	3.5E-02 h	2.2E-01 r	3.5E-02 h	0	3.8E+00 ca	1.3E+01 ca	3.9E-02 ca	3.8E-01 ca
Avermectin B1		4.0E-04 i		4.0E-04 r	0	1.6E+01 nc	4.1E+02 nc	1.5E+00 nc	1.5E+01 nc
Azobenzene	1.1E-01 i		1.1E-01 i		0	7.7E+00 ca	2.6E+01 ca	7.8E-02 ca	7.7E-01 ca
Barium and compounds		7.0E-02 i		1.4E-04 h	0	5.5E+03 nc	1.0E+05 max	5.2E-01 nc	2.6E+03 nc
Baygon		4.0E-03 i		4.0E-03 r	0	1.6E+02 nc	4.1E+03 nc	1.5E+01 nc	1.5E+02 nc
Bayleton		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
Baythroid		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Benefin		3.0E-01 i		3.0E-01 r	0	1.2E+04 nc	1.0E+05 max	1.1E+03 nc	1.1E+04 nc
Benomyl		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Bentazon		2.5E-03 i		2.5E-03 r	0	9.8E+01 nc	2.6E+03 nc	9.1E+00 nc	9.1E+01 nc
Benzaldehyde		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Benzene	2.9E-02 i		2.9E-02 i		1	2.7E+00 ca	4.6E+00 ca	2.9E-01 ca	6.2E-01 ca
Benzidine	2.3E+02 i	3.0E-03 i	2.3E+02 i	3.0E-03 r	0	3.7E-03 ca	1.2E-02 ca	3.7E-05 ca	3.7E-04 ca
Benzoic acid		4.0E+00 i		4.0E+00 i	0	1.0E+05 max	1.0E+05 max	1.5E+04 nc	1.5E+05 nc
Benzotrichloride	1.3E+01 i		1.3E+01 r		0	6.6E-02 ca	2.2E-01 ca	6.6E-04 ca	6.6E-03 ca
Benzyl alcohol		3.0E-01 h		3.0E-01 r	0	1.2E+04 nc	1.0E+05 max	1.1E+03 nc	1.1E+04 nc
Benzyl chloride	1.7E-01 i		1.7E-01 r		1	3.4E+00 ca	6.8E+00 ca	5.0E-02 ca	1.1E-01 ca
Beryllium and compounds	4.3E+00 i	5.0E-03 i	8.4E+00 i		0	4.0E-01 ca	1.3E+00 ca		2.0E-02 ca
Bidrin		1.0E-04 i		1.0E-04 r	0	3.9E+00 nc	1.0E+02 nc	3.6E-01 nc	3.7E+00 nc
Biphenthrin (Talstar)		1.5E-02 i		1.5E-02 r	0	5.9E+02 nc	1.5E+04 nc	5.5E+01 nc	5.5E+02 nc
1,1-Biphenyl		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Bis(2-chloroethyl)ether	1.1E+00 i		1.2E+00 i		1	1.5E-01 ca	2.6E-01 ca	7.4E-03 ca	1.6E-02 ca
Bis(2-chloroisopropyl)ether	7.0E-02 h	4.0E-02 i	3.5E-02 h	4.0E-02 r	1	1.1E+01 ca	2.3E+01 ca	2.4E-01 ca	4.2E-01 ca
Bis(chloromethyl)ether	2.2E+02 i		2.2E+02 i		1	2.5E-04 ca	4.3E-04 ca	3.9E-05 ca	8.2E-05 ca
Bis(2-chloro-1-methylethyl)ether	7.0E-02 x		7.0E-02 x		0	1.2E+01 ca	4.1E+01 ca	1.2E-01 ca	1.2E+00 ca
Bis(2-ethylhexyl)phthalate (DEHP)	1.4E-02 i	2.0E-02 i	1.4E-02 r	2.2E-02 r	0	6.1E+01 ca*	2.0E+02 ca	6.1E-01 ca	6.1E+00 ca

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF	oRfD	iSF	iRfD	O	Residential	Industrial	Ambient Air	Tap Water
	1/(mg/kg-d)	(mg/kg-d)	1/(mg/kg-d)	(mg/kg-d)	C	Soil (mg/kg)	Soil (mg/kg)	(ug/m3)	(ug/l)
Bisphenol A		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Boron		9.0E-02 i		5.7E-03 h	0	7.0E+03 nc	9.2E+04 nc	2.1E+01 nc	3.3E+03 nc
Boron trifluoride				2.0E-04 h	0			7.3E-01 nc	
Bromodichloromethane	6.2E-02 i	2.0E-02 i	6.2E-02 r	2.0E-02 r	1	2.9E+00 ca	5.1E+00 ca	1.4E-01 ca	2.9E-01 ca
Bromoethene (vinyl bromide)	1.1E-01 r	8.6E-04 r	1.1E-01 h	8.6E-04 i	1	8.6E-01 ca*	1.5E+00 ca*	7.7E-02 ca*	1.6E-01 ca*
Bromoform (tribromomethane)	7.9E-03 i	2.0E-02 i	3.9E-03 i	2.0E-02 r	0	1.1E+02 ca**	3.6E+02 ca*	2.2E+00 ca*	1.1E+01 ca*
Bromomethane		1.4E-03 i		1.4E-03 i	1	6.0E+01 nc	8.4E+01 nc	5.2E+00 nc	1.1E+01 nc
4-Bromophenyl phenyl ether					0				
Bromophos		5.0E-03 h		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Bromoxynil		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Bromoxynil octanoate		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
1,3-Butadiene	9.8E-01 r		9.8E-01 i		1			8.7E-03 ca	1.8E-02 ca
1-Butanol		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Butylate		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Butyl benzyl phthalate		2.0E-01 i		2.0E-01 r	0	7.8E+03 nc	1.0E+05 max	7.3E+02 nc	7.3E+03 nc
Butylphthalyl butylglycolate		1.0E+00 i		1.0E+00 r	0	3.9E+04 nc	1.0E+05 max	3.7E+03 nc	3.7E+04 nc
Cacodylic acid		3.0E-03 h		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
Cadmium and compounds		5.0E-04 i	6.3E+00 i		0	3.9E+01 nc	4.9E+02 nc	1.4E-03 ca	1.8E+01 nc
Caprolactam		5.0E-01 i		5.0E-01 r	0	2.0E+04 nc	1.0E+05 max	1.8E+03 nc	1.8E+04 nc
Captafol	8.6E-03 h	2.0E-03 i	8.6E-03 r	2.0E-03 r	0	7.8E+01 nc	3.3E+02 ca*	9.9E-01 ca*	9.9E+00 ca*
Captan	3.5E-03 h	1.3E-01 i	3.5E-03 r	1.3E-01 r	0	2.4E+02 ca*	8.2E+02 ca	2.4E+00 ca	2.4E+01 ca
Carbaryl		1.0E-01 i		1.1E-01 r	0	3.9E+03 nc	1.0E+05 nc	4.0E+02 nc	3.7E+03 nc
Carbazole	2.0E-02 h		2.0E-02 r		0	4.3E+01 ca	1.4E+02 ca	4.3E-01 ca	4.3E+00 ca
Carbofuran		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Carbon disulfide		1.0E-01 i		2.9E-03 h	1	5.3E+01 nc	7.4E+01 nc	1.0E+01 nc	2.8E+01 nc
Carbon tetrachloride	1.3E-01 i	7.0E-04 i	5.2E-02 i	5.7E-04 e	1	9.2E-01 ca*	1.6E+00 ca*	1.6E-01 ca*	2.6E-01 ca*
Carbosulfan		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Carboxin		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Chloral		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Chloramben		1.5E-02 i		1.5E-02 r	0	5.9E+02 nc	1.5E+04 nc	5.5E+01 nc	5.5E+02 nc
Chloranil	4.0E-01 h		4.0E-01 r		0	2.1E+00 ca	7.1E+00 ca	2.1E-02 ca	2.1E-01 ca
Chlordane	1.3E+00 i	6.0E-05 i	1.3E+00 i	6.0E-05 r	0	6.6E-01 ca**	2.2E+00 ca*	6.6E-03 ca*	6.6E-02 ca*
Chlorimuron-ethyl		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc

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CONTAMINANT	TOXICITY VALUES oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	V 0 C	PRELIMINARY REMEDIATION GOALS (PRGS) Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Chlorine dioxide				5.7E-05 i	1			2.1E-01 nc	
Chloroacetaldehyde					1				
Chloroacetic acid		2.0E-03 h		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
2-Chloroacetophenone		8.6E-06 r		8.6E-06 i	1	2.8E-01 nc	3.9E-01 nc	3.1E-02 nc	6.6E-02 nc
4-Chloroaniline		4.0E-03 i		4.0E-03 r	0	1.6E+02 nc	4.1E+03 nc	1.5E+01 nc	1.5E+02 nc
Chlorobenzene		2.0E-02 i		5.7E-03 h	1	3.1E+02 sat	3.1E+02 sat	2.1E+01 nc	5.2E+01 nc
Chlorobenzilate	2.7E-01 h	2.0E-02 i	2.7E-01 h	2.0E-02 r	0	3.2E+00 ca	1.1E+01 ca	3.2E-02 ca	3.2E-01 ca
