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REFERENCE 2

U.S. Environmental Protection Agency, January 2004, Superfund Chemical Data Matrix (SCDM), Appendix BI, 12 pages excerpted; and Appendix BII, 1 page excerpted. A complete copy of SCDM is available at http://www.epa.gov/superfund/sites/npl/hrsres/tools/scdm.htm.

USEPA SF
1334400

REFERENCE 2

SUPERFUND CHEMICAL DATA MATRIX METHODOLOGY

Prepared For EPA
January 2004

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1.0 INTRODUCTION

The Superfund Chemical Data Matrix (SCDM) is a database containing factor values and benchmark values used for applying the Hazard Ranking System (HRS; 40 CFR Part 300 Appendix A, 55 *FR* 51583) to evaluate potential National Priorities List (NPL) sites. The HRS assigns factor values for toxicity, gas migration potential, gas and ground water mobility, surface water persistence, and bioaccumulation potential. These assignments are based on the physical, chemical, ecological, toxicological, and radiological properties of hazardous substances present at a site. Hazardous substances, as defined for HRS purposes, includes both hazardous substances referenced in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) section 101(14), which are substances specifically listed under other federal laws and are known as "CERCLA hazardous substances," and "pollutants or contaminants" as defined in CERCLA itself in section 101(33).

SCDM contains HRS factor values and benchmarks for those hazardous substances frequently found at sites that are evaluated using the HRS. SCDM also contains the physical, chemical, toxicological, and radiological input data used to calculate the factors and benchmarks. The input data presented in SCDM are taken directly from peer reviewed, generally accepted literature sources and databases and/or EPA developed literature sources and databases; or are calculated using procedures set forth by EPA and in the HRS. Further HRS procedures are then applied to the input data to determine a factor value or benchmark. The HRS also assigns extra weight to targets with exposure levels to hazardous substances that are at or above benchmarks. These benchmarks include both risk-based screening concentrations and concentrations specified in regulatory limits for the hazardous substances present at a site for a particular migration pathway.

Chapter 2.0, *Data Selection Methodology*, of this document explains how data are selected and prioritized into a hierarchy for assigning SCDM values. Chapter 3.0, *Calculations in SCDM*, describes how some types of data (i.e., volatilization half-lives, distribution coefficients, and screening concentrations) are internally calculated using data in SCDM and methodologies from published literature or regulatory guidance documents. Chapter 4.0, *Chemical Data, Factor Values, and Benchmarks*, describes how SCDM data, HRS factor values, and benchmark values are presented. The factor values and benchmark values are listed, substance by substance, in Appendix A. Appendix B contains the HRS factor values and benchmark tables (organized by pathway) for both nonradiological hazardous substances and radionuclides. Please note that *National Recommended Water Quality Criteria (NRWQC)* Chronic Criteria Continuous Concentration (CCC) and Acute Criteria Maximum Concentration (CMC) values have endnotes associated with them listed at the end of Appendix B. Appendix C contains a cross-reference index of substance name synonyms.

