STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

July 7, 2022

VIA E-MAIL

Mouhamed Musheinesh, President
Detroit Axle
2000 West 8 Mile Road
Ferndale, Michigan 48220

Dear Musheinesh:

SUBJECT: Comments; RCRA Corrective Action Facility Investigation Work Plan; Former Hayes Lemmerz; Ferndale, Michigan; MID 041 803 123; Waste Data System Number 395519

The Department of Environment, Great Lakes, and Energy (EGLE), Materials Management Division (MMD), has completed its review of the Resource Conservation and Recovery Act (RCRA) Corrective Action Facility Investigation Work Plan (RFI Work Plan) dated February 17, 2022, and prepared by Atlas Technical Consultants LLC on behalf of Detroit Axle, for the former Hayes Lemmerz property located at 1600 West 8 Mile Road, Ferndale, Michigan. The RFI Work Plan was reviewed for compliance with Part 111, Hazardous Waste Management (Part 111), of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), and its administrative rules.

Based on our review, the MMD has the comments provided below.

1. General Comments:

a. The RFI Work Plan must be revised to provide the name and number of each included Standard Operating Procedure (SOP) in the Table of Contents.

b. The RFI Work Plan must be revised to include the project Health and Safety Plan as an Appendix so EGLE can review and become familiar with it.

c. It should be noted that the MMD accepts the concept of implementing the investigation over time in the "margins", and "areas", with the following modifications:

i. The RFI Work Plan must be revised to provide a table summarizing the proposed schedule by area. The schedule must also be revised to provide for a one quarter (three month) staggered implementation between “margins” and/or “areas”, rather than the two quarters (six month) staggered implementation proposed.

ii. It should be recognized that the proposed schedule may need to be adjusted based on the discovery of any release that poses an exposure risk to human health or the environment during the work. This includes

the eastern area vapor intrusion work currently underway. Depending on the results of the investigation, implementation of interim remedial measures may be necessary.

iii. Implementation of the "Site-Wide Items for Investigation" is recommended to be implemented relatively early in the investigation so that results from this phase of the investigation can be considered in the investigation of the other "margins" and areas".

d. The RFI Work Plan must be revised to specify that, as part of all investigations where borings are planned to be extended down to the base of the upper sand unit, contact with the underlying clay unit will be confirmed as part of the boring rather than drilling to a pre-specified depth thought to represent the base of the sand unit.

e. The RFI Work Plan must be revised to provide for additional monitoring wells screened at the base of the sand unit in any waste management unit or area of concern (AOC) where chlorinated organics, or denser than water compounds have been previously detected in soil and/or groundwater.

f. The MMD requests that Atlas provide us with a minimum of two-weeks' notice prior to the implementation of any field work so that MMD can arrange to be on site to observe and/or collect split samples if desired.

g. The Part 111 program is currently authorized by the United States Environmental Protection Agency to implement the September 28, 2012, Part 201, Environmental Remediation (Part 201), of the NREPA, criteria. The RFI investigation work should proceed utilizing these criteria. A copy of the 2012, Part 201 criteria is attached to this letter.

2. Section 4.1; Site Investigation and Parameter List:

a. The RFI Work plan must be revised to provide for the full list of Part 201 analytical parameters, including per- and polyfluoroalkyl substances (PFAS) compounds, and polychlorinated biphenyls (PCB) as part of initial sampling events for a given unit or AOC where the use/characterization of the unit/AOC is not well defined. Based on initial sampling results, it may be possible to narrow the analytical parameter list down; however, due to the large amount of uncertainty related to former activities at the site, the MMD does not support preemptively limiting the investigation.

b. The RFI Work Plan must be revised to provide for data comparison to ALL cleanup criteria for all exposure pathways. Exposure risks may be eliminated based on use scenarios after this comparison, but locations where exceedances of Residential Criteria occur must be defined so that appropriate institutional controls or perimeter monitoring (in the case of groundwater) can be instituted.

3. Section 4.3.1; AOC 2 – SWMU 2 – Former Burial Area:

a. The RFI Work Plan must be revised to clarify the initial sentence of the second paragraph (below the bullets) in the Groundwater Constituents of Concern

Section that states: “Further delineation of SVOCS (e.g., PNAs and tetrahydrofuran) in soil, testing for COCs potentially associated with the reported buried laboratory wastes, and physical and chemical characterization and vertical and horizontal delineation of potential groundwater impacts in the form the objective for this AOC investigation”. This sentence is unclear.

b. The RFI Work Plan must be revised to clarify the first sentence of the second paragraph of the Planned Assessment Section that states: “Additional planned assessment work includes the installation of a nested pair of monitoring wells (one set within the shallow overburden and one set within the deeper section of the overburden) at the down-gradient edge of the AOC to vertically profile the groundwater within this area. Screened interval for each well is anticipated at approximately 8-13 feet bgs for shallow and 20 - 25 feet bgs for deep. Soil samples will also be collected from well borings.” These sentences are unclear, are one or two pair of nested wells being proposed? The MMD recommends a minimum of two nested pair of wells in order to adequately characterize and define the horizontal and vertical nature and extent of contamination.

c. The RFI Work Plan must be revised to clarify the basis and decision logic for determining which “select” samples will be analyzed for tetraethyl lead.

4. **Section 4.3.3; AOC 17 – EMI Interference:** The RFI Work Plan must be revised to clarify the first two sentences of the second paragraph of the Planned Assessment Section that state: “Additional planned assessment includes installation of two monitoring wells. Specifically, monitoring wells that are vertically screened to the base of the sand unit (at a depth exceeding 10 feet bgs, which indicates sand extending to this depth with no clay interface encountered at soil borings PSB-132) will be installed in the central and southeastern portions of this area.”. These sentences are unclear, what is the depth of the screened interval for the wells being proposed? The MMD recommends that due to the unknown nature of the contaminants potentially present, that nested wells with five-foot screens be installed in order to investigate the entire saturated thickness of the saturated unit.

5. **Section 4.4.1; AOC 1 – SWMU 1 – Former Drum Storage Area:** The RFI Work Plan must be modified to clarify the depth(s) of the screened interval for the planned monitoring wells. The MMD recommends that, due to the unknown nature of the contaminants potentially present, nested wells with five feet screens be installed in order to investigate the entire saturated thickness of the saturated unit.

6. **Section 4.4.2; AOC 4 – SWMU 4:** The RFI Work Plan must be modified to clarify the depth(s) of the screened interval for the planned monitoring wells. The MMD recommends that, due to the unknown nature of the contaminants potentially present, nested wells with five-foot screens be installed in order to investigate the entire saturated thickness of the saturated unit.

7. **Section 4.5; Northeastern Area:** The RFI Work Plan must be revised to clarify the third sentence of the second paragraph of this Section that states: “Atlas’ work

completed to address the eastern boundary concerns are further described in Sections 4.3". A description of work completed to address the eastern boundary concerns was not found in Section 4.3.

8. **Section 6.1; Test Pits:** The RFI Work Plan must be revised to provide additional description regarding how any removed containers will handled, temporarily stored, and disposed of. The MMD recognize the Work Plan proposes that a plan be developed at the time of discovery and if needed; however, some thought to the process is appropriate to be developed now for inclusion in the RFI Work Plan.

9. **Section 6.2; Soil Boring/Monitoring Well Installation:** The RFI Work Plan must be revised to provide additional details regarding the purpose, design, and construction of the "small sump to allow for potential NAPL" to be built into the monitoring wells screened at the base of the sand/clay interface.

10. **Section 7.2; Analysis and Testing:** The RFI Work Plan must be revised to specify that MMD review and approval is required to utilize alternate analytical methods as described in this Section.

11. **Section 7.4; Project Documentation:** To the extent possible, copies of the forms to be utilized for documentation should be provided in an Appendix for MMD review.

12. **Section 8.1; Sample Management:** The MMD supports the renaming of monitoring wells in order eliminate potential duplicate names and re-organize their nomenclature. Care needs to be taken to link new nomenclature with the historical nomenclature such that no data are lost.

13. **Section 8.4; Reporting:** The RFI Work Plan must be revised to provide additional details regarding the content of the RFI Reports. At a minimum, the RFI Reports must include: a narrative summary of the results, conclusions and recommended next steps, data tables, figures, lab reports, lab quality assurance / quality control, field sheets, etc. Reports must include both new data collected as well as available historical data for each "margin" and "area".

14. **Section 8.6; Waste Disposal:** The RFI Work Plan must be revised to specify that investigation derived waste must be characterized and stored on site per regulatory standards, and properly treated and/or disposed of within statutory timeframes. Reports of proper disposal (text and manifests) must be included in reports.

15. **Section 9.0, Community Relations Plan:**

    a. The RFI Work Plan must be revised to eliminate the reference to Michigan PFAS Response Team (MPART) being part of EGLE and an EGLE Program.

Although the MPART Executive Director Reports to the EGLE Director, it is a separate organization.

b. The RFI Work Plan must be revised to provide procedures post-COVID, since it is anticipated that COVID restrictions will not be in place for the entire time of the project.

c. The RFI Work Plan must be revised to provide for a public repository for all site related final documents. This will contain more than the fact sheet indicated. It is recommended that the City of Ferndale be involved in determining the best location for this repository.

16. Table 2; List of Analytical Compounds and Detection Limits:

a. The RFI Work Plan must be revised to provide for the analysis and reporting of the full list of volatile (Method 8260) and semivolatile (Method 8270) organic compounds in both soil and groundwater.

b. EGLE recommends that the RFI Work Plan be revised to provide for the analysis and reporting of the full list of 31 PFAS compounds. A copy of that list is attached for your reference.

c. The RFI Work Plan must be revised to provide the list of compounds and method and reporting limits for soil gas analysis.