p-Chlorobenzoic acid		2.0E-01 h		2.0E-01 r	0	7.8E+03 nc	1.0E+05 max	7.3E+02 nc	7.3E+03 nc
4-Chlorobenzotrifluoride		2.0E-02 h		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
2-Chloro-1,3-butadiene		7.0E-03 h		2.9E-02 h	1	1.0E+02 sat	1.0E+02 sat	1.0E+02 nc	1.3E+02 nc
1-Chlorobutane		4.0E-01 h		4.0E-01 r	1	1.0E+02 sat	1.0E+02 sat	1.5E+03 nc	3.1E+03 nc
2-Chloroethyl vinyl ether					1				
Chlorodifluoromethane		1.4E+01 t		1.4E+01 i	1	5.7E+01 sat	5.7E+01 sat	5.1E+04 nc	8.5E+04 nc
Chloroform	6.1E-03 i	1.0E-02 i	8.1E-02 i	1.0E-02 r	1	9.6E-01 ca	1.6E+00 ca	1.1E-01 ca	2.8E-01 ca
Chloromethane	1.3E-02 h		6.3E-03 h		1	3.7E+00 ca	6.2E+00 ca	1.4E+00 ca	2.3E+00 ca
4-Chloro-2-methylaniline	5.8E-01 h		5.8E-01 r		0	1.5E+00 ca	4.9E+00 ca	1.5E-02 ca	1.5E-01 ca
4-Chloro-2,2-methylaniline hydrochloride	4.6E-01 h		4.6E-01 r		0	1.9E+00 ca	6.2E+00 ca	1.9E-02 ca	1.9E-01 ca
beta-Chloronaphthalene		8.0E-02 i		8.0E-02 r	0	3.1E+03 nc	8.2E+04 nc	2.9E+02 nc	2.9E+03 nc
o-Chloronitrobenzene	2.5E-02 h		2.5E-02 r	r	0	3.4E+01 ca	1.1E+02 ca	3.4E-01 ca	3.4E+00 ca
p-Chloronitrobenzene	1.8E-02 h		1.8E-02 r	r	0	4.7E+01 ca	1.6E+02 ca	4.7E-01 ca	4.7E+00 ca
2-Chlorophenol		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1 8E+02 nc
2-Chloropropane		2.9E-02 r		2.9E-02 h	1	3.1E+02 sat	3.1E+02 sat	1.0E+02 nc	2.2E+02 nc
Chlorothalonil	1.1E-02 h	1.5E-02 i	1.1E-02 r	1.5E-02 r	0	7.7E+01 ca**	2.6E+02 ca*	7.7E-01 ca*	7.7E+00 ca*
o-Chlorotoluene		2.0E-02 i		2.0E-02 r	1	1.6E+02 sat	1.6E+02 sat	7.3E+01 nc	1.5E+02 nc
Chlorpropham		2.0E-01 i		2.0E-01 r	0	7.8E+03 nc	1.0E+05 max	7.3E+02 nc	7.3E+03 nc
Chlorpyrifos		3.0E-03 i		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
Chlorpyrifos-methyl		1.0E-02 h		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Chlorsulfuron		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Chlorthiophos		8.0E-04 h		8.0E-04 r	0	3.1E+01 nc	8.2E+02 nc	2.9E+00 nc	2.9E+01 nc
Chromium III and compounds		1.0E+00 i			0				
Chromium VI and compounds		5.0E-03 i			0	3.9E+02 nc			1.8E+02 nc
Chromium (total)			4.2E+01 i		0	9.4E+02 ca	1.6E+03 ca	2.0E-04 ca	
Cobalt				2.9E-04 e	0			1.0E+00 nc	

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Coke Oven Emissions			2.2E+00 i		0			3.9E-03 ca	
Copper and compounds		3.7E-02 h			0	2.9E+03 nc	7.6E+04 nc		1.4E+03 nc
Crotonaldehyde	1.9E+00 h	1.0E-02 x	1.9E+00 x	1.0E-02 r	1	2.2E-02 ca	3.7E-02 ca	4.5E-03 ca	9.4E-03 ca
Cumene		4.0E-02 i		2.6E-03 h	1	6.8E+01 sat	6.8E+01 sat	9.4E+00 nc	2.5E+01 nc
Cyanazine	8.4E-01 h	2.0E-03 h	8.4E-01 r	2.0E-03 r	0	1.0E+00 ca*	3.4E+00 ca	1.0E-02 ca	1.0E-01 ca
Cyanides									
Barium cyanide		1.0E-01 h			0	7.8E+03 nc	1.0E+05 max		3.7E+03 nc
Copper cyanide		5.0E-03 i			0	3.9E+02 nc	1.0E+04 nc		1.8E+02 nc
Calcium cyanide		4.0E-02 i			0	3.1E+03 nc	8.2E+04 nc		1.5E+03 nc
Cyanogen		4.0E-02 i			0	3.1E+03 nc	8.2E+04 nc		1.5E+03 nc
Cyanogen bromide		9.0E-02 i			0	7.0E+03 nc	1.0E+05 max		3.3E+03 nc
Cyanogen chloride		5.0E-02 i			0	3.9E+03 nc	1.0E+05 nc		1.8E+03 nc
Free cyanide		2.0E-02 i			0	1.6E+03 nc	4.1E+04 nc		7.3E+02 nc
Hydrogen cyanide		2.0E-02 i			0	1.6E+03 nc	4.1E+04 nc		7.3E+02 nc
Potassium cyanide		5.0E-02 i			0	3.9E+03 nc	1.0E+05 nc		1.8E+03 nc
Potassium silver cyanide		2.0E-01 i			0	1.6E+04 nc	1.0E+05 max		7.3E+03 nc
Silver cyanide		1.0E-01 i			0	7.8E+03 nc	1.0E+05 max		3.7E+03 nc
Sodium cyanide		4.0E-02 i			0	3.1E+03 nc	8.2E+04 nc		1.5E+03 nc
Zinc cyanide		5.0E-02 i			0	3.9E+03 nc	1.0E+05 nc		1.8E+03 nc
Cyclohexanone		5.0E+00 i		5.0E+00 r	0	1.0E+05 max	1.0E+05 max	1.8E+04 nc	1.8E+05 nc
Cyclohexlamine		2.0E-01 i		2.0E-01 r	0	7.8E+03 nc	1.0E+05 max	7.3E+02 nc	7.3E+03 nc
Cyhalothrin/Karate		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Cypermethrin		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Cyromazine		7.5E-03 i		7.5E-03 r	0	2.9E+02 nc	7.7E+03 nc	2.7E+01 nc	2.7E+02 nc
Dacthal		5.0E-01 i		5.0E-01 r	0	2.0E+04 nc	1.0E+05 max	1.8E+03 nc	1.8E+04 nc
Dalapon		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
Danitol		5.0E-04 x		5.0E-04 r	0	2.0E+01 nc	5.1E+02 nc	1.8E+00 nc	1.8E+01 nc
DDD	2.4E-01 i		2.4E-01 r		0	3.5E+00 ca	1.2E+01 ca	3.5E-02 ca	3.5E-01 ca
DDE	3.4E-01 i		3.4E-01 r		0	2.5E+00 ca	8.4E+00 ca	2.5E-02 ca	2.5E-01 ca
DDT	3.4E-01 i	5.0E-04 i	3.4E-01 i	5.0E-04 r	0	2.5E+00 ca**	8.4E+00 ca*	2.5E-02 ca*	2.5E-01 ca*
Decabromodiphenyl ether		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Demeton		4.0E-05 i		4.0E-05 r	0	1.6E+00 nc	4.1E+01 nc	1.5E-01 nc	1.5E+00 nc
Diallate	6.1E-02 h		6.1E-02 r		0	1.4E+01 ca	4.7E+01 ca	1.4E-01 ca	1.4E+00 ca

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF	oRfD	iSF	iRfD	O	Residential	Industrial	Ambient Air	Tap Water
	1/(mg/kg-d)	(mg/kg-d)	1/(mg/kg-d)	(mg/kg-d)	C	Soil (mg/kg)	Soil (mg/kg)	(ug/m3)	(ug/l)
Diazinon		9.0E-04 h		9.0E-04 r	0	3.5E+01 nc	9.2E+02 nc	3.3E+00 nc	3.3E+01 nc
1,4-Dibromobenzene		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Dibromochloromethane	8.4E-02 i	2.0E-02 i	8.4E-02 r	2.0E-02 r	0	1.0E+01 ca*	3.4E+01 ca	1.0E-01 ca	1.0E+00 ca
1,2-Dibromo-3-chloropropane	1.4E+00 h	5.7E-05 r	2.4E-03 h	5.7E-05 i	0	6.1E-01 ca**	2.0E+00 ca*	2.1E-01 nc	6.1E-02 ca*
1,2-Dibromoethane	8 5E+01 i	5.7E-05 r	7.7E-01 i	5.7E-05 h	1	1.9E-02 ca	6.0E-02 ca	1.1E-02 ca*	9 7E-04 ca
Dibutyl phthalate		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Dicamba		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
1,2-Dichlorobenzene		9.0E-02 i		5.7E-02 x	1	2.3E+02 sat	2.3E+02 sat	2.1E+02 nc	4.8E+02 nc
1,3-Dichlorobenzene					1	2.8E+02 sat	2.8E+02 sat		
1,4-Dichlorobenzene	2.4E-02 h	2.3E-01 r	2.4E-02 r	2.3E-01 i	1	1.7E+01 ca	3.2E+01 ca	3.5E-01 ca	7.5E-01 ca
3,3-Dichlorobenzidine	4.5E-01 i		4.5E-01 r		0	1.9E+00 ca	6.4E+00 ca	1.9E-02 ca	1 9E-01 ca
1,4-Dichloro-2-butene	9.3E+00 r		9.3E+00 h		1	1.5E-02 ca	2.6E-02 ca	9.2E-04 ca	1.9E-03 ca