HAZARD RANKING SYSTEM
Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Acenaphthene	000083-32-9	10	1.00E+00	1.00E-04*	2.00E-01	2.00E-05*	0.4000	0.4000	500.0	500.0	500.0	500.0	10000	1000*	11	0.2000	Yes	Yes
Acenaphthylene	000208-96-8	0	1.00E+00	1.00E-04*	2.00E-01	2.00E-05*	0.4000	1.0000	500.0	500.0	500.0	500.0	0	0	11	0.0200	Yes	Yes
Acetone	000067-64-1	1*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0700*	0.0700	0.5	0.5	0.5	0.5	100	1	17	1.0000	Yes	No
Acrolein	000107-02-8	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0700	0.0700	500.0	500.0	500.0	500.0	10000	1000	17	1.0000	Yes	No
Acrylamide	000079-06-1	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	1.0000	5.0	5.0	5.0	5.0	10	10	6	0.2000	Yes	Yes
Alachlor**	015972-60-8	100	1.00E+00	1.00E-02	1.00E+00	1.00E-02	0.4000	0.0700	500.0	500.0	50.0	50.0	1000	1000	6	0.0200	Yes	Yes
Aldrin	000309-00-2	10000	1.00E+00	1.00E-04	2.00E-03	2.00E-07	1.0000	1.0000	5000.0*	50000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
Aluminum	007429-90-5	0	1.00E+00	1.00E+00*	1.00E+00*	1.00E+00*	1.0000	1.0000	50.0	50.0	5000.0*	5000.0*	100	100	...	...	No	Yes
Americium**	007440-35-9	0	1.00E+00	1.00E+00	...	...	1.0000	1.0000	5000.0	5000.0	5000.0	5000.0	0	0	...	...	No	Yes
Aniline	000062-53-3	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	0.4000	50.0*	50.0*	500.0	500.0	10000	10	11	1.0000	Yes	No
Anthracene	000120-12-7	10	1.00E+00	1.00E-04*	2.00E-03	2.00E-07*	0.4000*	0.4000*	50000.0*	50000.0*	50000.0*	50000.0*	10000	10000*	6	0.0020	Yes	Yes
Antimony	007440-36-0	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5.0*	5.0*	5.0	50.0*	100	100	...	...	No	Yes
Arsenic	007440-38-2	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5.0	500.0	5000.0*	500.0	10	100	...	...	No	Yes
Asbestos	001332-21-4	10000	1.00E+00	1.00E-04	...	...	1.0000	1.0000	0.5	0.5	0.5	0.5	0	0	...	...	No	Yes
Barium	007440-39-3	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	500.0*	500.0*	500.0*	500.0*	1	1	...	...	No	Yes

* Indicates difference between previous version of chemical data (JUN 96) and current version of chemical data (JAN04).
** Indicates new hazardous substance in current version of chemical data (JAN04).

HAZARD RANKING SYSTEM
Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Benz(a)anthracene	000056-55-3	1000	1.00E+00	1.00E-04*	2.00E-05	2.00E-09*	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
Benzene	000071-43-2	1000*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.4000	5000.0	5000.0	5000.0*	50000.0	1000*	1000	17	1.0000	Yes	No
Benzidine	000092-87-5	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	0.4000	50.0	50.0	5000.0*	5000.0*	100*	100*	0	0.0002	Yes	Yes
Benzo(a)pyrene	000050-32-8	10000	1.00E+00	1.00E-04	2.00E-05	2.00E-09	1.0000	1.0000	50000.0	50000.0*	50000.0	50000.0*	10000	1000	6	0.0002	Yes	Yes
Benzo(g,h,i)perylene	000191-24-2	0	1.00E+00	1.00E-04	2.00E-05	2.00E-09	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	0	0	...	....	No	Yes
Benzo(j,k)fluorene (Fluoranthene)	000206-44-0	100	1.00E+00	1.00E-04*	2.00E-03	2.00E-07*	1.0000	1.0000	500.0*	5000.0	5000.0*	5000.0	10000	10000*	6	0.0020	Yes	Yes
Benzo(k)fluoranthene	000207-08-9	100	1.00E+00	1.00E-04	2.00E-05	2.00E-09	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	0	0	6	0.0002	Yes	Yes
Beryllium	007440-41-7	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	50.0	50.0	50.0	50.0	0	0	...	...	No	Yes
Bis (2-ethylhexyl) phthalate	000117-81-7	100	1.00E+00	1.00E-04	2.00E-03	2.00E-07	1.0000	1.0000	50000.0	500.0*	50000.0	5000.0*	1000	1000*	6	0.0002*	Yes	Yes
Boron	007440-42-8	100	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	1.0000	0.5	0.5	0.5	0.5	0	0	...	...	No	Yes
Bromodichloromethane	000075-27-4	100	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	50.0	50.0	50.0	50.0	0	0	17	1.0000	Yes	No
Butylbenzyl phthalate	000085-68-7	10	1.00E+00	1.00E-04*	2.00E-01	2.00E-05*	1.0000	1.0000	500.0	500.0	500.0	500.0	1000*	1000*	6	0.0020	Yes	Yes
Cadmium	007440-43-9	10000	1.00E+00	1.00E-02	1.00E+00*	1.00E-02*	1.0000	1.0000	5000.0	50000.0*	50000.0*	50000.0*	10000*	1000	...	...	No	Yes
Carbazole	000086-74-8	10	1.00E+00	1.00E-02*	2.00E-01	2.00E-03*	0.4000	0.0700	500.0	500.0	500.0	500.0	1000*	1000*	6*	0.0200*	Yes	Yes