17. Appendix A; Standard Operating Procedures:

a. In the Decontamination of Equipment SOP (SOP No. 7), there is a reference to an Investigative Derived Waste (IDW) SOP, and SOP No. 6; however, SOP No. 6 is not the IDW SOP. This issue should be clarified.

b. The RFI Work Plan must be revised to clarify the term “industrial amazons” in the fourth bullet of Section 5.1 of the Low-Flow Groundwater Sampling SOP (SOP No. 10).

c. Step 23 of Section 5.4 of the Low-Flow Groundwater Sampling SOP (SOP No. 10) of the RFI Work Plan must be revised to specify that the volatile organics analysis vials will be preserved with hydrochloric acid, and will be filled completely without any headspace present.

d. It was noted that the RFI Work Plan included SOPs for Slug Testing (SOP No. 9), and Three Volume Groundwater Sampling (SOP No. 11) even though the activities related to these SOPs were not proposed in the RFI Work Plan. The MMD is fine with retaining these SOPs in the RFI Work Plan in the event these activities are required to be implemented at some point in the future of the investigation.

Please provide a response to the comments below and a revised RFI Work Plan within 30 days of receipt of this letter. If you have any questions or would like to meet to discuss the contents or approach of the RFI Work Plan, please contact Joe Rogers, Geologist Specialist, Technical Support Unit, Hazardous Waste Section, MMD, at 517-599-5312, RogersJ5@Michigan.gov; or EGLE, MMD, P.O. Box 30241, Lansing, Michigan 48909-7741.

Sincerely,

Joe Rogers signing for

Dale Bridgford, Supervisor
Permit and Corrective Action Unit
Hazardous Waste Section
Materials Management Division
517-582-3050

Attachments:

cc: Andrew Stuart, TRC Environmental Corporation
Arthur Siegal, Partner, Jaffe Raitt Heuer & Weiss, P.C.
Kyle Bryce, Planner, City of Ferndale
Jordan Twardy, Director of Community and Economic Development, City of Ferndale
Mark Hansell, Chief of Environmental Health Services Oakland County Health Department
Alexandra Rafalski, Department of Health, and Human Services
Alexandra Clark, EGLE
Kimberly M. Tyson, EGLE
Mary Carnagie, EGLE
Richard Conforti, EGLE
John McCabe, EGLE
Joe Rogers, EGLE
Nathan Erber, EGLE
Daniel Gough, EGLE
Dave Willard, EGLE
Corrective Action File

Attachment 1
TABLE 1. GROUNDWATER: RESIDENTIAL AND NONRESIDENTIAL
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS;
PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

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Guidesheet Number ⟶		#1	#2	#3	#4	#5	#6	#7	#8	#9
Hazardous Substance	**Chemical Abstract Service Number**	**Residential Drinking Water Criteria & RBSLs**	**Nonresidential Drinking Water Criteria & RBSLs**	**Groundwater Surface Water Interface Criteria & RBSLs**	**Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Groundwater Contact Criteria & RBSLs**	**Water Solubility**	**Flammability and Explosivity Screening Level**	**Acute Inhalation Screening Level**
Acenaphthene	83329	1,300	3,800	38	4,200 (S)	4,200 (S)	4,200 (S)	4,240	ID	ID
Acenaphthylene	208968	52	150	ID	3,900 (S)	3,900 (S)	3,900 (S)	3,930	ID	ID
Acetaldehyde (I)	75070	950	2,700	130	1.1E+6	2.3E+6	4.2E+7	1.0E+9	8.9E+6	2.6E+7
Acetate	71501	4,200	12,000	(G)	ID	ID	ID	ID	ID	ID
Acetic acid	64197	4,200	12,000	(G)	NLV	NLV	1.8E+8	6.0E+9	1.0E+9 (D)	1.0E+9 (D)
Acetone (I)	67641	730	2,100	1,700	1.0E+9 (D,S)	1.0E+9 (D,S)	3.1E+7	1.0E+9	1.5E+7	1.0E+9 (D)
Acetonitrile	75058	140	400	NA	2.4E+7	4.5E+7	5.6E+6	2.00E+8	2.1E+7	2.0E+8
Acetophenone	98862	1,500	4,400	ID	6.1E+6 (S)	6.1E+6 (S)	6.1E+6 (S)	6.1E+6	ID	ID
Acrolein (I)	107028	120	330	NA	2,100	4,200	3.4E+6	2.10E+8	6.7E+6	3.4E+5
Acrylamide	79061	0.5 (A)	0.5 (A)	10 (X)	NLV	NLV	13,000	2.20E+9	NA	ID
Acrylic acid	79107	3,900	11,000	NA	1.2E+7	2.8E+7	7.6E+7	1.0E+9	1.0E+9 (D)	ID
Acrylonitrile (I)	107131	2.6	11	2.0 (M); 1.2	34,000	1.9E+5	14,000	7.50E+7	6.4E+6	ID
Alachlor	15972608	2.0 (A)	2.0 (A)	11 (X)	NLV	NLV	1,700	1.83E+5	ID	ID
Aldicarb	116063	3.0 (A)	3.0 (A)	NA	NLV	NLV	1.2E+5	6.00E+6	ID	ID
Aldicarb sulfone	1646884	2.0 (A)	2.0 (A)	NA	NLV	NLV	2.1E+6	7.80E+6	ID	ID
Aldicarb sulfoxide	1646873	4.0 (A)	4.0 (A)	NA	NLV	NLV	2.7E+6	2.80E+7	ID	ID
Aldrin	309002	0.098	0.4	0.01 (M); 8.7E-6	180 (S)	180 (S)	0.34 (AA)	180	ID	ID
Aluminum (B)	7429905	50 (V)	50 (V)	NA	NLV	NLV	6.4E+7	NA	ID	ID
Ammonia	7664417	10,000 (N)	10,000 (N)	(CC)	3.2E+6	7.1E+6	ID	5.30E+8	ID	3.5E+6
t-Amyl methyl ether (TAME)	994058	190 (E)	190 (E)	NA	2.6E+5	5.7E+5	2.6E+6 (S)	2.64E+6	NA	NA
Aniline	62533	53	220	4.0	NLV	NLV	1.4E+5	3.60E+7	NA	ID

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Anthracene	120127	43 (S)	43 (S)	ID	43 (S)	43 (S)	43 (S)	43.4	ID	ID
Antimony	7440360	6.0 (A)	6.0 (A)	130 (X)	NLV	NLV	68,000	NA	ID	ID
Arsenic	7440382	10 (A)	10 (A)	10	NLV	NLV	4,300	NA	ID	ID
Asbestos (BB)	1332214	7.0E+6 f/ml (A)	7.0E+6 f/ml (A)	NA	NLV	NLV	ID	NA	NA	ID
Atrazine	1912249	3.0 (A)	3.0 (A)	7.3	NLV	NLV	5,400	70,000	ID	ID
Azobenzene	103333	23	94	ID	6,400 (S)	6,400 (S)	1,600	6,400	ID	ID
Barium (B)	7440393	2,000 (A)	2,000 (A)	(G)	NLV	NLV	1.4E+7	NA	ID	ID
Benzene (I)	71432	5.0 (A)	5.0 (A)	200 (X)	5,600	35,000	11,000	1.75E+6	68,000	67,000
Benzidine	92875	0.3 (M); 0.0037	0.3 (M); 0.015	0.3 (M); 0.073	NLV	NLV	7.1	5.20E+5	ID	ID
Benzo(a)anthracene (Q)	56553	2.1	8.5	ID	NLV	NLV	9.4 (S,AA)	9.4	ID	ID
Benzo(b)fluoranthene (Q)	205992	1.5 (S,AA)	1.5 (S,AA)	ID	ID	ID	1.5 (S,AA)	1.5	ID	ID
Benzo(k)fluoranthene (Q)	207089	1.0 (M); 0.8 (S)	1.0 (M); 0.8 (S)	NA	NLV	NLV	1.0 (M,AA); 0.8 (S)	0.8	ID	ID
Benzo(g,h,i)perylene	191242	1.0 (M); 0.26 (S)	1.0 (M); 0.26 (S)	ID	NLV	NLV	1.0 (M,AA); 0.26 (S)	0.26	ID	ID
Benzo(a)pyrene (Q)	50328	5.0 (A)	5.0 (A)	ID	NLV	NLV	1.0 (M,AA); 0.64	1.62	ID	ID
Benzoic acid	65850	32,000	92,000	NA	NLV	NLV	3.5E+6 (S)	3.50E+6	ID	ID
Benzyl alcohol	100516	10,000	29,000	NA	NLV	NLV	4.4E+7 (S)	4.40E+7	ID	ID
Benzyl chloride	100447	7.7	32	NA	12,000	77,000	3,600	4.90E+5	NA	ID
Beryllium	7440417	4.0 (A)	4.0 (A)	(G)	NLV	NLV	2.9E+5	NA	ID	ID
bis(2-Chloroethoxy)ethane	112265	ID	ID	ID	NLV	NLV	ID	1.89E+7	ID	ID
bis(2-Chloroethyl)ether (I)	111444	2.0	8.3	1.0 (M); 0.79	38,000	2.1E+5	5,700	1.72E+7	1.7E+7 (S)	1.7E+7 (S)
bis(2-Ethylhexyl)phthalate	117817	6.0 (A)	6.0 (A)	25	NLV	NLV	320 (AA)	340	NA	340 (S)