Dichlorodifluoromethane		2.0E-01 i		5.7E-02 h	1	5.7E+01 sat	5.7E+01 sat	2.1E+02 nc	5.2E+02 nc
1,1-Dichloroethane		1.0E-01 h		1.4E-01 h	1	4.1E+02 sat	4.1E+02 sat	5.2E+02 nc	1 0E+03 nc
1,2-Dichloroethane (EDC)	9.1E-02 i		9.1E-02 i		1	8.4E-01 ca	1.4E+00 ca	9.4E-02 ca	2.0E-01 ca
1,1-Dichloroethylene	6.0E-01 i	9.0E-03 i	1.8E-01 i	9.0E-03 r	1	7.0E-02 ca	1.2E-01 ca	4.9E-02 ca	6.8E-02 ca
1,2-Dichloroethylene (cis)		1.0E-02 h		1.0E-02 r	1	2.1E+02 nc	3.0E+02 nc	3.7E+01 nc	7.7E+01 nc
1,2-Dichloroethylene (trans)		2 0E-02 i		2.0E-02 r	1	6.2E+02 nc	8.7E+02 nc	7.3E+01 nc	1 5E+02 nc
1,2-Dichloroethylene (mixture)		9.0E-03 h		9.0E-03 r	1	2.8E+02 nc	3.9E+02 nc	3.3E+01 nc	6.9E+01 nc
2,4-Dichlorophenol		3.0E-03 i		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
4-(2,4-Dichlorophenoxy)butyric Acid (2,4-DB)		8.0E-03 i		8.0E-03 r	0	3.1E+02 nc	8.2E+03 nc	2.9E+01 nc	2.9E+02 nc
2,4-Dichlorophenoxyacetic Acid (2,4-D)		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
1,2-Dichloropropane	6.8E-02 h	1.1E-03 r	6.8E-02 r	1.1E-03 i	1	1.3E+00 ca*	2.3E+00 ca*	1.3E-01 ca*	2.6E-01 ca*
1,3-Dichloropropene	1.8E-01 h	3.0E-04 i	1.3E-01 h	5.7E-03 i	1	1.0E+00 ca	1.8E+00 ca	6.6E-02 ca	1.3E-01 ca
2,3-Dichloropropanol		3.0E-03 i		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
Dichlorvos	2.9E-01 i	5.0E-04 x	2.9E-01 r	5.0E-04 r	0	2.9E+00 ca**	9.9E+00 ca*	2.9E-02 ca*	2.9E-01 ca*
Dicofol	4.4E-01 x		4.4E-01 r		0	1.9E+00 ca	6.5E+00 ca	1.9E-02 ca	1.9E-01 ca
Dicyclopentadiene		3.0E-02 h		5.7E-05 h	1			2.1E-01 nc	5 6E-01 nc
Dieldrin	1.6E+01 i	5.0E-05 i	1.6E+01 i	5.0E-05 r	0	5.3E-02 ca*	1.8E-01 ca	5.3E-04 ca	5.3E-03 ca
Diethylene glycol, monobutyl ether		5.7E-03 h		5.7E-03 x	0	2.2E+02 nc	5.8E+03 nc	2.1E+01 nc	2.1E+02 nc
Diethylene glycol, monoethyl ether		2.0E+00 h		2.0E+00 r	0	7.8E+04 nc	1.0E+05 max	7.3E+03 nc	7.3E+04 nc
Diethylforamide		1.1E-02 h		1.1E-02 r	0	4.3E+02 nc	1.1E+04 nc	4.0E+01 nc	4.0E+02 nc
Di(2-ethylhexyl)adipate	1.2E-03 i	6.0E-01 i	1.2E-03 r	6.0E-01 r	0	7.1E+02 nc	2.4E+03 nc	7.1E+00 nc	7.1E+01 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Diethyl phthalate		8.0E-01 i		8.0E-01 r	0	3.1E+04 nc	1.0E+05 max	2.9E+03 nc	2.9E+04 nc
Diethylstilbestrol	4.7E+03 h		4.7E+03 r		0	1.8E-04 ca	5.1E-04 ca	1.8E-06 ca	1.8E-05 ca
Difenzoquat (Avenge)		8.0E-02 i		8.0E-02 r	0	3.1E+03 nc	8.2E+04 nc	2.9E+02 nc	2.9E+03 nc
Diflubenzuron		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Diisopropyl methylphosphonate		8.0E-02 i		8.0E-02 r	0	3.1E+03 nc	8.2E+04 nc	2.9E+02 nc	2.9E+03 nc
Dimethipin		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Dimethoate		2.0E-04 i		2.0E-04 r	0	7.8E+00 nc	2.0E+02 nc	7.3E-01 nc	7.3E+00 nc
3,3'-Dimethoxybenzidine	1.4E-02 h		1.4E-02 r		0	6.1E+01 ca	2.0E+02 ca	6.1E-01 ca	6.1E+00 ca
Dimethylamine		5.7E-06 r		5.7E-06 x	1	2.4E-01 nc	3.4E-01 nc	2.1E-02 nc	4.4E-02 nc
N-N-Dimethylaniline		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
2,4-Dimethylaniline	7.5E-01 h		7.5E-01 r		0	1.1E+00 ca	3.8E+00 ca	1.1E-02 ca	1.1E-01 ca
2,4-Dimethylaniline hydrochloride	5.8E-01 h		5.8E-01 r		0	1.5E+00 ca	4.9E+00 ca	1.5E-02 ca	1.5E-01 ca
3,3'-Dimethylbenzidine	9.2E+00 h		9.2E+00 r		0	9.3E-02 ca	3.1E-01 ca	9.3E-04 ca	9.3E-03 ca
1,1-Dimethylhydrazine	2.6E+00 h		3.5E+00 h		0	3.3E-01 ca	1.1E+00 ca	2.4E-03 ca	3.3E-02 ca
1,2-Dimethylhydrazine	3.7E+01 x		3.7E+01 x		0	2.3E-02 ca	7.7E-02 ca	2.3E-04 ca	2.3E-03 ca
N,N-Dimethylformamide		1.0E-01 h		8.6E-03 i	0	3.9E+03 nc	1.0E+05 nc	3.1E+01 nc	3.7E+03 nc
2,4-Dimethylphenol		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
2,6-Dimethylphenol		6.0E-04 i		6.0E-04 r	0	2.3E+01 nc	6.1E+02 nc	2.2E+00 nc	2.2E+01 nc
3,4-Dimethylphenol		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Dimethyl phthalate		1.0E+01 h		1.0E+01 r	0	1.0E+05 max	1.0E+05 max	3.7E+04 nc	3.7E+05 nc
Dimethyl terephthalate		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
4,6-Dinitro-o-cyclohexyl phenol		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
1,3-Dinitrobenzene		1.0E-04 i		1.0E-04 r	0	3.9E+00 nc	1.0E+02 nc	3.6E-01 nc	3.7E+00 nc
1,2-Dinitrobenzene		4.0E-04 h		4.0E-04 r	0	1.6E+01 nc	4.1E+02 nc	1.5E+00 nc	1.5E+01 nc
1,4-Dinitrobenzene		4.0E-04 h		4.0E-04 r	0	1.6E+01 nc	4.1E+02 nc	1.5E+00 nc	1.5E+01 nc
2,4-Dinitrophenol		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Dinitrotoluene mixture	6.8E-01 i		6.8E-01 r		0	1.3E+00 ca	4.2E+00 ca	1.3E-02 ca	1.3E-01 ca
2,4-Dinitrotoluene		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
2,6-Dinitrotoluene	6.8E-01 i	1.0E-03 h	6.8E-01 r	1.0E-03 r	0	1.3E+00 ca*	4.2E+00 ca	1.3E-02 ca	1.3E-01 ca
Dinoseb		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
di-n-Octyl phthalate		2.0E-02 h		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
1,4-Dioxane	1.1E-02 i		1.1E-02 r		1	3.2E+01 ca	6.0E+01 ca	7.7E-01 ca	1.6E+00 ca
Diphenamid		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Diphenylamine		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
1,2-Diphenylhydrazine	8.0E-01 i		7.7E-01 i		0	1.1E+00 ca	3.6E+00 ca	1.1E-02 ca	1.1E-01 ca
Diquat		2.2E-03 i		2.2E-03 r	0	8.6E+01 nc	2.2E+03 nc	8.0E+00 nc	8.0E+01 nc
Direct black 38	8.6E+00 h		8.6E+00 r		0	9.9E-02 ca	3.3E-01 ca	9.9E-04 ca	9.9E-03 ca
Direct blue 6	8.1E+00 h		8.1E+00 r		0	1.1E-01 ca	3.5E-01 ca	1.1E-03 ca	1.1E-02 ca
Direct brown 35	9.3E+00 h		9.3E+00 r		0	9.2E-02 ca	3.1E-01 ca	9.2E-04 ca	9.2E-03 ca
Disulfoton		4.0E-05 i		4.0E-05 r	0	1.5E+00 nc	4.1E+01 nc	1.5E-01 nc	1.5E+00 nc
1,4-Dithiane		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Diuron		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Dodine		4.0E-03 i		4.0E-03 r	0	1.6E+02 nc	4.1E+03 nc	1.5E+01 nc	1.5E+02 nc
Endosulfan		5.0E-05 h		5.0E-05 r	0	2.0E+00 nc	5.1E+01 nc	1.8E-01 nc	1.8E+00 nc