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HAZARD RANKING SYSTEM

Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Carbon disulfide	000075-15-0	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.4000	500.0	500.0	500.0	500.0	100	10*	17	1.0000	Yes	No
Carbon tetrachloride	000056-23-5	1000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	50.0	50.0	500.0*	500.0*	100	10*	17	1.0000	Yes	No
Cesium	007440-46-2	0	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5.0*	50.0*	5.0*	50.0*	0	0	...	...	No	Yes
Chlordane	000057-74-9	10000	1.00E+00	1.00E-02	2.00E-03	2.00E-05	1.0000	1.0000	5000.0*	5000.0*	50000.0	5000.0*	10000	10000	6	0.0020	Yes	Yes
Chlordane, alpha-	005103-71-9	10000*	1.00E+00	1.00E-02	2.00E-03	2.00E-05	1.0000	1.0000	50000.0*	50000.0*	50000.0*	50000.0*	10000	10000	11*	0.0200*	Yes*	Yes
Chlordane, gama-	005566-34-7	10000*	1.00E+00	1.00E-02	2.00E-03	2.00E-05	1.0000	1.0000	50000.0	50000.0	50000.0*	50000.0*	0*	0*	6*	0.0020*	Yes*	Yes
Chlorobenzene	000108-90-7	100	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0007	0.0700	50.0	50.0	5000.0*	5000.0*	10000*	100	17	1.0000	Yes	No
Chloroform	000067-66-3	100	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	5.0	5.0	500.0*	500.0*	100*	10	17	1.0000	Yes	No
Chromium	007440-47-3	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	500.0*	500.0	500.0*	500.0	10000*	100	...	...	No	Yes
Chromium(III)	016065-83-1	1	1.00E+00	1.00E-04	1.00E+00	1.00E-04	1.0000	1.0000	500.0	500.0	500.0	500.0	100*	100*	...	...	No	Yes
Chromium(VI)	018540-29-9	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5.0	500.0	5.0	500.0	100	100	...	...	No	Yes
Chrysene	000218-01-9	10	1.00E+00	1.00E-04*	2.00E-05	2.00E-09*	1.0000	1.0000	5.0*	5.0*	5000.0	500.0	1000	1000	6	0.0002	Yes	Yes
Cobalt	007440-48-4	10*	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5000.0*	5000.0*	5000.0	5000.0	0	0	...	...	No	Yes
Copper	007440-50-8	0	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	500.0*	50000.0	5000.0*	50000.0	1000*	1000*	...	...	No	Yes
Cumene	000098-82-8	10*	1.00E+00	1.00E-02*	2.00E-01	2.00E-03*	0.4000	0.4000	500.0	500.0	500.0	500.0	100	1	17	1.0000	Yes	No

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** Indicates new hazardous substance in current version of chemical data (JAN04).