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Boron (B)	7440428	500 (F)	500 (F)	7,200 (X)	NLV	NLV	6.2E+7	NA	ID	ID
Bromate	15541454	10 (A)	10 (A)	40 (X)	NLV	NLV	4,800	38,000	ID	ID
Bromobenzene (I)	108861	18	50	NA	1.8E+5	3.9E+5	12,000	4.13E+5	ID	ID
Bromodichloromethane	75274	80 (A,W)	80 (A,W)	ID	4,800	37,000	14,000	6.74E+6	ID	ID
Bromoform	75252	80 (A,W)	80 (A,W)	ID	4.7E+5	3.1E+6 (S)	1.4E+5	3.10E+6	ID	ID
Bromomethane	74839	10	29	35	4,000	9,000	70,000	1.45E+7	ID	ID
n-Butanol (I)	71363	950	2,700	9,800 (X)	NLV	NLV	8.8E+6	7.40E+7	4.7E+7	7.4E+7 (S)
2-Butanone (MEK) (I)	78933	13,000	38,000	2,200	2.4E+8 (S)	2.4E+8 (S)	2.4E+8 (S)	2.40E+8	ID	2.4E+8 (S)
n-Butyl acetate	123864	550	1,600	NA	6.7E+6 (S)	6.7E+6 (S)	1.8E+6	6.70E+6	2.5E+6	6.7E+6 (S)
t-Butyl alcohol	75650	3,900	11,000	NA	1.0E+9 (D,S)	1.0E+9 (D,S)	7.9E+7	1.0E+9	6.1E+7	ID
Butyl benzyl phthalate	85687	1,200	2,700 (S)	67 (X)	NLV	NLV	2,700 (S)	2,690	ID	ID
n-Butylbenzene	104518	80	230	ID	ID	ID	5,900	NA	ID	ID
sec-Butylbenzene	135988	80	230	ID	ID	ID	4,400	NA	ID	ID
t-Butylbenzene (I)	98066	80	230	ID	ID	ID	8,900	NA	ID	ID
Cadmium (B)	7440439	5.0 (A)	5.0 (A)	(G,X)	NLV	NLV	1.9E+5	NA	ID	ID
Camphene (I)	79925	ID	ID	NA	440	1,000	ID	33,400	ID	ID
Caprolactam	105602	5,800	17,000	NA	NLV	NLV	3.9E+8	5.25E+9	NA	1.0E+9 (D)
Carbaryl	63252	700	2,000	NA	ID	ID	1.3E+5 (S)	1.26E+5	ID	ID
Carbazole	86748	85	350	10 (M); 4.0	NLV	NLV	7,400	7,480	ID	ID
Carbofuran	1563662	40 (A)	40 (A)	NA	NLV	NLV	3.4E+5	7.00E+5	ID	ID
Carbon disulfide (I,R)	75150	800	2,300	ID	2.5E+5	5.5E+5	1.2E+6 (S)	1.19E+6	13,000	ID

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Carbon tetrachloride	56235	5.0 (A)	5.0 (A)	45 (X)	370	2,400	4,600	7.93E+5	ID	96,000
Chlordane (J)	57749	2.0 (A)	2.0 (A)	2.0 (M); 0.00025	56 (S)	56 (S)	15 (AA)	56	ID	ID
Chloride	16887006	2.5E+5 (E)	2.5E+5 (E)	(FF)	NLV	NLV	ID	NA	ID	ID
Chlorobenzene (I)	108907	100 (A)	100 (A)	25	2.1E+5	4.7E+5 (S)	86,000	4.72E+5	1.6E+5	ID
p-Chlorobenzene sulfonic acid	98668	7,300	21,000	ID	ID	ID	ID	NA	ID	ID
1-Chloro-1,1-difluoroethane	75683	15,000	44,000	NA	3.9E+6 (S)	3.9E+6 (S)	3.9E+6 (S)	3.9E+06	NA	ID
Chloroethane	75003	430	1,700	1,100 (X)	5.7E+6 (S)	5.7E+6 (S)	4.4E+5	5.74E+6	1.1E+5	ID
2-Chloroethyl vinyl ether	110758	ID	ID	NA	ID	ID	ID	1.50E+7	ID	ID
Chloroform	67663	80 (A,W)	80 (A,W)	350	28,000	1.8E+5	1.5E+5	7.92E+6	ID	ID
Chloromethane (I)	74873	260	1,100	ID	8,600	45,000	4.9E+5	6.34E+6	36,000	2.1E+5
4-Chloro-3-methylphenol	59507	150	420	7.4	NLV	NLV	79,000	3.90E+6	ID	ID
beta-Chloronaphthalene	91587	1,800	5,200	NA	ID	ID	6,700 (S)	6,740	ID	ID
2-Chlorophenol	95578	45	130	18	4.9E+5	1.1E+6	94,000	2.20E+7	ID	ID
o-Chlorotoluene (I)	95498	150	420	ID	2.2E+5	3.7E+5 (S)	44,000	3.73E+5	ID	ID
Chlorpyrifos	2921882	22	63	2.0 (M); 0.002	2.9	6.6	1,100 (S)	1,120	ID	ID
Chromium (III) (B,H)	16065831	100 (A)	100 (A)	(G,X)	NLV	NLV	2.9E+8	NA	ID	ID
Chromium (VI)	18540299	100 (A)	100 (A)	11	NLV	NLV	4.6E+5	NA	ID	ID
Chrysene (Q)	218019	1.6 (S)	1.6 (S)	ID	ID	ID	1.6 (S,AA)	1.6	ID	ID
Cobalt	7440484	40	100	100	NLV	NLV	2.4E+6	NA	ID	ID
Copper (B)	7440508	1,000 (E)	1,000 (E)	(G)	NLV	NLV	7.4E+6	NA	ID	ID
Cyanazine	21725462	2.3	9.4	56 (X)	NLV	NLV	2,800	1.70E+5	ID	ID

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Cyanide (P,R)	57125	200 (A)	200 (A)	5.2	NLV	NLV	57,000	NA	ID	ID
Cyclohexanone	108941	33,000	94,000	NA	1,500	3,300	2.3E+7 (S)	2.30E+7	NA	ID
Dacthal	1861321	73	210	NA	NLV	NLV	500 (S)	500	ID	ID
Dalapon	75990	200 (A)	200 (A)	NA	NLV	NLV	1.2E+7	5.02E+8	ID	ID
4-4'-DDD	72548	9.1	37	NA	NLV	NLV	44 (AA)	90	ID	ID
4-4'-DDE	72559	4.3	15	NA	NLV	NLV	27 (AA)	120	ID	ID
4-4'-DDT	50293	3.6	10	0.02 (M); 1.1E-5	NLV	NLV	13 (AA)	25	NA	ID
Decabromodiphenyl ether	1163195	30 (S)	30 (S)	NA	30 (S)	30 (S)	30 (S)	30	ID	ID
Di-n-butyl phthalate	84742	880	2,500	9.7	NLV	NLV	11,000 (S)	11,200	NA	ID
Di(2-ethylhexyl) adipate	103231	400 (A)	400 (A)	ID	NLV	NLV	470 (S)	471	ID	ID
Di-n-octyl phthalate	117840	130	380	ID	NLV	NLV	400	3,000	ID	ID
Diacetone alcohol (I)	123422	ID	ID	NA	NLV	NLV	ID	1.0E+9	1.0E+9 (S)	ID
Diazinon	333415	1.3	3.8	1.0 (M); 0.004	NLV	NLV	1,300	68,800	NA	ID
Dibenzo(a,h)anthracene (Q)	53703	2.0 (M); 0.21	2.0 (M); 0.85	ID	NLV	NLV	2.0 (M,AA); 0.31	2.49	ID	ID
Dibenzofuran	132649	ID	ID	4.0	10,000 (S)	10,000 (S)	ID	10,000	ID	ID
Dibromochloromethane	124481	80 (A,W)	80 (A,W)	ID	14,000	1.1E+5	18,000	2.60E+6	ID	ID
Dibromochloropropane	96128	0.2 (A)	0.2 (A)	ID	220	1,200 (S)	390	1,230	NA	ID
Dibromomethane	74953	80	230	NA	ID	ID	5.3E+5	1.10E+7	ID	ID
Dicamba	1918009	220	630	NA	NLV	NLV	5.9E+5	4.5E+6	ID	ID
1,2-Dichlorobenzene	95501	600 (A)	600 (A)	13	1.6E+5 (S)	1.6E+5 (S)	1.6E+5 (S)	1.56E+5	NA	1.6E+5 (S)
1,3-Dichlorobenzene	541731	6.6	19	28	18,000	41,000	2,000	1.11E+5	ID	ID

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1,4-Dichlorobenzene	106467	75 (A)	75 (A)	17	16,000	74,000 (S)	6,400	73,800	NA	ID
3,3'-Dichlorobenzidine	91941	1.1	4.3	0.3 (M); 0.2	NLV	NLV	180	3,110	ID	ID
Dichlorodifluoromethane	75718	1,700	4,800	ID	2.2E+5	3.0E+5 (S)	3.0E+5 (S)	3.00E+5	ID	ID
1,1-Dichloroethane	75343	880	2,500	740	1.0E+6	2.3E+6	2.4E+6	5.06E+6	3.8E+5	ID
1,2-Dichloroethane (I)	107062	5.0 (A)	5.0 (A)	360 (X)	9,600	59,000	19,000	8.52E+6	2.5E+6	ID
1,1-Dichloroethylene (I)	75354	7.0 (A)	7.0 (A)	130	200	1,300	11,000	2.25E+6	97,000	1.4E+5
cis-1,2-Dichloroethylene	156592	70 (A)	70 (A)	620	93,000	2.1E+5	2.0E+5	3.50E+6	5.3E+5	ID
trans-1,2-Dichloroethylene	156605	100 (A)	100 (A)	1,500 (X)	85,000	2.0E+5	2.2E+5	6.30E+6	2.3E+5	ID
2,6-Dichloro-4-nitroaniline	99309	2,200	6,300	NA	NLV	NLV	7,000 (S)	7,000	ID	ID
2,4-Dichlorophenol	120832	73	210	11	NLV	NLV	48,000	4.50E+6	ID	ID
2,4-Dichlorophenoxyacetic acid	94757	70 (A)	70 (A)	220	NLV	NLV	1.2E+5	6.80E+5	ID	ID
1,2-Dichloropropane (I)	78875	5.0 (A)	5.0 (A)	230 (X)	16,000	36,000	16,000	2.80E+6	5.5E+5	2.8E+6 (S)
1,3-Dichloropropene	542756	8.5	35	9.0 (X)	3,900	26,000	5,500	2.80E+6	1.3E+5	ID
Dichlorovos	62737	1.6	6.7	NA	NLV	NLV	5,900	1.60E+7	NA	ID
Dicyclohexyl phthalate	84617	ID	ID	NA	ID	ID	ID	4,000	ID	ID
Dieldrin	60571	0.11	0.43	0.02 (M); 6.5E-6	200 (S)	200 (S)	2.4 (AA)	195	ID	ID
Diethyl ether	60297	10 (E)	10 (E)	ID	6.1E+7 (S)	6.1E+7 (S)	3.5E+7	6.10E+7	6.5E+5	6.1E+7 (S)
Diethyl phthalate	84662	5,500	16,000	110	NLV	NLV	1.1E+6 (S)	1.08E+6	NA	ID
Diethylene glycol monobutyl ether	112345	88	250	NA	NLV	NLV	4.0E+6	1.0E+9	ID	ID
Diisopropyl ether	108203	30	86	ID	8,000 (S)	8,000 (S)	8,000 (S)	8,041	8,000 (S)	ID
Diisopropylamine (I)	108189	5.6	16	NA	2.1E+7	3.7E+7 (S)	21,000	3.69E+7	4.6E+6	ID