Endothall		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Endrin		3.0E-04 i		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
Epichlorohydrin	9.9E-03 i	2.0E-03 h	4.2E-03 i	2.9E-04 i	1	3.0E+01 nc	4.3E+01 nc	1.0E+00 nc	2.7E+00 nc
1,2-Epoxybutane		5.7E-03 r		5.7E-03 i	0	2.2E+02 nc	5.8E+03 nc	2.1E+01 nc	2.1E+02 nc
EPTC (S-Ethyl dipropylthiocarbamate)		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Ethephon (2-chloroethyl phosphonic acid)		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Ethion		5.0E-04 i		5.0E-04 r	0	2.0E+01 nc	5.1E+02 nc	1.8E+00 nc	1.8E+01 nc
2-Ethoxyethanol		4.0E-01 h		5.7E-02 i	0	1.6E+04 nc	1.0E+05 max	2.1E+02 nc	1.5E+04 nc
2-Ethoxyethanol acetate		3.0E-01 h		3.0E-01 r	0	1.2E+04 nc	1.0E+05 max	1.1E+03 nc	1.1E+04 nc
Ethyl acetate		9.0E-01 i		9.0E-01 r	0	3.5E+04 nc	1.0E+05 max	3.3E+03 nc	3.3E+04 nc
Ethyl acrylate	4.8E-02 h		4.8E-02 r		1	8.6E-01 ca	1.5E+00 ca	1.8E-01 ca	3.7E-01 ca
Ethylbenzene		1.0E-01 i		2.9E-01 i	1	3.1E+02 sat	3.1E+02 sat	1.1E+03 nc	1.6E+03 nc
Ethylene cyanohydrin		3.0E-01 h		3.0E-01 r	0	1.2E+04 nc	1.0E+05 max	1.1E+03 nc	1.1E+04 nc
Ethylene diamine		2.0E-02 h		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Ethylene glycol		2.0E+00 i		2.0E+00 r	0	7.8E+04 nc	1.0E+05 max	7.3E+03 nc	7.3E+04 nc
Ethylene glycol, monobutyl ether		5.7E-03 r		5.7E-03 h	0	2.2E+02 nc	5.8E+03 nc	2.1E+01 nc	2.1E+02 nc
Ethylene oxide	1.0E+00 h		3.5E-01 h		1	2.6E-01 ca	4.7E-01 ca	2.4E-02 ca	3.6E-02 ca
Ethylene thiourea (ETU)	6.0E-01 h	8.0E-05 i	6.0E-01 r	8.0E-05 r	0	1.4E+00 ca**	4.8E+00 ca*	1.4E-02 ca*	1.4E-01 ca*
Ethyl chloride		2.0E-02 e		2.9E+00 i	1	2.7E+02 sat	2.7E+02 sat	1.0E+04 nc	7.1E+02 nc
Ethyl ether		2.0E-01 i		2.0E-01 r	1	3.8E+03 sat	3.8E+03 sat	7.3E+02 nc	1.5E+03 nc
Ethyl methacrylate		9.0E-02 h		9.0E-02 r	1	3.8E+01 sat	3.8E+01 sat	3.3E+02 nc	6.9E+02 nc
Ethyl p-nitrophenyl phenylphosphorothioate		1.0E-05 i		1.0E-05 r	0	3.9E-01 nc	1.0E+01 nc	3.7E-02 nc	3.7E-01 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Ethylphthalyl ethyl glycolate		3.0E+00 i		3.0E+00 r	0	1.0E+05 max	1.0E+05 max	1.1E+04 nc	1.1E+05 nc
Express		8.0E-03 i		8.0E-03 r	0	3.1E+02 nc	8.2E+03 nc	2.9E+01 nc	2.9E+02 nc
Fenamiphos		2.5E-04 i		2.5E-04 r	0	9.8E+00 nc	2.6E+02 nc	9.1E-01 nc	9.1E+00 nc
Fluometuron		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Fluoride		6.0E-02 i		6.0E-02 r	0	2.3E+03 nc	6.1E+04 nc	2.2E+02 nc	2.2E+03 nc
Fluoridone		8.0E-02 i		8.0E-02 r	0	3.1E+03 nc	8.2E+04 nc	2.9E+02 nc	2.9E+03 nc
Flurprimidol		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Flutolanil		6.0E-02 i		6.0E-02 r	0	2.3E+03 nc	6.1E+04 nc	2.2E+02 nc	2.2E+03 nc
Fluvalinate		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Folpet	3.5E-03 i	1.0E-01 i	3.5E-03 r	1.0E-01 r	0	2.4E+02 ca*	8.2E+02 ca	2.4E+00 ca	2.4E+01 ca
Fomesafen	1.9E-01 i		1.9E-01 r		0	4.5E+00 ca	1.5E+01 ca	4.5E-02 ca	4.5E-01 ca
Fonofos		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7 3E+01 nc
Formaldehyde	4.5E-02 r	2.0E-01 i	4.5E-02 r	2.0E-01 r	0	1.9E+01 ca	6.3E+01 ca	1.9E-01 ca	1.9E+00 ca
Formic Acid		2.0E+00 h		2.0E+00 r	0	7.8E+04 nc	1.0E+05 max	7.3E+03 nc	7.3E+04 nc
Fosetyl-al		3.0E+00 i		3.0E+00 r	0	1.0E+05 max	1.0E+05 max	1.1E+04 nc	1.1E+05 nc
Furan		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Furazolidone	7.8E+00 h				0	2.2E-01 ca	7.5E-01 ca	1.0E+09 ca	2.2E-02 ca
Furfural		3.0E-03 i		1.4E-02 h	0	1.2E+02 nc	3.1E+03 nc	5.2E+01 nc	1.1E+02 nc
Furium	5.0E+01 h		5.0E+01 r		0	1.7E-02 ca	5.7E-02 ca	1.7E-04 ca	1.7E-03 ca
Furmecyclox	3.0E-02 i		3.0E-02 r		0	2.8E+01 ca	9.5E+01 ca	2.8E-01 ca	2.8E+00 ca
Glufosinate-ammonium		4.0E-04 i		4 0E-04 r	0	1.6E+01 nc	4.1E+02 nc	1.5E+00 nc	1.5E+01 nc
Glycidaldehyde		4.0E-04 i		2.9E-04 h	0	1.6E+01 nc	4.1E+02 nc	1.0E+00 nc	1.5E+01 nc
Glyphosate		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Haloxyfop-methyl		5.0E-05 i		5.0E-05 r	0	2.0E+00 nc	5.1E+01 nc	1.8E-01 nc	1.8E+00 nc
Harmony		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Heptachlor	4.5E+00 i	5.0E-04 i	4.5E+00 i	5.0E-04 r	0	1.9E-01 ca	6.4E-01 ca	1.9E-03 ca	1.9E-02 ca
Heptachlor epoxide	9.1E+00 i	1.3E-05 i	9.1E+00 i	1.3E-05 r	0	9.4E-02 ca**	3.1E-01 ca*	9.4E-04 ca*	9.4E-03 ca*
Hexabromobenzene		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Hexachlorobenzene	1.6E+00 i	8.0E-04 i	1.6E+00 i	8.0E-04 r	0	5.3E-01 ca*	1.8E+00 ca	5.3E-03 ca	5.3E-02 ca
Hexachlorobutadiene	7.8E-02 i	2.0E-03 x	7.7E-02 i	2.0E-03 r	0	1.1E+01 ca**	3.7E+01 ca*	1.1E-01 ca*	1.1E+00 ca*
HCH (alpha)	6.3E+00 i		6.3E+00 i		0	1.4E-01 ca	4.5E-01 ca	1.4E-03 ca	1.4E-02 ca
HCH (beta)	1.8E+00 i		1.8E+00 i		0	4.7E-01 ca	1.6E+00 ca	4.7E-03 ca	4.7E-02 ca
HCH (gamma) Lindane	1.3E+00 h	3.0E-04 i	1.3E+00 r	3.0E-04 r	0	6.6E-01 ca*	2.2E+00 ca	6.6E-03 ca	6.6E-02 ca

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
HCH-technical	1.8E+00 i		1.8E+00 i		0	4.7E-01 ca	1.6E+00 ca	4.8E-03 ca	4.7E-02 ca
Hexachlorocyclopentadiene		7.0E-03 i		2.0E-05 h	0	2.7E+02 nc	7.2E+03 nc	7.3E-02 nc	2.6E+02 nc
Hexachlorodibenzo-p-dioxin mixture (HxCDD)	6.2E+03 i		4.6E+03 i		0	1.4E-04 ca	4.6E-04 ca	1.9E-06 ca	1.4E-05 ca
Hexachloroethane	1.4E-02 i	1.0E-03 i	1.4E-02 i	1.0E-03 r	0	3.9E+01 nc	2.0E+02 ca	6.1E-01 ca	6.1E+00 ca
Hexachlorophene		3.0E-04 i		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
Hexahydro-1,3,5-trinitro-1,3,5-triazine	1.1E-01 i	3.0E-03 i	1.1E-01 r	3.0E-03 r	0	7.7E+00 ca*	2.6E+01 ca	7.7E-02 ca	7.7E-01 ca
n-Hexane		6.0E-02 h		5.7E-02 i	0	2.3E+03 nc	6.1E+04 nc	2.1E+02 nc	2.2E+03 nc
Hexazinone		3.3E-02 i		3.3E-02 r	0	1.3E+03 nc	3.4E+04 nc	1.2E+02 nc	1.2E+03 nc
Hydrazine, hydrazine sulfate	3.0E+00 i		1.7E+01 i		0	2.8E-01 ca	9.5E-01 ca	5.0E-04 ca	2.8E-02 ca
Hydrogen chloride				2.0E-03 i	0			7.3E+00 nc	
Hydrogen sulfide		3.0E-03 i		2.6E-04 i	1			9.4E-01 nc	2.4E+00 nc
p-Hydroquinone		4.0E-02 h		4.0E-02 r	0	1.6E+03 nc	4.1E+04 nc	1.5E+02 nc	1.5E+03 nc