HAZARD RANKING SYSTEM
Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Hexachlorodibenzofuran 2,3,4,6,7,8-	060851-34-5	10000	1.00E+00	...	...	...	0.4000	0.0700	0.5	0.5	0.5	0.5	0	0	...	...	No	Yes
Hydrazine	000302-01-2	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000*	0.0700*	0.5	0.5	0.5	0.5	10000	100	11*	1.0000	Yes	No
Hydrogen sulfide	007783-06-4	1000*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0007*	0.0700	0.5	0.5	0.5	0.5	1000	1000	17	1.0000	Yes	No
Indeno(1,2,3-cd)pyrene	000193-39-5	1000	1.00E+00	1.00E-04	2.00E-05	2.00E-09	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	0	0	...	...	No	Yes
Iron	007439-89-6	1	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	5000.0*	5000.0*	5000.0*	5000.0*	10	10	...	...	No	Yes
Lead	007439-92-1	10000	1.00E+00	1.00E-02	1.00E+00*	1.00E-02*	1.0000	1.0000	5.0*	5000.0	50000.0*	5000.0	1000	1000	...	...	No	Yes
Lead chromate**	007758-97-6	10000	1.00E+00	...	2.00E-03	...	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	0	0	...	...	No	Yes
Lindane	000058-89-9	10000	1.00E+00	1.00E+00	2.00E-01	2.00E-01	1.0000	1.0000	50000.0*	5000.0*	50000.0*	5000.0*	10000	10000	11	0.0200	Yes	Yes
Manganese	007439-96-5	10000	1.00E+00	1.00E-02	1.00E+00	1.00E-02	1.0000	1.0000	50000.0*	50000.0*	50000.0	50000.0	0	0	...	...	No	Yes
Mercury	007439-97-6	10000	1.00E+00	1.00E-02	1.00E+00*	1.00E-02*	1.0000*	1.0000	50000.0	50000.0	50000.0	50000.0	10000	10000	17	0.2000	Yes	Yes
Methoxychlor	000072-43-5	100	1.00E+00	1.00E-04*	2.00E-03	2.00E-07*	1.0000	1.0000	5.0*	50000.0*	5000.0*	50000.0*	10000	10000	6	0.0020	Yes	Yes
Methyl Parathion	000298-00-0	10000	1.00E+00	1.00E-02*	2.00E-01	2.00E-03*	1.0000	0.4000	50.0	50.0	50.0	50.0	10000	10000	6	0.0200	Yes	Yes
Methyl ethyl ketone	000078-93-3	1*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.4000	0.5	0.5	0.5	0.5	1	1	17	1.0000	Yes	No
Methyl isobutyl ketone	000108-10-1	10*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.4000	5.0	5.0	5.0	5.0	1	1	17	1.0000	Yes	No

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** Indicates new hazardous substance in current version of chemical data (JAN04).

HAZARD RANKING SYSTEM
Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Methyl phenol, 4-	000106-44-5	100	1.00E+00	1.00E-02*	1.00E+00	1.00E-02*	0.0007*	0.0007*	5.0	5.0	5.0	5.0	100*	100*	11	1.0000	Yes	No
Methyl tert-butyl ether (MTBE)**	001634-04-4	1	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	5.0	5.0	5.0	5.0	1	1	17	1.0000	Yes	No
Methylene chloride (dichloromethane)	000075-09-2	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	5.0	5.0	500.0*	500.0*	1	10	17	1.0000	Yes	No
Methylnaphthalene, 2-	000091-57-6	0	1.00E+00	1.00E-02	2.00E-01	2.00E-03	0.4000	0.4000	50000.0*	50000.0*	50000.0*	50000.0*	100*	1000	11	0.2000	Yes	Yes
Naphthalene	000091-20-3	1000*	1.00E+00	1.00E-02*	2.00E-01	2.00E-03*	0.4000	0.4000	50000.0*	5000.0*	50000.0*	5000.0	1000	1000	11	0.2000	Yes	Yes
Nickel	007440-02-0	10000	1.00E+00	1.00E-02	1.00E+00*	1.00E-02*	1.0000	1.0000	0.5	500.0	500.0	500.0	100*	1000	...	...	No	Yes
Nitrosodiphenylamine, N-	000086-30-6	10	1.00E+00	1.00E-02*	2.00E-01	2.00E-03*	1.0000	1.0000	500.0	500.0	500.0	500.0	100	100	6	0.0200	Yes	Yes
Pentachlorodibenzo-p-dioxin 1,2,3,7,8-	040321-76-4	10000	1.00E+00	1.00E-04	2.00E-05*	2.00E-09*	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	0*	0*	...	...	No	Yes
Pentachlorodibenzofuran 1,2,3,7,8-	057117-41-6	0*	1.00E+00	1.00E-04	2.00E-05	2.00E-09	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	0	0	...	...	No	Yes
Pentachlorodibenzofuran 2,3,4,7,8-**	057117-31-4	10000	1.00E+00	1.00E-04	...	...	1.0000	1.0000	0.5	0.5	0.5	0.5	0	0	6	0.0020	Yes	Yes
Pentachlorophenol (PCP)	000087-86-5	100	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	1.0000	50000.0*	5000.0*	50000.0*	5000.0*	100	1000	6	0.0200	Yes	Yes
Perchlorate**	014797-73-0	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.0700	0.5	0.5	0.5	0.5	0	0	...	...	No	Yes
Phenanthrene	000085-01-8	0	1.00E+00	1.00E-04*	2.00E-01	2.00E-05*	0.4000*	0.4000*	5000.0*	5000.0*	50000.0*	5000.0*	10000*	10000*	11	0.0200	Yes	Yes
Phenol	000108-95-2	10*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0007*	0.0700*	50.0*	5.0	50000.0*	5.0	10000	1000*	11	1.0000	Yes	No
Plutonium	007440-07-5	0	1.00E+00	1.00E-04	...	...	1.0000	1.0000	500.0*	500.0*	500.0*	500.0*	0	0	...	...	No	Yes