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Dimethyl phthalate	131113	73,000	2.1E+5	NA	NLV	NLV	4.2E+6 (S)	4.19E+6	NA	ID
N,N-Dimethylacetamide	127195	180	520	4,100 (X)	NLV	NLV	2.3E+7	1.0E+9	NA	ID
N,N-Dimethylaniline	121697	16	46	NA	2.4E+5	1.3E+6 (S)	20,000	1.27E+6	NA	1.3E+6 (S)
Dimethylformamide (I)	68122	700	2,000	NA	NLV	NLV	1.1E+8	1.0E+9	ID	ID
2,4-Dimethylphenol	105679	370	1,000	380	NLV	NLV	5.2E+5	7.87E+6	ID	ID
2,6-Dimethylphenol	576261	4.4	13	NA	NLV	NLV	6,300	6.14E+6	ID	ID
3,4-Dimethylphenol	95658	10	29	25	NLV	NLV	18,000	4.93E+6	ID	ID
Dimethylsulfoxide	67685	2.2E+5	6.3E+5	1.9E+5	NLV	NLV	1.7E+8 (S)	1.66E+8	ID	ID
2,4-Dinitrotoluene	121142	7.7	32	NA	NLV	NLV	8,600	2.70E+5	ID	ID
Dinoseb	88857	7.0 (A)	7.0 (A)	1.0 (M); 0.48	NLV	NLV	7,000	52,000	ID	ID
1,4-Dioxane (I)	123911	85	350	2,800 (X)	NLV	NLV	1.7E+6	9.00E+8	1.4E+8	ID
Diquat	85007	20 (A)	20 (A)	20 (M); 6.0	NLV	NLV	7.0E+5 (S)	7.00E+5	ID	ID
Dissolved oxygen (DO)	NA	ID	ID	(EE)	ID	ID	ID	NA	NA	NA
Diuron	330541	31	90	NA	NLV	NLV	37,000 (S)	37,300	ID	ID
Endosulfan (J)	115297	44	130	0.03 (M); 0.029	ID	ID	510 (S)	510	ID	ID
Endothall	145733	100 (A)	100 (A)	NA	NLV	NLV	2.5E+7 (AA)	1.00E+8	ID	ID
Endrin	72208	2.0 (A)	2.0 (A)	ID	NLV	NLV	160 (AA)	250	ID	ID
Epichlorohydrin (I)	106898	5.0 (M); 2.0 (A)	5.0 (M); 2.0 (A)	NA	3.2E+5	6.3E+5	11,000	6.60E+7	4.7E+7	ID
Ethanol (I)	64175	1.9E+6	3.8E+6	ID	NLV	NLV	1.0E+9 (D,S)	1.0E+9	9.7E+7	ID
Ethyl acetate (I)	141786	6,600	19,000	NA	6.4E+7 (S)	6.4E+7 (S)	6.4E+7 (S)	6.40E+7	4.2E+6	ID
Ethyl-tert-butyl ether (ETBE)	637923	49 (E)	49 (E)	ID	2.9E+6	5.6E+6 (S)	ID	5.63E+6	ID	ID

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Ethylbenzene (I)	100414	74 (E)	74 (E)	18	1.1E+5	1.7E+5 (S)	1.7E+5 (S)	1.69E+5	43,000	1.7E+5 (S)
Ethylene dibromide	106934	0.05 (A)	0.05 (A)	5.7 (X)	2,400	15,000	25	4.20E+6	ID	ID
Ethylene glycol	107211	15,000	42,000	1.9E+5 (X)	NLV	NLV	1.0E+9 (D,S)	1.0E+9	NA	1.0E+9 (D,S)
Ethylene glycol monobutyl ether	111762	3,700	10,000	NA	2.9E+6	6.5E+6	5.3E+7	2.24E+8	NA	ID
Fluoranthene	206440	210 (S)	210 (S)	1.6	210 (S)	210 (S)	210 (S)	206	ID	ID
Fluorene	86737	880	2,000 (S)	12	2,000 (S)	2,000 (S)	2,000 (S)	1,980	ID	ID
Fluorine (soluble fluoride) (B)	7782414	2,000 (E)	2,000 (E)	ID	NLV	NLV	1.2E+7	NA	ID	ID
Formaldehyde	50000	1,300	3,800	120	63,000	3.6E+5	3.0E+7	5.50E+8	ID	61,000
Formic acid (I,U)	64186	10,000	29,000	ID	7.7E+6	1.5E+7	6.0E+8	1.0E+9	1.0E+9 (D)	3.5E+8
1-Formylpiperidine	2591868	80	230	NA	ID	ID	ID	NA	ID	ID
Gentian violet	548629	15	63	NA	NLV	NLV	1.0E+6 (S)	1.00E+6	ID	ID
Glyphosate	1071836	700 (A)	700 (A)	NA	NLV	NLV	1.2E+7 (S,AA)	1.16E+7	ID	ID
Heptachlor	76448	0.4 (A)	0.4 (A)	0.01 (M); 0.0018	180 (S)	180 (S)	2.9 (AA)	180	ID	ID
Heptachlor epoxide	1024573	0.2 (A)	0.2 (A)	ID	NLV	NLV	9.0 (AA)	200	ID	ID
n-Heptane	142825	2,700 (S)	2,700 (S)	NA	2,700 (S)	2,700 (S)	2,700 (S)	2,690	200	2,700 (S)
Hexabromobenzene	87821	0.17 (S); 20	0.17 (S); 58	ID	ID	ID	0.17 (S); 1,500	0.17	ID	ID
Hexachlorobenzene (C-66)	118741	1.0 (A)	1.0 (A)	0.2 (M); 0.0003	440	3,000	4.6	6,200	ID	ID
Hexachlorobutadiene (C-46)	87683	15	42	0.053	1,600	3,200 (S)	400	3,230	ID	ID
alpha-Hexachlorocyclohexane	319846	0.43	1.7	ID	2,000 (S)	2,000 (S)	60	2,000	ID	ID
beta-Hexachlorocyclohexane	319857	0.88	3.6	ID	NLV	NLV	120	240	ID	ID
Hexachlorocyclopentadiene (C-56)	77474	50 (A)	50 (A)	ID	130	420	1,600	1,800	ID	ID

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Hexachloroethane	67721	7.3	21	6.7 (X)	27,000	50,000 (S)	1,900	50,000	ID	ID
n-Hexane	110543	3,000	8,600	NA	12,000 (S)	12,000 (S)	12,000 (S)	12,000	12,000 (S)	ID
2-Hexanone	591786	1,000	2,900	ID	4.2E+6	8.7E+6	5.2E+6	1.60E+7	NA	ID
Indeno(1,2,3-cd)pyrene (Q)	193395	2.0 (M); 0.022 (S)	2.0 (M); 0.022 (S)	ID	NLV	NLV	2.0 (M,AA); 0.022 (S)	0.022	ID	ID
Iron (B)	7439896	300 (E)	300 (E)	NA	NLV	NLV	5.8E+7	NA	ID	ID
Isobutyl alcohol (I)	78831	2,300	6,700	NA	7.6E+7 (S)	7.6E+7 (S)	2.5E+7	7.60E+7	ID	ID
Isophorone	78591	770	3,100	1,300 (X)	NLV	NLV	9.9E+5	1.20E+7	ID	1.2E+7 (S)
Isopropyl alcohol (I)	67630	470	1,300	57,000 (X)	NLV	NLV	1.3E+7	1.0E+9	6.0E+7	1.0E+9 (D,S)
Isopropyl benzene	98828	800	2,300	28	56,000 (S)	56,000 (S)	56,000 (S)	56,000	29,000	ID
Lead (B)	7439921	4.0 (L)	4.0 (L)	(G,X)	NLV	NLV	ID	NA	ID	ID
Lindane	58899	0.2 (A)	0.2 (A)	0.03 (M); 0.026	ID	ID	190	6,800	ID	ID
Lithium (B)	7439932	170	350	440	NLV	NLV	5.4E+6	NA	ID	ID
Magnesium (B)	7439954	4.0E+5	1.1E+6	NA	NLV	NLV	1.0E+9 (D)	NA	ID	ID
Manganese (B)	7439965	50 (E)	50 (E)	(G,X)	NLV	NLV	9.1E+6	NA	ID	ID
Mercury (Total) (B,Z)	Varies	2.0 (A)	2.0 (A)	0.0013	56 (S)	56 (S)	56 (S)	56	ID	ID
Methane	74828	ID	ID	NA	(K)	(K)	ID	NA	520	ID
Methanol	67561	3,700	10,000	5.9E+5 (X)	2.9E+7 (S)	2.9E+7 (S)	2.9E+7 (S)	2.90E+7	4.5E+6	2.9E+7 (S)
Methoxychlor	72435	40 (A)	40 (A)	NA	ID	ID	45 (S)	45	ID	ID
2-Methoxyethanol (I)	109864	7.3	21	NA	NLV	NLV	8.3E+5	1.0E+9	ID	ID
2-Methyl-4-chlorophenoxyacetic acid	94746	7.3	21	NA	NLV	NLV	9,200	9.24E+5	ID	ID
2-Methyl-4,6-dinitrophenol	534521	20 (M); 2.6	20 (M); 7.3	NA	NLV	NLV	9,500	2.00E+5	ID	ID