Imazalil		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Imazaquin		2.5E-01 i		2.5E-01 r	0	9.8E+03 nc	1.0E+05 max	9.1E+02 nc	9.1E+03 nc
Iprodione		4.0E-02 i		4.0E-02 r	0	1.6E+03 nc	4.1E+04 nc	1.5E+02 nc	1.5E+03 nc
Isobutanol		3.0E-01 i		3.0E-01 r	0	1.2E+04 nc	1.0E+05 max	1.1E+03 nc	1.1E+04 nc
Isophorone	9.5E-04 i	2.0E-01 i	9.5E-04 r	2.0E-01 r	0	9.0E+02 ca**	3.0E+03 ca*	9.0E+00 ca*	9.0E+01 ca*
Isopropalin		1.5E-02 i		1.5E-02 r	0	5.9E+02 nc	1.5E+04 nc	5.5E+01 nc	5.5E+02 nc
Isopropyl methyl phosphonic acid		1.0E-01 i		1.1E-01 r	0	3.9E+03 nc	1.0E+05 nc	4.0E+02 nc	3.7E+03 nc
Isoxaben		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Kepone	1.8E+01 e		1.8E+01 r		0	4 7E-02 ca	1.6E-01 ca	4.7E-04 ca	4 7E-03 ca
Lactofen		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Lead	PRG Based on Uptake Biokinetic Model (UBK)				0	5.0E+02 nc			4.0E+00 nc
Linuron		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Lithium		2.0E-02 e			0	1.6E+03 nc	4.1E+04 nc		7.3E+02 nc
Londax		2.0E-01 i		2.0E-01 r	0	7.8E+03 nc	1.0E+05 max	7.3E+02 nc	7.3E+03 nc
Malathion		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Maleic anhydride		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Maleic hydrazide		5.0E-01 i		5.0E-01 r	0	2.0E+04 nc	1.0E+05 max	1.8E+03 nc	1.8E+04 nc
Malononitrile		2.0E-05 h		2.0E-05 r	0	7.8E-01 nc	2.0E+01 nc	7.3E-02 nc	7.3E-01 nc
Mancozeb		3.0E-02 h		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
Maneb		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Manganese and compounds		5.0E-03 i		1.4E-05 i	0	3.9E+02 nc	1.0E+04 nc	5.1E-02 nc	1.8E+02 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Mephosfolan		9.0E-05 h		9.0E-05 r	0	3.5E+00 nc			
Mepiquat		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc			
Mercury and compounds (methyl)		3.0E-04 i			0	1.2E+01 nc			
Mercury and compounds (inorganic)		3.0E-04 h		8.6E-05 h	0	2.3E+01 nc	6.1E+02 nc	3.1E-01 nc	1.1E+01 nc
Merphos		3.0E-05 i		3.0E-05 r	0	1.2E+00 nc	3.1E+01 nc	1.1E-01 nc	1.1E+00 nc
Merphos oxide		3.0E-05 i		3.0E-05 r	0	1.2E+00 nc	3.1E+01 nc	1.1E-01 nc	1.1E+00 nc
Metalaxyl		6.0E-02 i		6.0E-02 r	0	2.3E+03 nc	6.1E+04 nc	2.2E+02 nc	2.2E+03 nc
Methacrylonitrile		1.0E-04 i		2.0E-04 h	1	5.6E+00 nc	7.8E+00 nc	7.3E-01 nc	1.3E+00 nc
Methamidophos		5.0E-05 i		5.0E-05 r	0	2.0E+00 nc	5.1E+01 nc	1.8E-01 nc	1.8E+00 nc
Methanol		5.0E-01 i		5.0E-01 r	0	2.0E+04 nc	1.0E+05 max	1.8E+03 nc	1.8E+04 nc
Methidathion		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Methomyl		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Methoxychlor		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
2-Methoxyethanol		1.0E-03 h		5.7E-03 i	0	3.9E+01 nc	1.0E+03 nc	2.1E+01 nc	3.7E+01 nc
2-Methoxyethanol acetate		2.0E-03 h		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
2-Methoxy-5-nitroaniline	4.6E-02 h		4.6E-02 r		0	1.9E+01 ca	6.2E+01 ca	1.9E-01 ca	1.9E+00 ca
Methyl acetate		1.0E+00 h		1.0E+00 r	1	9.4E+04 nc	1.3E+05 nc	3.7E+03 nc	6.1E+03 nc
Methyl acrylate		3.0E-02 h		3.0E-02 r	1	1.1E+02 sat	1.1E+02 sat	1.1E+02 nc	2.3E+02 nc
2-Methylaniline (o-toluidine)	2.4E-01 h		2.4E-01 r		0	3.5E+00 ca	1.2E+01 ca	3.5E-02 ca	3.5E-01 ca
2-Methylaniline hydrochloride	1.8E-01 h		1.8E-01 r		0	4.7E+00 ca	1.6E+01 ca	4.7E-02 ca	4.7E-01 ca
Methyl chlorocarbonate		1.0E+00 x		1.0E+00 r	0	3.9E+04 nc	1.0E+05 max	3.7E+03 nc	3.7E+04 nc
2-Methyl-4-chlorophenoxyacetic acid		5.0E-04 i		5.0E-04 r	0	2.0E+01 nc	5.1E+02 nc	1.8E+00 nc	1.8E+01 nc
4-(2-Methyl-4-chlorophenoxy) butyric acid (MCPB)		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
2-(2-Methyl-4-chlorophenoxy) propionic acid		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
2-(2-Methyl-1,4-chlorophenoxy) propionic acid (MCPP)		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Methylcyclohexane		8.6E-01 r		8.6E-01 h	0	3.4E+04 nc	1.0E+05 max	3.1E+03 nc	3.1E+04 nc
4,4'-Methylenediphenyl isocyanate		5.7E-06 r		5.7E-06 h	0	2.2E-01 nc	5.8E+00 nc	2.1E-02 nc	2.1E-01 nc
4,4'-Methylenebisbenzeneamine	2.5E-01 h		2.5E-01 r		0	3.4E+00 ca	1.1E+01 ca	3.4E-02 ca	3.4E-01 ca
4,4'-Methylene bis(2-chloroaniline)	1.3E-01 h	7.0E-04 h	1.3E-01 h	7.0E-04 r	0	6.6E+00 ca**	2.2E+01 ca*	6.6E-02 ca	6.6E-01 ca
4,4'-Methylene bis(N,N'-dimethyl)aniline	4.6E-02 i		4.6E-02 r		0	1.9E+01 ca	6.2E+01 ca	1.9E-01 ca	1.9E+00 ca
Methylene bromide		1.0E-02 h		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Methylene chloride	7.5E-03 i	6.0E-02 i	1.6E-03 i	8.6E-01 h	1	2.2E+01 ca	3.9E+01 ca	5.2E+00 ca	6.2E+00 ca
Methyl ethyl ketone		6.0E-01 i		2.9E-01 i	1	5.2E+03 sat	5.2E+03 sat	1.0E+03 nc	2.5E+03 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Methyl hydrazine	1.1E+00 h		1.1E+00 r		0	7.7E-01 ca	2.6E+00 ca	7.7E-03 ca	7.7E-02 ca
Methyl isobutyl ketone		5.0E-02 h		2.3E-02 h	0	2.0E+03 nc	5.1E+04 nc	8.3E+01 nc	1.8E+03 nc
Methyl methacrylate		8.0E-02 h		8.0E-02 r	0	3.1E+03 nc	8.2E+04 nc	2.9E+02 nc	2.9E+03 nc
2-Methyl-5-nitroaniline	3.3E-02 h		3.3E-02 r		0	2.6E+01 ca	8.7E+01 ca	2.6E-01 ca	2.6E+00 ca
Methyl parathion		2.5E-04 i		2.5E-04 r	0	9.8E+00 nc	2.6E+02 nc	9.1E-01 nc	9.1E+00 nc
2-Methylphenol		5.0E-02 x		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
3-Methylphenol		5.0E-02 x		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
4-Methylphenol		5.0E-03 h		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Methyl styrene (mixture)		6.0E-03 h		1.1E-02 h	1	1.4E+03 nc	2.0E+03 nc	4.2E+01 nc	7.4E+01 nc
Methyl styrene (alpha)		7.0E-02 h		7.0E-02 r	1	9.4E+03 nc	1.3E+04 nc	2.6E+02 nc	5.4E+02 nc
Methyl tertbutyl ether (MTBE)		5.0E-03 e		8.6E-01 i	0	2.0E+02 nc	5.1E+03 nc	3.1E+03 nc	1.8E+02 nc
Metolaclor (Dual)		1.5E-01 i		1.5E-01 r	0	5.9E+03 nc	1.0E+05 max	5.5E+02 nc	5.5E+03 nc
Metribuzin		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Mirex	1.8E+00 h	2.0E-04 i	1.8E+00 r	2.0E-04 r	0	4.7E-01 ca*	1.6E+00 ca	4.7E-03 ca	4.7E-02 ca