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HAZARD RANKING SYSTEM
Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Thallium	007440-28-0	100	1.00E+00	1.00E-02*	1.00E+00	1.00E-02*	1.0000	1.0000	500.0	50.0	500.0	50.0	0*	0*	...	...	No	Yes
Toluene	000108-88-3	10	[illegible]E+00	1.00E+00	1.00E+00	1.00E+00	0.0700*	0.0700*	50.0	50.0	5000.0*	50.0	100	100	17	1.0000	Yes	No
Toxaphene	008001-35-2	1000	1.00E+00	1.00E-04*	2.00E-03	2.00E-07*	1.0000	1.0000	50000.0	50000.0	50000.0	50000.0	10000	10000	6	0.0020	Yes	Yes
Trichlorobenzene, 1,2,4-	000120-82-1	100	1.00E+00	1.00E+00	2.00E-01	2.00E-01	0.4000	1.0000	5000.0*	500.0	5000.0*	500.0	1000	10000*	17	1.0000	Yes	No
Trichloroethane, 1,1,1-	000071-55-6	1	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	5.0	5.0	5.0	5.0	10	10	17	1.0000	Yes	No
Trichloroethane, 1,1,2-	000079-00-5	1000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	50.0	50.0	50.0	50.0	100*	10	17	1.0000	Yes	No
Trichloroethylene (TCE)	000079-01-6	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	50.0	50.0	50.0	50.0	100	10	17	1.0000	Yes	No
Trichlorofluoromethane	000075-69-4	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	50.0	50.0	50.0	50.0	0	0	17	1.0000	Yes	No
Trichlorophenol, 2,4,6-	000088-06-2	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.0000	0.4000	5000.0*	5000.0*	50000.0	50000.0	1000	100	11	0.2000	Yes	Yes
Trichloropropane, 1,2,3-	000096-18-4	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	5.0*	5.0*	5.0*	5.0*	10	10	11	1.0000	Yes	No
Trifluralin (Treflan)	001582-09-8	100	1.00E+00	1.00E-02	2.00E-01	2.00E-03	1.0000	1.0000	5000.0	5000.0	50000.0	50000.0	10000	10000*	11	0.0200	Yes	Yes
Trinitrobenzene, 1,3,5-	000099-35-4	100*	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	0.0700	5.0	5.0	5.0	5.0	1000	1000	0*	0.0020*	Yes	Yes
Vanadium	007440-62-2	100	1.00E+00	1.00E-02	1.00E+00*	1.00E-02*	1.0000	1.0000	500.0*	500.0*	500.0*	500.0*	0	0	...	...	No	Yes
Vinyl acetate	000108-05-4	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0700*	0.0700*	0.5	0.5	0.5	0.5	10	100*	17	1.0000	Yes	No

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HAZARD RANKING SYSTEM
Hazardous Substance Factor Values