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N-Methyl-morpholine (I)	109024	20	56	NA	NLV	NLV	1.5E+6	1.0E+9	ID	ID
Methyl parathion	298000	1.8	5.2	NA	NLV	NLV	3,000	50,000	ID	ID
4-Methyl-2-pentanone (MIBK) (I)	108101	1,800	5,200	ID	2.0E+7 (S)	2.0E+7 (S)	1.3E+7	2.00E+7	ID	2.0E+7 (S)
Methyl-tert-butyl ether (MTBE)	1634044	40 (E)	40 (E)	7,100 (X)	4.7E+7 (S)	4.7E+7 (S)	6.1E+5	4.68E+7	ID	ID
Methylcyclopentane (I)	96377	ID	ID	NA	22,000	49,000	ID	73,890	ID	ID
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	1.1	4.5	NA	NLV	NLV	110 (AA)	14,000	ID	ID
Methylene chloride	75092	5.0 (A)	5.0 (A)	1,500 (X)	2.2E+5	1.4E+6	2.2E+5	1.70E+7	ID	ID
2-Methylnaphthalene	91576	260	750	19	25,000 (S)	25,000 (S)	25,000 (S)	24,600	ID	ID
Methylphenols (J)	1319773	370	1,000	30 (M); 25	NLV	NLV	8.1E+5	2.80E+7	NA	ID
Metolachlor	51218452	240	990	15	NLV	NLV	91,000	5.30E+5	ID	ID
Metribuzin	21087649	180	520	NA	ID	ID	1.2E+6 (S)	1.2E+6	ID	ID
Mirex	2385855	0.02 (M); 6.8E-6 (S)	0.02 (M); 6.8E-6 (S)	.02 (M); 6.8E-6 (S	ID	ID	0.02 (M); 6.8E-6 (S)	6.8E-6	NA	ID
Molybdenum (B)	7439987	73	210	3,200 (X)	NLV	NLV	9.7E+5	NA	ID	ID
Naphthalene	91203	520	1,500	11	31,000 (S)	31,000 (S)	31,000 (S)	31,000	NA	31,000 (S)
Nickel (B)	7440020	100 (A)	100 (A)	(G)	NLV	NLV	7.4E+7	NA	ID	ID
Nitrate (B,N)	14797558	10,000 (A,N)	10,000 (A,N)	ID	NLV	NLV	3.1E+8	NA	ID	ID
Nitrite (B,N)	14797650	1,000 (A,N)	1,000 (A,N)	NA	NLV	NLV	ID	NA	ID	ID
Nitrobenzene (I)	98953	3.4	9.6	180 (X)	2.8E+5	5.5E+5	11,000	2.09E+6	NA	ID
2-Nitrophenol	88755	20	58	ID	NLV	NLV	79,000	2.50E+6	ID	ID
n-Nitroso-di-n-propylamine	621647	5.0 (M); 0.19	5.0 (M); 0.77	NA	NLV	NLV	360	9.89E+6	ID	ID

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N-Nitrosodiphenylamine	86306	270	1,100	NA	NLV	NLV	35,000 (S)	35,100	ID	ID
Oxamyl	23135220	200 (A)	200 (A)	NA	NLV	NLV	6.2E+7	2.80E+8	ID	ID
Oxo-hexyl acetate	88230357	73	210	NA	ID	ID	ID	NA	ID	ID
Pendimethalin	40487421	280 (S)	280 (S)	NA	NLV	NLV	280 (S)	275	ID	ID
Pentachlorobenzene	608935	6.1	17	5.0 (M); 0.019	ID	ID	240	650	ID	ID
Pentachloronitrobenzene	82688	32 (S)	32 (S)	NA	32 (S)	32 (S)	32 (S)	32	ID	ID
Pentachlorophenol	87865	1.0 (A)	1.0 (A)	(G,X)	NLV	NLV	200	1.85E+6	ID	ID
Pentane	109660	ID	ID	NA	38,000 (S)	38,000 (S)	ID	38,200	340	38,000 (S)
2-Pentene (l)	109682	ID	ID	NA	ID	ID	ID	2.03E+5	ID	ID
pH	NA	6.5 to 8.5 (E)	6.5 to 8.5 (E)	6.5 to 9.0	ID	ID	ID	NA	NA	NA
Phenanthrene	85018	52	150	2.0 (M); 1.4	1,000 (S)	1,000 (S)	1,000 (S)	1,000	ID	ID
Phenol	108952	4,400	13,000	450	NLV	NLV	2.9E+7	8.28E+7	NA	ID
Phenytoin	57410	17	68	89 (X)	NLV	NLV	14,000	3.2E+4	ID	ID
Phosphorus (Total)	7723140	63,000	2.4E+5	(EE)	NLV	NLV	ID	NA	ID	ID
Phthalic acid	88993	14,000	40,000	NA	NLV	NLV	1.4E+7 (S)	1.42E+7	ID	ID
Phthalic anhydride	85449	15,000	44,000	NA	NLV	NLV	6.2E+6 (S)	6.2E+6	NA	ID
Picloram	1918021	500 (A)	500 (A)	46	NLV	NLV	4.3E+5 (S)	4.30E+5	ID	ID
Piperidine	110894	3.2	9.2	NA	NLV	NLV	34,000	1.0E+9	ID	ID
Polybrominated biphenyls (J)	67774327	0.03	0.09	ID	NLV	NLV	ID	1.66E+7	ID	ID
Polychlorinated biphenyls (PCBs) (J,T)	1336363	0.5 (A)	0.5 (A)	0.2 (M); 2.6E-5	45 (S)	45 (S)	3.3 (AA)	44.7	ID	ID
Prometon	1610180	160	460	NA	NLV	NLV	1.8E+5	7.50E+5	ID	ID

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Propachlor	1918167	95	270	NA	NLV	NLV	4.4E+5	6.55E+5	ID	ID
Propazine	139402	200	560	NA	NLV	NLV	8,600 (S)	8,600	ID	ID
Propionic acid	79094	12,000	35,000	ID	NLV	NLV	2.8E+8	1.0E+9	1.0E+9 (D)	ID
Propyl alcohol (I)	71238	1,400	4,000	NA	NLV	NLV	2.8E+7	1.0E+9	7.1E+7	1.0E+9 (D,S)
n-Propylbenzene (I)	103651	80	230	ID	ID	ID	15,000	NA	ID	ID
Propylene glycol	57556	1.5E+5	4.2E+5	2.9E+5	NLV	NLV	1.0E+9 (D,S)	1.0E+9	ID	ID
Pyrene	129000	140 (S)	140 (S)	ID	140 (S)	140 (S)	140 (S)	135	ID	ID
Pyridine (I)	110861	20 (M); 7.3	21	NA	5,500	12,000	94,000	3.00E+5	81,000	ID
Selenium (B)	7782492	50 (A)	50 (A)	5.0	NLV	NLV	9.7E+5	NA	ID	ID
Silver (B)	7440224	34	98	0.2 (M); 0.06	NLV	NLV	1.5E+6	NA	ID	ID
Silvex (2,4,5-TP)	93721	50 (A)	50 (A)	30	NLV	NLV	43,000	1.40E+5	ID	ID
Simazine	122349	4.0 (A)	4.0 (A)	17	NLV	NLV	4,500 (S)	4,470	ID	ID
Sodium	17341252	1.2E+5	3.5E+5	NA	NLV	NLV	1.0E+9 (D)	NA	ID	ID
Sodium azide	26628228	88	250	50 (M); 7.3	ID	ID	ID	NA	ID	ID
Strontium (B)	7440246	4,600	13,000	21,000	NLV	NLV	1.2E+8	NA	ID	ID
Styrene	100425	100 (A)	100 (A)	80 (X)	1.7E+5	3.1E+5 (S)	9,700	3.10E+5	1.4E+5	3.1E+5 (S)
Sulfate	14808798	2.5E+5 (E)	2.5E+5 (E)	NA	NLV	NLV	ID	NA	ID	ID
Tebuthiuron	34014181	510	1,500	NA	NLV	NLV	2.5E+6 (S)	2.50E+6	ID	ID
2,3,7,8-Tetrabromodibenzo-p-dio (O)	50585416	(O)	(O)	(O)	NLV	NLV	(O)	0.00996	ID	ID
1,2,4,5-Tetrachlorobenzene	95943	1,300 (S)	1,300 (S)	2.9 (X)	1,300 (S)	1,300 (S)	1,300 (S)	1,300	ID	ID
2,3,7,8-Tetrachlorodibenzo-p-dio (O)	1746016	3.0E-5 (A)	3.0E-5 (A)	1.0E-5 (M); 3.1E-9	NLV	NLV	1.0E-5 (M,O,AA)	0.019	ID	ID

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1,1,1,2-Tetrachloroethane	630206	77	320	ID	15,000	96,000	30,000	1.10E+6	ID	ID
1,1,2,2-Tetrachloroethane	79345	8.5	35	78 (X)	12,000	77,000	4,700	2.97E+6	ID	ID
Tetrachloroethylene	127184	5.0 (A)	5.0 (A)	60 (X)	25,000	1.7E+5	12,000	2.0E+5	ID	2.0E+5 (S)
Tetrahydrofuran	109999	95	270	11,000 (X)	6.9E+6	1.6E+7	1.6E+6	1.0E+9	60,000	3.6E+6
Tetranitromethane	509148	ID	ID	NA	580	3,200	ID	85,000	ID	ID
Thallium (B)	7440280	2.0 (A)	2.0 (A)	3.7 (X)	NLV	NLV	13,000	NA	ID	ID
Toluene (I)	108883	790 (E)	790 (E)	270	5.3E+5 (S)	5.3E+5 (S)	5.3E+5 (S)	5.26E+5	61,000	ID
p-Toluidine	106490	15	62	NA	NLV	NLV	24,000	7.60E+6	NA	ID
Total dissolved solids (TDS)	NA	5.0E+5 (E)	5.0E+5 (E)	(EE)	ID	ID	ID	NA	NA	NA
Toxaphene	8001352	3.0 (A)	3.0 (A)	1.0 (M); 6.8E-5	NLV	NLV	44	740	ID	740 (S)
Triallate	2303175	95	270	NA	ID	ID	4,000 (S)	4,000	ID	ID
Tributylamine	102829	10	29	ID	14,000	32,000	2,300	75,400	ID	ID
1,2,4-Trichlorobenzene	120821	70 (A)	70 (A)	99 (X)	3.0E+5 (S)	3.0E+5 (S)	19,000	3.00E+5	NA	3.0E+5 (S)
1,1,1-Trichloroethane	71556	200 (A)	200 (A)	89	6.6E+5	1.3E+6 (S)	1.3E+6 (S)	1.33E+6	ID	1.3E+6 (S)
1,1,2-Trichloroethane	79005	5.0 (A)	5.0 (A)	330 (X)	17,000	1.1E+5	21,000	4.42E+6	NA	ID
Trichloroethylene	79016	5.0 (A)	5.0 (A)	200 (X)	2,200	4,900	22,000	1.10E+6	ID	1.1E+6 (S)
Trichlorofluoromethane	75694	2,600	7,300	NA	1.1E+6 (S)	1.1E+6 (S)	1.1E+6 (S)	1.10E+6	ID	1.1E+6 (S)
2,4,5-Trichlorophenol	95954	730	2,100	NA	NLV	NLV	1.7E+5	1.20E+6	ID	ID
2,4,6-Trichlorophenol	88062	120	470	5.0	NLV	NLV	10,000	8.00E+5	ID	ID
1,2,3-Trichloropropane	96184	42	120	NA	8,300	18,000	84,000	1.90E+6	NA	ID
1,1,2-Trichloro-1,2,2-trifluoroetha	76131	1.7E+5 (S)	1.7E+5 (S)	32	1.7E+5 (S)	1.7E+5 (S)	1.7E+5 (S)	1.70E+5	ID	1.7E+5 (S)