Molinate		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Molybdenum		5.0E-03 h		5.0E-03 r	0	3.9E+02 nc	1.0E+04 nc	1.8E+01 nc	1.8E+02 nc
Monochloramine		1.0E-01 h		1.0E-01 h	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Naled		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Napropamide		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
Nickel and compounds		2.0E-02 i			0	1.6E+03 nc	4.1E+04 nc		7.3E+02 nc
Nickel refinery dust			8.4E-01 i		0			1.0E-02 ca	
Nickel subsulfide			1.7E+00 i		0		3.9E+04 ca	5.0E-03 ca	
Nitrapyrin		1.5E-03 x		1.5E-03 r	0	5.9E+01 nc	1.5E+03 nc	5.5E+00 nc	5.5E+01 nc
Nitrate		1.6E+00 i			0	1.0E+05 max	1.0E+05 max		5.8E+04 nc
Nitric Oxide		1.0E-01 i			0	7.8E+03 nc	1.0E+05 max		3.7E+03 nc
Nitrite		1.0E-01 i			0	7.8E+03 nc	1.0E+05 max		3.7E+03 nc
2-Nitroaniline		6.0E-05 r		5.7E-05 h	0	2.3E+00 nc	6.1E+01 nc	2 1E-01 nc	2.2E+00 nc
3-Nitroaniline					0				
4-Nitroaniline					0				
Nitrobenzene		5.0E-04 i		5.7E-04 h	0	2.0E+01 nc	5.1E+02 nc	2.1E+00 nc	1.8E+01 nc
Nitrofurantoin		7.0E-02 h		7.0E-02 r	0	2.7E+03 nc	7.2E+04 nc	2.6E+02 nc	2.6E+03 nc
Nitrofurazone	1.5E+00 h		9.4E+00 h		0	5.7E-01 ca	1.9E+00 ca	9.1E-04 ca	5.7E-02 ca
Nitrogen dioxide		1.0E+00 i			1				

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CONTAMINANT	TOXICITY VALUES oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	V O C	PRELIMINARY REMEDIATION GOALS (PRGS) Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Nitroguanidine		1.0E-01 i		1.0E-01 r	0	3.9E+03 nc	1.0E+05 nc	3.7E+02 nc	3.7E+03 nc
4-Nitrophenol					0				
2-Nitropropane	9.4E+00 r	5.7E-03 r	9.4E+00 h	5.7E-03 i	1			9.1E-04 ca	4.4E+01 ca
N-Nitrosodi-n-butylamine	5.4E+00 i		5.6E+00 i		0	1.8E-01 ca	5.3E-01 ca	1.5E-03 ca	1.6E-02 ca
N-Nitrosodiethanolamine	2.8E+00 i		2.8E+00 r		0	3.0E-01 ca	1.0E+00 ca	3.0E-03 ca	3.0E-02 ca
N-Nitrosodiethylamine	1.5E+02 i		1.5E+02 i		0	5.7E-03 ca	1.9E-02 ca	5.7E-05 ca	5.7E-04 ca
N-Nitrosodimethylamine	5.1E+01 i		4.9E+01 i		0	1.7E-02 ca	5.6E-02 ca	1.7E-04 ca	1.7E-03 ca
N-Nitrosodiphenylamine	4.9E-03 i		4.9E-03 r		0	1.7E+02 ca	5.8E+02 ca	1.7E+00 ca	1.7E+01 ca
N-Nitroso di-n-propylamine	7.0E+00 i		7.0E+00 r		0	1.2E-01 ca	4.1E-01 ca	1.2E-03 ca	1.2E-02 ca
N-Nitroso-N-methylethylamine	2.2E+01 i		2.2E+01 r		0	3.9E-02 ca	1.3E-01 ca	3.9E-04 ca	3.9E-03 ca
N-Nitrosopyrrolidine	2.1E+00 i		2.1E+00 i		0	4.1E-01 ca	1.4E+00 ca	4.0E-03 ca	4.1E-02 ca
m-Nitrotoluene		1.0E-02 h		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
p-Nitrotoluene		1.0E-02 h		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Norflurazon		4.0E-02 i		4.0E-02 r	0				
NuStar		7.0E-04 i		7.0E-04 r	0	2.7E+01 nc	7.2E+02 nc	2.6E+00 nc	2.6E+01 nc
Octabromodiphenyl ether		3.0E-03 i		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
Octahydro-1357-tetranitro-1357- tetrazocine (HMX)		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Octamethylpyrophosphoramide		2.0E-03 h		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Oryzalin		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Oxadiazon		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Oxamyl		2 5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9 1E+02 nc
Oxyfluorfen		3.0E-03 i		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
Paclobutrazol		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Paraquat		4.5E-03 i		4.5E-03 r	0	1.8E+02 nc	4.6E+03 nc	1.6E+01 nc	1.6E+02 nc
Parathion		6.0E-03 h		6.0E-03 r	0	2.3E+02 nc	6.1E+03 nc	2.2E+01 nc	2.2E+02 nc
Pebulate		5.0E-02 h		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Pendimethalin		4.0E-02 i		4.0E-02 r	0	1.6E+03 nc	4.1E+04 nc	1.0E+09 nc	1.5E+03 nc
Pentabromo-6-chloro cyclohexane	2.3E-02 h		2.3E-02 r		0	3.7E+01 ca	1.2E+02 ca	3.7E-01 ca	3.7E+00 ca
Pentabromodiphenyl ether		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Pentachlorobenzene		8.0E-04 i		8.0E-04 r	0	3.1E+01 nc	8.2E+02 nc	2.9E+00 nc	2.9E+01 nc
Pentachloronitrobenzene	2.6E-01 h	3.0E-03 i	2.6E-01 r	3.0E-03 r	0	3.3E+00 ca*	1.1E+01 ca	3.3E-02 ca	3.3E-01 ca
Pentachlorophenol	1.2E-01 i	3.0E-02 i	1.2E-01 r	3.0E-02 r	0	7.1E+00 ca	2.4E+01 ca	7.1E-02 ca	7.1E-01 ca
Permethrin		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Phenmedipham		2.5E-01 i		2.5E-01 r	0	9.8E+03 nc	1.0E+05 max	9.1E+02 nc	9.1E+03 nc
Phenol		6.0E-01 i		6.0E-01 r	0	2.3E+04 nc	1.0E+05 max	2.2E+03 nc	2.2E+04 nc
m-Phenylenediamine		6.0E-03 i		6.0E-03 r	0	2.3E+02 nc	6.1E+03 nc	2.2E+01 nc	2.2E+02 nc
p-Phenylenediamine		1.9E-01 h		1.9E-01 r	0	7.4E+03 nc	1.0E+05 max	6.9E+02 nc	6.9E+03 nc
Phenylmercuric acetate		8.0E-05 i		8.0E-05 r	0	3.1E+00 nc	8.2E+01 nc	2.9E-01 nc	2.9E+00 nc
Phenylphenol	1.9E-03 h		1.9E-03 r		0	4.4E+02 ca	1.5E+03 ca	4.5E+00 ca	4.4E+01 ca
Phorate		2.0E-04 h		2.0E-04 r	0	7.8E+00 nc	2.0E+02 nc	7.3E-01 nc	7.3E+00 nc
Phosmet		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Phosphine		3.0E-04 h		8.6E-06 h	0	2.3E+01 nc	6.1E+02 nc	3.1E-02 nc	1.1E+01 nc
Phosphorus (white)		2.0E-05 i		2.0E-05 r	0			7.3E-02 nc	
p-Phthalic acid		1.0E+00 h		1.0E+00 r	0			3.7E+03 nc	
Phthalic anhydride		2.0E+00 i		3.4E-02 h	0			1.2E+02 nc	
Picloram		7.0E-02 i		7.0E-02 r	0	2.7E+03 nc	7.2E+04 nc	2.6E+02 nc	2.6E+03 nc
Pirimiphos-methyl		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
Polybrominated biphenyls	8.9E+00 h	7.0E-06 h	8.9E+00 r	7.0E-06 r	0	9.6E-02 ca**	3.2E-01 ca*	9.6E-04 ca*	9.6E-03 ca*
Polychlorinated biphenyls (PCBs)	7.7E+00 i		7.7E+00 r		0	1.1E-01 ca	3.7E-01 ca	1.1E-03 ca	1.1E-02 ca
Arochlor 1016		7.0E-05 i		7.0E-05 r	0	2.7E+00 nc	7.2E+01 nc	2.6E-01 nc	2.6E+00 nc
Polychlorinated terphenyls (PCTs)	4.5E+00 e		4.5E+00 r		0	1.9E-01 ca	6.4E-01 ca	1.9E-03 ca	1.9E-02 ca
Polynuclear aromatic hydrocarbons									
Acenaphthene		6.0E-02 i		6.0E-02 r	1	3.6E+01 sat	3.6E+01 sat	2.2E+02 nc	4.6E+02 nc