			Ground Water Mobility				Persistence		Bioaccumulation				Ecotoxicity					
			Liquid		Non-Liquid				Food Chain		Environment							
Substance Name	CAS Number	Toxicity	Karst	Non-Karst	Karst	Non-Karst	River	Lake	Fresh	Salt	Fresh	Salt	Fresh	Salt	Air Gas Migration	Air Gas Mobility	Gas	Part
Vinyl chloride	000075-01-4	10000	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0007	0.0700	5.0	5.0	5.0	5.0	0	0	17	1.0000	Yes	No
Xylene**	001330-20-7	100	1.00E+00	1.00E-02	1.00E+00	1.00E-02	0.4000	1.0000	50.0	50.0	50.0	50.0	100	100	17	1.0000	Yes	No
Xylene, m-	000108-38-3	1	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0007*	0.0700*	500.0	500.0	500.0	500.0	100	100*	17	1.0000	Yes	No
Xylene, o-	000095-47-6	1	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.4000	1.0000	50.0	50.0	50.0	50.0	100	100	17	1.0000	Yes	No
Xylene, p-	000106-42-3	10	1.00E+00	1.00E+00	1.00E+00	1.00E+00	0.0007*	0.0700*	50.0	50.0	50.0	50.0	100	100*	17	1.0000	Yes	No
Zinc	007440-66-6	10	1.00E+00	1.00E-02	1.00E+00*	1.00E-02*	1.0000	1.0000	5.0*	50000.0	50000.0*	50000.0	10	100	...	...	No	Yes

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Substance Name	CAS Number	Ground Water/Surface Water Pathway Drinking Water			Surface Water Pathway Food Chain			Surface Water Pathway Environmental			
		MCL/MCLG (mg/L)	Reference Dose Screen Conc (mg/L)	Cancer Risk Screen Conc (mg/L)	FDAAL (ppm)	Ref. Dose Screen Conc (mg/kg)	Cancer Risk Screen Conc (mg/kg)	Acute CMC (µg/L) *		Chronic CCC (µg/L) *	
								Fresh	Salt	Fresh	Salt
Hexachlorodibenzofuran 1,2,3,4,7,8-	070648-26-9	...	...	5.7E-8	...	...	2.1E-6	...	...	...	...
Hexachlorodibenzofuran 1,2,3,6,7,8-	057117-44-9	...	...	5.7E-8	...	...	2.1E-6	...	...	...	...
Hexachlorodibenzofuran 1,2,3,7,8,9-	072918-21-9	...	...	5.7E-8	...	...	2.1E-6	...	...	...	...
Hexachlorodibenzofuran 2,3,4,6,7,8-	060851-34-5	...	...	5.7E-8	...	...	2.1E-6	...	...	...	...
Hydrazine	000302-01-2	...	...	2.8E-5	...	...	1.1E-3	...	...	...	...
Hydrogen sulfide	007783-06-4	...	1.1E+0*	...	...	4.1E+1*	...	...	...	2.0E+0[F2]	2.0E+0[F2]
Indeno(1,2,3-cd)pyrene	000193-39-5	...	...	1.2E-4	...	...	4.3E-3	...	...	...	...
Iron	007439-89-6	...	...	...	...	...	...	...	...	1.0E+3[F2]	...
Lead	007439-92-1	1.5E-2	...	...	...	...	...	6.5E+1[D, E, bb, gg]	2.1E+2[D, bb]	2.5E+0[D, E, bb, gg]	8.1E+0[D, bb]
Lead chromate**	007758-97-6	...	...	...	...	...	...	...	...	...	...
Lindane	000058-89-9	2.0E-4	1.1E-2	6.6E-5	...	4.1E-1	2.4E-3	9.5E-1[K]	1.6E-1[G]	...	...
Manganese	007439-96-5	...	5.1E+0	...	...	1.9E+2	...	...	...	...	...
Mercury	007439-97-6	2.0E-3	1.1E-2	...	1.0E+0	4.1E-1	...	1.4E+0[D, K, hh]	1.8E+0[D, ee, hh]	7.7E-1[D, K, hh]	9.4E-1[D, ee, hh]

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