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Guidesheet Number ⟶		#1	#2	#3	#4	#5	#6	#7	#8	#9
Hazardous Substance	**Chemical Abstract Service Number**	**Residential Drinking Water Criteria & RBSLs**	**Nonresidential Drinking Water Criteria & RBSLs**	**Groundwater Surface Water Interface Criteria & RBSLs**	**Residential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria & RBSLs**	**Groundwater Contact Criteria & RBSLs**	**Water Solubility**	**Flammability and Explosivity Screening Level**	**Acute Inhalation Screening Level**
Triethanolamine	102716	3,700	10,000	NA	NLV	NLV	1.0E+9 (D,S)	1.0E+9	ID	ID
Triethylene glycol	112276	4,300	12,000	NA	NLV	NLV	1.0E+6 (S)	1.00E+6	ID	ID
3-Trifluoromethyl-4-nitrophenol	88302	4,500	13,000	NA	NLV	NLV	5.0E+6 (S)	5.00E+6	ID	ID
Trifluralin	1582098	37	110	NA	ID	ID	2,400	8,100	ID	ID
2,2,4-Trimethyl pentane	540841	ID	ID	NA	2,300 (S)	2,300 (S)	ID	2,330	160	ID
2,4,4-Trimethyl-2-pentene (I)	107404	ID	ID	NA	ID	ID	ID	11,900	ID	ID
1,2,4-Trimethylbenzene (I)	95636	63 (E)	63 (E)	17	56,000 (S)	56,000 (S)	56,000 (S)	55,890	56,000 (S)	ID
1,3,5-Trimethylbenzene (I)	108678	72 (E)	72 (E)	45	61,000 (S)	61,000 (S)	61,000 (S)	61,150	ID	ID
Triphenyl phosphate	115866	1,200	1,400 (S)	NA	NLV	NLV	1,400 (S)	1,430	ID	ID
tris(2,3-Dibromopropyl)phosphate	126727	10 (M); 0.71	10 (M); 2.9	ID	4,700 (S)	4,700 (S)	2,100	4,700	ID	ID
Urea	57136	ID	ID	NA	NLV	NLV	ID	NA	ID	ID
Vanadium	7440622	4.5	62	27	NLV	NLV	9.7E+5	NA	ID	ID
Vinyl acetate (I)	108054	640	1,800	NA	4.1E+6	8.9E+6	8.0E+6	2.00E+7	1.8E+6	4.8E+6
Vinyl chloride	75014	2.0 (A)	2.0 (A)	13 (X)	1,100	13,000	1,000	2.76E+6	33,000	ID
White phosphorus (R)	12185103	0.11	0.31	NA	NLV	NLV	2,900	NA	ID	ID
Xylenes (I)	1330207	280 (E)	280 (E)	41	1.9E+5 (S)	1.9E+5 (S)	1.9E+5 (S)	1.86E+5	70,000	1.9E+5 (S)
Zinc (B)	7440666	2,400	5,000 (E)	(G)	NLV	NLV	1.1E+8	NA	ID	ID

Attachment 1
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			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Guidesheet Number ⟶		#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Hazardous Substance	Chemical Abstract Service Number	Statewide Default Background Levels	Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels
Acenaphthene	83329	NA	3.0E+5	**8,700**	9.7E+5	1.9E+8	8.1E+7	8.1E+7	8.1E+7	1.4E+10	4.1E+7	NA
Acenaphthylene	208968	NA	5,900	ID	4.4E+5	1.6E+6	2.2E+6	2.2E+6	2.2E+6	2.3E+9	1.6E+6	NA
Acetaldehyde (I)	75070	NA	19,000	**2,600**	1.1E+8 (C)	2.2E+5	1.7E+5	1.7E+5	2.8E+5	6.0E+8	2.9E+7	1.1E+8
Acetate	71501	NA	ID	(G)	ID	ID	ID	ID	ID	ID	ID	ID
Acetic acid	64197	NA	84,000	(G)	6.5E+8 (C)	NLV	NLV	NLV	NLV	1.7E+10	1.3E+8	6.5E+8
Acetone (I)	67641	NA	**15,000**	34,000	1.1E+8 (C)	1.1E+8 (C)	1.3E+8	1.3E+8	1.9E+8	3.9E+11	2.3E+7	1.1E+8
Acetonitrile	75058	NA	2,800	NA	2.2E+7 (C)	4.8E+6	1.6E+6	1.6E+6	2.1E+6	4.0E+9	4.3E+6	2.2E+7
Acetophenone	98862	NA	30,000	ID	1.1E+6 (C)	1.1E+6 (C)	4.4E+7	4.4E+7	4.4E+7	3.3E+10	1.1E+6 (C)	1.1E+6
Acrolein (I)	107028	NA	2,400	NA	2.3E+7 (C)	410	310	310	610	1.3E+6	3.6E+6	2.3E+7
Acrylamide	79061	NA	10	200 (X)	2.6E+5	NLV	NLV	NLV	NLV	2.4E+6	1,900	NA
Acrylic acid	79107	NA	78,000	NA	1.1E+8 (C)	2.4E+6	1.9E+5	2.3E+5	2.3E+5	6.7E+7	3.5E+7 (DD)	1.1E+8
Acrylonitrile (I)	107131	NA	**100 (M); 52**	100 (M); 40	2.8E+5	6,600	5,000	5,100	10,000	4.6E+7	16,000	8.3E+6
Alachlor	15972608	NA	**52**	290 (X)	44,000	NLV	NLV	NLV	NLV	ID	93,000	NA
Aldicarb	116063	NA	60	NA	2.4E+6	NLV	NLV	NLV	NLV	ID	2.3E+5	NA
Aldicarb sulfone	1646884	NA	200 (M); 40	NA	4.2E+7	NLV	NLV	NLV	NLV	ID	2.5E+5	NA
Aldicarb sulfoxide	1646873	NA	200(M); 80	NA	5.4E+7	NLV	NLV	NLV	NLV	ID	2.9E+5	NA
Aldrin	309002	NA	NLL	NLL	NLL	1.3E+6	58,000	58,000	58,000	6.4E+5	**1,000**	NA
Aluminum (B)	7429905	6.9E+6	1,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	5.0E+7 (DD)	NA
Ammonia	7664417	NA	ID	(CC)	ID	ID	ID	ID	ID	6.7E+9	ID	1.0E+7
t-Amyl methyl ether (TAME)	994058	NA	3,900	NA	4.4E+5 (C)	58,000	3.4E+5	7.6E+5	1.8E+6	4.1E+9	4.4E+5 (C)	4.4E+5
Aniline	62533	NA	1,100	**330 (M); 80**	2.8E+6	NLV	NLV	NLV	NLV	6.7E+7	3.3E+5	4.5E+6

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Anthracene	120127	NA	41,000	ID	41,000	1.0E+9 (D)	1.4E+9	1.4E+9	1.4E+9	6.7E+10	2.3E+8	NA
Antimony	7440360	NA	**4,300**	94,000 (X)	4.9E+7	NLV	NLV	NLV	NLV	1.3E+7	1.8E+5	NA
Arsenic	7440382	5,800	**4,600**	4,600	2.0E+6	NLV	NLV	NLV	NLV	7.2E+5	7,600	NA
Asbestos (BB)	1332214	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	**1.0E+7 (M); 68,000**	ID	NA
Atrazine	1912249	NA	**60**	150	1.1E+5	NLV	NLV	NLV	NLV	ID	71,000 (DD)	NA
Azobenzene	103333	NA	4,200	ID	3.0E+5	6.1E+6	6.3E+5	6.3E+5	6.3E+5	1.0E+8	1.4E+5	NA
Barium (B)	7440393	75,000	1.3E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	3.3E+8	3.7E+7	NA
Benzene (I)	71432	NA	**100**	4,000 (X)	2.2E+5	1,600	13,000	34,000	79,000	3.8E+8	1.8E+5	4.0E+5
Benzidine	92875	NA	1,000 (M); 6.0	1,000 (M); 6.0	1,000 (M); 140	NLV	NLV	NLV	NLV	46,000	1,000 (M); 23	NA
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	**20,000**	NA
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	20,000	NA
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	**2.0E+5**	NA
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	8.0E+8	**2.5E+6**	NA
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.5E+6	**2,000**	NA
Benzoic acid	65850	NA	6.4E+5	NA	7.0E+7	NLV	NLV	NLV	NLV	ID	9.9E+8	NA
Benzyl alcohol	100516	NA	2.0E+5	NA	5.8E+6 (C)	NLV	NLV	NLV	NLV	3.3E+11	5.8E+6 (C)	5.8E+6
Benzyl chloride	100447	NA	150	NA	72,000	6,300	14,000	14,000	17,000	6.2E+7	48,000	2.3E+5
Beryllium	7440417	NA	51,000	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.3E+6	4.1E+5	NA
bis(2-Chloroethoxy)ethane	112265	NA	ID	ID	ID	NLV	NLV	NLV	NLV	ID	ID	2.7E+6
bis(2-Chloroethyl)ether (I)	111444	NA	**100**	100 (M); 20	1.1E+5	8,300	3,800	3,800	3,800	9.4E+6	13,000	2.2E+6
bis(2-Ethylhexyl)phthalate	117817	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	7.0E+8	**2.8E+6**	1.0E+7