Anthracene		3.0E-01 i		3.0E-01 r	1	1.9E+00 sat	1.9E+00 sat	1.1E+03 nc	2.3E+03 nc
Benz[a]anthracene	7.3E-01 t		7.3E-01 r		0	1.2E+00 ca	3.9E+00 ca	1.2E-02 ca	1.2E-01 ca
Benzo[b]fluoranthene	7.3E-01 t		7.3E-01 r		0	1.2E+00 ca	3.9E+00 ca	1.2E-02 ca	1.2E-01 ca
Benzo[k]fluoranthene	7.3E-01 t		7.3E-01 r		0	1.2E+00 ca	3.9E+00 ca	1.2E-02 ca	1.2E-01 ca
Benzo[a]pyrene	7.3E+00 i		7.3E+00 r		0	1.2E-01 ca	3.9E-01 ca	1.2E-03 ca	1.2E-02 ca
Chrysene	7.3E-03 t		7.3E-03 r		0	1.2E+02 ca	3.9E+02 ca	1.2E+00 ca	1.2E+01 ca
Dibenz[ah]anthracene	7.3E+00 t		7.3E+00 r		0	1.2E-01 ca	3.9E-01 ca	1.2E-03 ca	1.2E-02 ca
Fluoranthene		4.0E-02 i		4.0E-02 r	0	1.6E+03 nc	4.1E+04 nc	1.5E+02 nc	1.5E+03 nc
Fluorene		4.0E-02 i		4.0E-02 r	1	2.8E+01 sat	2.8E+01 sat	1.5E+02 nc	3.1E+02 nc
Indeno[1,2,3-cd]pyrene	7.3E-01 t		7.3E-01 r		0	1.2E+00 ca	3.9E+00 ca	1.2E-02 ca	1.2E-01 ca
Naphthalene		4.0E-02 e		4.0E-02 r	1	8.0E+01 sat	8.0E+01 sat	1.5E+02 nc	3.1E+02 nc
Phenanthrene					1				
Pyrene		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc

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CONTAMINANT	TOXICITY VALUES oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	V O C	PRELIMINARY REMEDIATION GOALS (PRGS) Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Prochloraz	1.5E-01 i	9.0E-03 i	1.5E-01 r	9.0E-03 r	0	3.5E+02 ca	9.2E+03 ca	5.7E-02 ca	3.3E+02 ca
Profluralin		6.0E-03 h		6.0E-03 r	0	2.3E+02 nc	6.1E+03 nc	2.2E+01 nc	2.2E+02 nc
Prometon		1.5E-02 i		1.5E-02 r	0	5.9E+02 nc	1.5E+04 nc	5.5E+01 nc	5.5E+02 nc
Prometryn		4.0E-03 i		4.0E-03 r	0	1.6E+02 nc	4.1E+03 nc	1.5E+01 nc	1.5E+02 nc
Pronamide		7.5E-02 i		7.5E-02 r	0	2.9E+03 nc	7.7E+04 nc	2.7E+02 nc	2.7E+03 nc
Propachlor		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Propanil		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Propargite		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Propargyl alcohol		2.0E-03 i		2.0E-03 r	0	7.8E+01 nc	2.0E+03 nc	7.3E+00 nc	7.3E+01 nc
Propazine		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Propham		2.0E-02 i		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Propiconazole		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	1.0E-09 nc
Propylene glycol		2.0E+01 h		2.0E+01 r	0	1.0E+05 max	1.0E+05 max	7.3E+04 nc	7.3E+05 nc
Propylene glycol, monoethyl ether		7.0E-01 h		7.0E-01 r	0	2.7E+04 nc	1.0E+05 max	2.6E+03 nc	2.6E+04 nc
Propylene glycol, monomethyl ether		7.0E-01 h		5.7E-01 i	0	2.7E+04 nc	1.0E+05 max	2.1E+03 nc	2.6E+04 nc
Propylene oxide	2.4E-01 i	8.6E-03 r	1.3E-02 i	8.6E-03 i	1			6.6E-01 ca	2.9E-01 ca
Pursuit		2.5E-01 i		2.5E-01 r	0	9.8E+03 nc	1.0E+05 max	9.1E+02 nc	9.1E+03 nc
Pydrin		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Pyridine		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Quinalphos		5.0E-04 i		5.0E-04 r	0	2.0E+01 nc	5.1E+02 nc	1.8E+00 nc	1.8E+01 nc
Quinoline	1.2E+01 h		1.2E+01 r		0	7.1E-02 ca	2.4E-01 ca	7.1E-04 ca	7.1E-03 ca
RDX (Cyclonite)	1.1E-01 i	3.0E-03 i	1.1E-01 r	3.0E-03 r	0	7.7E+00 ca	2.6E+01 ca	7.7E-02 ca	7.7E-01 ca
Resmethrin		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
Ronnel		5.0E-02 h		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc
Rotenone		4.0E-03 i		4.0E-03 r	0	1.6E+02 nc	4.1E+03 nc	1.5E+01 nc	1.5E+02 nc
Savey		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Selenious Acid		5.0E-03 i			0	3.9E+02 nc	1.0E+04 nc		1.8E+02 nc
Selenium		5.0E-03 i			0	3.9E+02 nc	1.0E+04 nc		1.8E+02 nc
Selenourea		5.0E-03 h			0	3.9E+02 nc	1.0E+04 nc		1.8E+02 nc
Sethoxydim		9.0E-02 i		9.0E-02 r	0	3.5E+03 nc	9.2E+04 nc	3.3E+02 nc	3.3E+03 nc
Silver and compounds		5.0E-03 i			0	3.9E+02 nc	1.0E+04 nc		1.8E+02 nc
Simazine	1.2E-01 h	5.0E-03 i	1.2E-01 r	2.0E-03 r	0	7.1E+00 ca*	2.4E+01 ca*	7.1E-02 ca	7.1E-01 ca
Sodium azide		4.0E-03 i		4.0E-03 r	0	1.6E+02 nc	4.1E+03 nc	1.5E+01 nc	1.5E+02 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
Sodium diethyldithiocarbamate	2.7E-01 h	3.0E-02 i	2.7E-01 r	3.0E-02 r	0	3.2E+00 ca	1.1E+01 ca	3.2E-02 ca	3.2E-01 ca
Sodium fluoroacetate		2.0E-05 i		2.0E-05 r	0	7.8E-01 nc	2.0E+01 nc	7.3E-02 nc	7.3E-01 nc
Sodium metavanadate		1.0E-03 h		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Strontium, stable		6.0E-01 i			0	4.7E+04 nc	1.0E+05 max		2.2E+04 nc
Strychnine		3.0E-04 i		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
Styrene		2.0E-01 i		2.0E-01 r	1	1.3E+04 sat	1.3E+04 sat	7.3E+02 nc	1.5E+03 nc
Systhane		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
2,3,7,8-TCDD (dioxin)	1.5E+05 h		1.5E+05 h		0	5.7E-06 ca	1.9E-05 ca	5.7E-08 ca	5.7E-07 ca
Tebuthiuron		7.0E-02 i		7.0E-02 r	0	2.7E+03 nc	7.2E+04 nc	2.6E+02 nc	2.6E+03 nc
Temephos		2.0E-02 h		2.0E-02 r	0	7.8E+02 nc	2.0E+04 nc	7.3E+01 nc	7.3E+02 nc
Terbacil		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 *nc*	4.7E+02 *nc*
Terbufos		2.5E-05 h		2.5E-05 r	0	9.8E-01 nc	2.6E+01 nc	9.1E-02 nc	9.1E-01 nc
Terbutryn		1.0E-03 a		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
1,2,4,5-Tetrachlorobenzene		3.0E-04 i		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
1,1,1,2-Tetrachloroethane	2.6E-02 i	3.0E-02 i	2.6E-02 i	3.0E-02 r	1	1.0E+01 ca	1.9E+01 ca	3.3E-01 ca	6.9E-01 ca
1,1,2,2-Tetrachloroethane	2.0E-01 i		2.0E-01 i		1	2.1E+00 ca	4.0E+00 ca	4.2E-02 ca	8.8E-02 ca
Tetrachloroethylene (PCE)	5.2E-02 e	1.0E-02 i	2.0E-03 e	1.0E-02 r	1	2.2E+01 ca	5.8E+01 ca	4.2E+00 ca	1.4E+00 ca
2,3,4,6-Tetrachlorophenol		3.0E-02 i		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
p,a,a,a-Tetrachlorotoluene	2.0E+01 h		2.0E+01 r		0	4.3E-02 ca	1.4E-01 ca	4.3E-04 ca	4.3E-03 ca
Tetrachlorovinphos	2.4E-02 h	3.0E-02 i	2.4E-02 r	3.0E-02 r	0	3.5E+01 ca	1.2E+02 ca	3.5E-01 ca	3 5E+00 ca
Tetraethyldithiopyrophosphate		5.0E-04 i		5.0E-04 r	0	2.0E+01 nc	5.1E+02 nc	1.8E+00 nc	1.8E+01 nc
Tetrahydrofuran					1				