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Boron (B)	7440428	NA	10,000	1.4E+5 (X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	4.8E+7 (DD)	NA
Bromate	15541454	NA	200	800 (X)	96,000	NLV	NLV	NLV	NLV	ID	17,000	NA
Bromobenzene (I)	108861	NA	550	NA	3.6E+5	3.1E+5	4.5E+5	4.5E+5	4.5E+5	5.3E+8	5.4E+5	7.6E+5
Bromodichloromethane	75274	NA	1,600 (W)	ID	2.8E+5	1,200	9,100	9,700	19,000	8.4E+7	1.1E+5	1.5E+6
Bromoform	75252	NA	1,600 (W)	ID	8.7E+5 (C)	1.5E+5	9.0E+5	9.0E+5	9.0E+5	2.8E+9	8.2E+5	8.7E+5
Bromomethane	74839	NA	200	700	1.4E+6	860	11,000	57,000	1.4E+5	3.3E+8	3.2E+5	2.2E+6
n-Butanol (I)	71363	NA	19,000	2.0E+5	8.7E+6 (C)	NLV	NLV	NLV	NLV	2.3E+10	8.7E+6 (C)	8.7E+6
2-Butanone (MEK) (I)	78933	NA	2.6E+5	44,000	2.7E+7 (C)	2.7E+7 (C)	2.9E+7	2.9E+7	3.5E+7	6.7E+10	2.7E+7 (C,DD)	2.7E+7
n-Butyl acetate	123864	NA	11,000	NA	1.1E+6 (C)	1.1E+6 (C)	1.1E+8	2.6E+8	3.2E+8	4.7E+11	1.1E+6 (C)	1.1E+6
t-Butyl alcohol	75650	NA	78,000	NA	1.1E+8 (C)	1.1E+8 (C)	9.7E+7	2.0E+8	2.0E+8	1.3E+11	1.1E+8 (C)	1.1E+8
Butyl benzyl phthalate	85687	NA	3.1E+5 (C)	1.2E+5 (X)	3.1E+5 (C)	NLV	NLV	NLV	NLV	4.7E+10	3.1E+5 (C)	3.1E+5
n-Butylbenzene	104518	NA	1,600	ID	1.2E+5	ID	ID	ID	ID	2.0E+9	2.5E+6	1.0E+7
sec-Butylbenzene	135988	NA	1,600	ID	88,000	ID	ID	ID	ID	4.0E+8	2.5E+6	1.0E+7
t-Butylbenzene (I)	98066	NA	1,600	ID	1.8E+5	ID	ID	ID	ID	6.7E+8	2.5E+6	1.0E+7
Cadmium (B)	7440439	1,200	6,000	(G,X)	2.3E+8	NLV	NLV	NLV	NLV	1.7E+6	5.5E+5	NA
Camphene (I)	79925	NA	ID	NA	ID	3,700	1.5E+5	9.1E+5	2.2E+6	5.3E+9	ID	NA
Caprolactam	105602	NA	1.2E+5	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	6.7E+8	5.3E+7 (DD)	NA
Carbaryl	63252	NA	14,000	NA	2.6E+6	ID	ID	ID	ID	ID	2.2E+7	NA
Carbazole	86748	NA	9,400	1,100	8.2E+5	NLV	NLV	NLV	NLV	6.2E+7	5.3E+5	NA
Carbofuran	1563662	NA	800	NA	6.8E+6	NLV	NLV	NLV	NLV	ID	1.1E+6	NA
Carbon disulfide (I,R)	75150	NA	16,000	ID	2.8E+5 (C)	76,000	1.3E+6	7.9E+6	1.9E+7	4.7E+10	2.8E+5 (C,DD)	2.8E+5

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Carbon tetrachloride	56235	NA	**100**	900 (X)	92,000	190	3,500	12,000	28,000	1.3E+8	96,000	3.9E+5
Chlordane (J)	57749	NA	NLL	NLL	NLL	1.1E+7	1.2E+6	1.2E+6	1.2E+6	3.1E+7	**31,000**	NA
Chloride	16887006	NA	5.0E+6	(X)	ID	NLV	NLV	NLV	NLV	ID	5.0E+5 (F)	NA
Chlorobenzene (I)	108907	NA	2,000	**500**	2.6E+5 (C)	1.2E+5	7.7E+5	9.9E+5	2.1E+6	4.7E+9	2.6E+5 (C)	2.6E+5
p-Chlorobenzene sulfonic acid	98668	NA	1.5E+5	ID	NA	ID	ID	ID	ID	ID	2.3E+8	ID
1-Chloro-1,1-difluoroethane	75683	NA	3.0E+5	NA	9.6E+5 (C)	9.6E+5 (C)	7.9E+7	5.6E+8	1.4E+9	3.3E+12	9.6E+5 (C)	9.6E+5
Chloroethane	75003	NA	8,600	22,000 (X)	9.5E+5 (C)	9.5E+5 (C)	3.0E+7	1.2E+8	2.8E+8	6.7E+11	9.5E+5 (C)	9.5E+5
2-Chloroethyl vinyl ether	110758	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	1.9E+6
Chloroform	67663	NA	**1,600 (W)**	7,000	1.5E+6 (C)	7,200	45,000	1.2E+5	2.7E+5	1.3E+9	1.2E+6	1.5E+6
Chloromethane (I)	74873	NA	5,200	ID	1.1E+6 (C)	2,300	40,000	4.1E+5	1.0E+6	4.9E+9	1.1E+6 (C)	1.1E+6
4-Chloro-3-methylphenol	59507	NA	5,800	**280**	3.0E+6	NLV	NLV	NLV	NLV	ID	4.5E+6	NA
beta-Chloronaphthalene	91587	NA	6.2E+5	NA	2.3E+6	ID	ID	ID	ID	ID	5.6E+7	NA
2-Chlorophenol	95578	NA	900	360	1.9E+6	4.3E+5	9.6E+5	9.6E+5	9.6E+5	1.2E+9	1.4E+6	1.9E+7
o-Chlorotoluene (I)	95498	NA	3,300	ID	5.0E+5 (C)	2.7E+5	1.2E+6	2.9E+6	6.3E+6	4.7E+9	5.0E+5 (C)	5.0E+5
Chlorpyrifos	2921882	NA	17,000	1,500	8.4E+5	**130**	4,600	23,000	55,000	1.3E+8	1.1E+7	NA
Chromium (III) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	3.3E+8	7.9E+8	NA
Chromium (VI)	18540299	NA	30,000	**3,300**	1.4E+8	NLV	NLV	NLV	NLV	2.6E+5	2.5E+6	NA
Chrysene (Q)	218019	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	2.0E+6	NA
Cobalt	7440484	6,800	**800**	2,000	4.8E+7	NLV	NLV	NLV	NLV	1.3E+7	2.6E+6	NA
Copper (B)	7440508	32,000	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.3E+8	2.0E+7	NA
Cyanazine	21725462	NA	**200**	1,100 (X)	56,000	NLV	NLV	NLV	NLV	ID	14,000	NA

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Cyanide (P,R)	57125	390 (total)	4,000	**100**	2.5E+5	NLV	NLV	NLV	NLV	2.5E+5	12,000	NA
Cyclohexanone	108941	NA	5.2E+6	NA	2.2E+8 (C)	17,000	1.0E+6	1.1E+7	2.7E+7	6.7E+10	2.2E+8 (C)	2.2E+8
Dacthal	1861321	NA	50,000	NA	3.4E+5	NLV	NLV	NLV	NLV	ID	2.3E+6	NA
Dalapon	75990	NA	4,000	NA	5.9E+7 (C)	NLV	NLV	NLV	NLV	ID	1.9E+7	5.9E+7
4-4'-DDD	72548	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	4.4E+7	**95,000**	NA
4-4'-DDE	72559	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	3.2E+7	**45,000**	NA
4-4'-DDT	50293	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	3.2E+7	**57,000**	NA
Decabromodiphenyl ether	1163195	NA	1.4E+5	NA	1.4E+5	1.0E+9 (D)	8.6E+7	8.6E+7	8.6E+7	2.3E+9	3.8E+6	NA
Di-n-butyl phthalate	84742	NA	7.6E+5 (C)	**11,000**	7.6E+5 (C)	NLV	NLV	NLV	NLV	3.3E+9	7.6E+5 (C)	7.6E+5
Di(2-ethylhexyl) adipate	103231	NA	9.6E+5 (C)	ID	9.6E+5 (C)	NLV	NLV	NLV	NLV	9.2E+9	9.6E+5 (C,DD)	9.6E+5
Di-n-octyl phthalate	117840	NA	1.0E+8	ID	1.4E+8 (C)	NLV	NLV	NLV	NLV	3.1E+10	6.9E+6	1.4E+8
Diacetone alcohol (I)	123422	NA	ID	NA	ID	NLV	NLV	NLV	NLV	1.6E+11	ID	1.1E+8
Diazinon	333415	NA	95	72	95,000	NLV	NLV	NLV	NLV	ID	12,000 (DD)	3.1E+5
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	**2,000**	NA
Dibenzofuran	132649	NA	ID	1,700	ID	2.0E+6	1.3E+5	1.3E+5	1.3E+5	6.7E+6	ID	NA
Dibromochloromethane	124481	NA	1,600 (W)	ID	3.6E+5	3,900	24,000	24,000	33,000	1.3E+8	1.1E+5	6.1E+5
Dibromochloropropane	96128	NA	10 (M); 4.0	ID	1,200 (C)	220	260	260	260	5.6E+5	1,200 (C)	1,200
Dibromomethane	74953	NA	1,600	NA	2.0E+6 (C)	ID	ID	ID	ID	ID	2.0E+6 (C)	2.0E+6
Dicamba	1918009	NA	4,400	NA	1.2E+7	NA	NLV	NLV	NLV	ID	3.4E+6	NA
1,2-Dichlorobenzene	95501	NA	14,000	**280**	2.1E+5 (C)	2.1E+5 (C)	3.9E+7	3.9E+7	5.2E+7	1.0E+11	2.1E+5 (C)	2.1E+5
1,3-Dichlorobenzene	541731	NA	170	680	51,000	26,000	79,000	79,000	1.1E+5	2.0E+8	1.7E+5 (C)	1.7E+5