Thallic oxide		7.0E-05 h			0	5.5E+00 nc	1.4E+02 nc		2.6E+00 nc
Thallium acetate		9.0E-05 i			0	7.0E+00 nc	1.8E+02 nc		3.3E+00 nc
Thallium carbonate		8.0E-05 i			0	6.3E+00 nc	1.6E+02 nc		2.9E+00 nc
Thallium chloride		8.0E-05 i			0	6.3E+00 nc	1.6E+02 nc		2.9E+00 nc
Thallium nitrate		9.0E-05 i			0	7.0E+00 nc	1.8E+02 nc		3.3E+00 nc
Thallium selenite		9.0E-05 x			0	7.0E+00 *nc*	1.8E+02 *nc*		3.3E+00 nc
Thallium sulfate		8.0E-05 i			0	6.3E+00 nc	1.6E+02 nc		2.9E+00 nc
Thiobencarb		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
2-(Thiocyanomethylthio)- benzothiazole (TCMTB)		3.0E-02 x		3.0E-02 r	0	1.2E+03 nc	3.1E+04 nc	1.1E+02 nc	1.1E+03 nc
Thiofanox		3.0E-04 h		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
Thiophanate-methyl		8.0E-02 i		8.0E-02 r	0	3.1E+03 nc	8.2E+04 nc	2.9E+02 nc	2.9E+03 nc

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CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF	oRfD	iSF	iRfD	O	Residential	Industrial	Ambient Air	Tap Water
	1/(mg/kg-d)	(mg/kg-d)	1/(mg/kg-d)	(mg/kg-d)	C	Soil (mg/kg)	Soil (mg/kg)	(ug/m3)	(ug/l)
Thiram		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Tin and compounds		6.0E-01 h			0	4.7E+04 nc	1.0E+05 max		2.2E+04 nc
Toluene		2.0E-01 i		1.1E-01 h	1	2.8E+02 sat	2.8E+02 sat	4.0E+02 nc	9.3E+02 nc
Toluene-2,4-diamine	3.2E+00 h		3.2E+00 r		0	2.7E-01 ca	8.9E-01 ca	2.7E-03 ca	2.7E-02 ca
Toluene-2,5-diamine		6.0E-01 h		6.0E-01 r	0	2.3E+04 nc	1.0E+05 max	2.2E+03 nc	2.2E+04 nc
Toluene-2,6-diamine		2.0E-01 h		2.0E-01 r	0	7.8E+03 nc	1.0E+05 max	7.3E+02 nc	7.3E+03 nc
Toxaphene	1.1E+00 i		1.1E+00 i		0	7.7E-01 ca	2.6E+00 ca	7.6E-03 ca	7.7E-02 ca
Tralomethrin		7.5E-03 i		7.5E-03 r	0	2.9E+02 nc	7.7E+03 nc	2.7E+01 nc	2.7E+02 nc
Triallate		1.3E-02 i		1.3E-02 r	0	5.1E+02 nc	1.3E+04 nc	4.7E+01 nc	4.7E+02 nc
Triasulfuron		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
1,2,4-Tribromobenzene		5.0E-03 i		5.0E-03 r	0	2.0E+02 nc	5.1E+03 nc	1.8E+01 nc	1.8E+02 nc
Tributyltin oxide (TBTO)		3.0E-05 i		3.0E-05 r	0	1.2E+00 nc	3.1E+01 nc	1.1E-01 nc	1.1E+00 nc
2,4,6-Trichloroaniline	3.4E-02 h		3.4E-02 r		0	2.5E+01 ca	8.4E+01 ca	2.5E-01 ca	2.5E+00 ca
2,4,6-Trichloroaniline hydrochloride	2.9E-02 h		2.9E-02 r		0	2.9E+01 ca	9.9E+01 ca	2.9E-01 ca	2.9E+00 ca
1,2,4-Trichlorobenzene		1.0E-02 i		2.6E-03 h	1	5.5E+02 sat	5.5E+02 sat	9.4E+00 nc	2.3E+01 nc
1,1,1-Trichloroethane		9.0E-02 h		2.9E-01 x	1	3.0E+02 sat	3.0E+02 sat	1.0E+03 nc	1.5E+03 nc
1,1,2-Trichloroethane	5.7E-02 i	4.0E-03 i	5.6E-02 i	4.0E-03 r	1	2.9E+00 ca	5.1E+00 ca	1.5E-01 ca	3.2E-01 ca
Trichloroethylene (TCE)	1.1E-02 e	6.0E-03 e	6.0E-03 e	6.0E-03 r	1	1.4E+01 ca*	2.5E+01 ca*	1.4E+00 ca*	2.5E+00 ca*
Trichlorofluoromethane		3.0E-01 i		2.0E-01 h	1	4.1E+02 sat	4.1E+02 sat	7.3E+02 nc	1.7E+03 nc
2,4,5-Trichlorophenol		1.0E-01 i		1.0E-01 r	0	9.3E-01 sat	9.3E-01 sat	3.7E+02 nc	3.7E+03 nc
2,4,6-Trichlorophenol	1.1E-02 i		1.1E-02 i		0	7.7E+01 ca	2.6E+02 ca	7.8E-01 ca	7.7E+00 ca
2,4,5-Trichlorophenoxyacetic Acid		1.0E-02 i		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
2-(2,4,5-Trichlorophenoxy) propionic acid		8.0E-03 i		8.0E-03 r	0	3.1E+02 nc	8.2E+03 nc	2.9E+01 nc	2.9E+02 nc
1,1,2-Trichloropropane		5.0E-03 i		5.0E-03 r	1	3.1E+02 sat	3.1E+02 sat	1.8E+01 nc	3.8E+01 nc
1,2,3-Trichloropropane	2.7E+00 e	6.0E-03 i	2.7E+00 r	5.0E-03 r	1	3.1E+02 sat	3.1E+02 sat	3.2E-03 ca	4.0E+01 ca
Ethyl acetate					0				
1,2,3-Trichloropropene		5.0E-03 h		5.0E-03 r	1	3.0E+02 sat	3.0E+02 sat	1.8E+01 nc	3.8E+01 nc
1,1,2-Trichloro-1,2,2-trifluoroethane		3.0E+01 i		8.6E+00 h	1	4.1E+02 sat	4.1E+02 sat	3.1E+04 nc	7.8E+04 nc
Tridiphane		3.0E-03 i		3.0E-03 r	0	1.2E+02 nc	3.1E+03 nc	1.1E+01 nc	1.1E+02 nc
Triethylamine		2.0E-03 r		2.0E-03 i	1	8.6E+01 nc	1.2E+02 nc	7.3E+00 nc	1.5E+01 nc
Trifluralin	7.7E-03 i	7.5E-03 i	7.7E-03 r	7.5E-03 r	0	1.1E+02 ca**	3.7E+02 ca*	1.1E+00 ca*	1.1E+01 ca*
Trimethyl phosphate	3.7E-02 h		3.7E-02 r		0	2.3E+01 ca	7.7E+01 ca	2.3E-01 ca	2.3E+00 ca

Key: i=IRIS h=HEAST e=ECAO x=WITHDRAWN r=ROUTE EXTRAP. t=TOX. EQUIV. ca=CANCER PRG nc=NONCANCER PRG sat=SOIL SAT. max=MAX. LIMIT *=nc < 100X ca **=nc < 10X ca

CONTAMINANT	TOXICITY VALUES				V	PRELIMINARY REMEDIATION GOALS (PRGS)			
	oSF 1/(mg/kg-d)	oRfD (mg/kg-d)	iSF 1/(mg/kg-d)	iRfD (mg/kg-d)	O C	Residential Soil (mg/kg)	Industrial Soil (mg/kg)	Ambient Air (ug/m3)	Tap Water (ug/l)
1,3,5-Trinitrobenzene		5.0E-05 i		5.0E-05 r	0	2.0E+00 nc	5.1E+01 nc	1.8E-01 nc	1.8E+00 nc
Trinitrophenylmethylnitramine		1.0E-02 h		1.0E-02 r	0	3.9E+02 nc	1.0E+04 nc	3.7E+01 nc	3.7E+02 nc
2,4,6-Trinitrotoluene	5.0E-04 i		3.0E-02 i		0	1.7E+03 ca	5.7E+03 ca	2.8E-01 ca	1.7E+02 ca
Uranium (soluble salts)		3.0E-03 i			0	2.3E+02 nc	6.1E+03 nc		1.1E+02 nc
Vanadium		7.0E-03 h			0	5.5E+02 nc	1.4E+04 nc		2.6E+02 nc
Vanadium pentoxide		9.0E-03 i			0	7.0E+02 nc	1.8E+04 nc		3.3E+02 nc
Vanadyl sulfate		2.0E-02 h			0	1.6E+03 nc	4.1E+04 nc		7.3E+02 nc
Vanadium sulfate		2.0E-02 h			0	1.6E+03 nc	4.1E+04 nc		7.3E+02 nc
Vernam		1.0E-03 i		1.0E-03 r	0	3.9E+01 nc	1.0E+03 nc	3.6E+00 nc	3.7E+01 nc
Vinclozolin		2.5E-02 i		2.5E-02 r	0	9.8E+02 nc	2.6E+04 nc	9.1E+01 nc	9.1E+02 nc
Vinyl acetate		1.0E+00 h		5.7E-02 i	0	3.9E+04 nc	1.0E+05 max	2.1E+02 nc	3.7E+04 nc
Vinyl chloride	1.9E+00 h		3.0E-01 h		1	9.7E-03 ca	1.6E-02 ca	2.8E-02 ca	2.8E-02 ca
Warfarin		3.0E-04 i		3.0E-04 r	0	1.2E+01 nc	3.1E+02 nc	1.1E+00 nc	1.1E+01 nc
m-Xylene		2.0E+00 i		2.0E-01 x	1	9.9E+01 sat	9.9E+01 sat	7.3E+02 nc	1.9E+03 nc
o-Xylene		2.0E+00 i		2.0E-01 x	1	9.9E+01 sat	9.9E+01 sat	7.3E+02 nc	1.9E+03 nc
p-Xylene					1	9.9E+01 sat	9.9E+01 sat		
Xylene (mixed)		2.0E+00 i		2.0E-01 r	1	9.9E+01 sat	9.9E+01 sat	7.3E+02 nc	1.9E+03 nc
Zinc		3.0E-01 i			0	2.3E+04 nc	1.0E+05 max		1.1E+04 nc
Zinc phosphide		3.0E-04 i			0	2.3E+01 nc	6.1E+02 nc		1.1E+01 nc
Zineb		5.0E-02 i		5.0E-02 r	0	2.0E+03 nc	5.1E+04 nc	1.8E+02 nc	1.8E+03 nc