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1,4-Dichlorobenzene	106467	NA	1,700	**360**	1.4E+5	19,000	77,000	77,000	1.1E+5	4.5E+8	4.0E+5	NA
3,3'-Dichlorobenzidine	91941	NA	**2,000 (M); 28**	2,000 (M); 7.4	4,600	NLV	NLV	NLV	NLV	6.5E+6	6,600	NA
Dichlorodifluoromethane	75718	NA	95,000	ID	1.0E+6 (C)	9.0E+5	5.3E+7	5.5E+8	1.4E+9	3.3E+12	1.0E+6 (C)	1.0E+6
1,1-Dichloroethane	75343	NA	18,000	**15,000**	8.9E+5 (C)	2.3E+5	2.1E+6	5.9E+6	1.4E+7	3.3E+10	8.9E+5 (C)	8.9E+5
1,2-Dichloroethane (I)	107062	NA	**100**	7,200 (X)	3.8E+5	2,100	6,200	11,000	26,000	1.2E+8	91,000	1.2E+6
1,1-Dichloroethylene (I)	75354	NA	140	2,600	2.2E+5	**62**	1,100	5,300	13,000	6.2E+7	2.0E+5	5.7E+5
cis-1,2-Dichloroethylene	156592	NA	**1,400**	12,000	6.4E+5 (C)	22,000	1.8E+5	4.2E+5	9.9E+5	2.3E+9	6.4E+5 (C)	6.4E+5
trans-1,2-Dichloroethylene	156605	NA	**2,000**	30,000 (X)	1.4E+6 (C)	23,000	2.8E+5	8.3E+5	2.0E+6	4.7E+9	1.4E+6 (C)	1.4E+6
2,6-Dichloro-4-nitroaniline	99309	NA	44,000	NA	1.4E+5	NLV	NLV	NLV	NLV	ID	6.8E+7	NA
2,4-Dichlorophenol	120832	NA	1,500	**330 (M); 220**	9.6E+5	NLV	NLV	NLV	NLV	5.1E+9	6.6E+5 (DD)	1.8E+6
2,4-Dichlorophenoxyacetic acid	94757	NA	**1,400**	4,400	2.4E+6	NLV	NLV	NLV	NLV	6.7E+9	2.5E+6	NA
1,2-Dichloropropane (I)	78875	NA	**100**	4,600 (X)	3.2E+5	4,000	25,000	50,000	1.1E+5	2.7E+8	1.4E+5	5.5E+5
1,3-Dichloropropene	542756	NA	170	180 (X)	1.1E+5	1,000	18,000	68,000	1.6E+5	7.8E+8	10,000	6.2E+5
Dichlorovos	62737	NA	50 (M); 32	NA	1.2E+5	NLV	NLV	NLV	NLV	3.3E+7	10,000	2.2E+6
Dicyclohexyl phthalate	84617	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	NA
Dieldrin	60571	NA	NLL	NLL	NLL	1.4E+5	19,000	19,000	19,000	6.8E+5	**1,100**	NA
Diethyl ether	60297	NA	200	ID	7.4E+6 (C)	7.4E+6 (C)	8.5E+7	1.5E+8	3.4E+8	8.0E+11	7.4E+6 (C)	7.4E+6
Diethyl phthalate	84662	NA	1.1E+5	**2,200**	7.4E+5 (C)	NLV	NLV	NLV	NLV	3.3E+9	7.4E+5 (C)	7.4E+5
Diethylene glycol monobutyl ether	112345	NA	1,800	NA	8.0E+7	NLV	NLV	NLV	NLV	1.3E+9	2.7E+6	1.1E+8
Diisopropyl ether	108203	NA	600	ID	1,300 (C)	1,300 (C)	3.4E+5	7.6E+5	1.8E+6	4.1E+9	1,300 (C)	1,300
Diisopropylamine (I)	108189	NA	110	NA	4.2E+5	5.5E+6	6.2E+6	6.2E+6	7.3E+6	1.3E+10	1.7E+5	6.7E+6

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Dimethyl phthalate	131113	NA	7.9E+5 (C)	NA	7.9E+5 (C)	NLV	NLV	NLV	NLV	3.3E+9	7.9E+5 (C)	7.9E+5
N,N-Dimethylacetamide	127195	NA	**3,600**	82,000 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	ID	5.6E+6	1.1E+8
N,N-Dimethylaniline	121697	NA	320	NA	4.0E+5	1.7E+5	1.5E+5	1.5E+5	1.5E+5	2.6E+8	5.0E+5	8.0E+5
Dimethylformamide (I)	68122	NA	14,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.0E+9	2.2E+7	1.1E+8
2,4-Dimethylphenol	105679	NA	**7,400**	7,600	1.0E+7	NLV	NLV	NLV	NLV	4.7E+9	1.1E+7	NA
2,6-Dimethylphenol	576261	NA	330 (M); 88	NA	1.3E+5	NLV	NLV	NLV	NLV	1.3E+8	1.4E+5	NA
3,4-Dimethylphenol	95658	NA	330 (M); 200	500	3.6E+5	NLV	NLV	NLV	NLV	2.3E+8	3.2E+5	NA
Dimethylsulfoxide	67685	NA	4.4E+6	**3.8E+6**	1.8E+7 (C)	NLV	NLV	NLV	NLV	1.3E+9	1.8E+7 (C)	1.8E+7
2,4-Dinitrotoluene	121142	NA	430	NA	1.7E+5	NLV	NLV	NLV	NLV	1.6E+7	48,000	NA
Dinoseb	88857	NA	300	**200 (M); 43**	1.4E+5 (C)	NLV	NLV	NLV	NLV	2.7E+8	66,000 (DD)	1.4E+5
1,4-Dioxane (I)	123911	NA	**1,700**	56,000 (X)	3.4E+7	NLV	NLV	NLV	NLV	5.7E+8	5.3E+5	9.7E+7
Diquat	85007	NA	400	400	1.4E+7	NLV	NLV	NLV	NLV	ID	5.0E+5	NA
Diuron	330541	NA	620	NA	7.4E+5	NLV	NLV	NLV	NLV	4.7E+8	9.7E+5	NA
Endosulfan (J)	115297	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	1.4E+6	NA
Endothall	145733	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	2.3E+9	**3.8E+6**	NA
Endrin	72208	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	**65,000**	NA
Epichlorohydrin (I)	106898	NA	100	NA	2.2E+5	64,000	31,000	31,000	35,000	6.7E+7	8,900	7.3E+6
Ethanol (I)	64175	NA	3.8E+7	ID	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.3E+12	1.1E+8 (C,DD)	1.1E+8
Ethyl acetate (I)	141786	NA	1.3E+5	NA	7.5E+6 (C)	7.5E+6 (C)	4.9E+7	4.9E+7	9.8E+7	2.1E+11	7.5E+6 (C)	7.5E+6
Ethyl-tert-butyl ether (ETBE)	637923	NA	980	ID	ID	5.4E+5	1.9E+6	4.5E+6	1.1E+7	2.5E+10	ID	6.5E+5
Ethylbenzene (I)	100414	NA	1,500	**360**	1.4E+5 (C)	87,000	7.2E+5	1.0E+6	2.2E+6	1.0E+10	1.4E+5 (C)	1.4E+5

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Ethylene dibromide	106934	NA	**20 (M); 1.0**	110 (X)	500	670	1,700	1,700	3,300	1.4E+7	92	8.9E+5
Ethylene glycol	107211	NA	3.0E+5	3.8E+6 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	6.7E+10	1.1E+8 (C)	1.1E+8
Ethylene glycol monobutyl ether	111762	NA	74,000	NA	4.1E+7 (C)	7.4E+5	1.8E+7	1.5E+8	3.6E+8	8.7E+11	4.1E+7 (C)	4.1E+7
Fluoranthene	206440	NA	7.3E+5	**5,500**	7.3E+5	1.0E+9 (D)	7.4E+8	7.4E+8	7.4E+8	9.3E+9	4.6E+7	NA
Fluorene	86737	NA	3.9E+5	**5,300**	8.9E+5	5.8E+8	1.3E+8	1.3E+8	1.3E+8	9.3E+9	2.7E+7	NA
Fluorine (soluble fluoride) (B)	7782414	NA	40,000	ID	2.4E+8	NLV	NLV	NLV	NLV	ID	9.0E+6 (DD)	NA
Formaldehyde	50000	NA	26,000	**2,400**	6.0E+7 (C)	12,000	13,000	23,000	52,000	2.4E+8	4.1E+7	6.0E+7
Formic acid (I,U)	64186	NA	2.0E+5	ID	1.1E+8 (C)	1.5E+6	2.1E+5	1.4E+5	1.4E+5	1.3E+8	1.1E+8 (C)	1.1E+8
1-Formylpiperidine	2591868	NA	1,600	NA	ID	ID	ID	ID	ID	ID	2.5E+6	1.0E+7
Gentian violet	548629	NA	300	NA	2.0E+7	NLV	NLV	NLV	NLV	ID	96,000	NA
Glyphosate	1071836	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	**1.1E+7 (DD)**	NA
Heptachlor	76448	NA	NLL	NLL	NLL	3.5E+5	62,000	62,000	62,000	2.4E+6	**5,600**	NA
Heptachlor epoxide	1024573	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.2E+6	**3,100**	NA
n-Heptane	142825	NA	2.4E+5 (C)	NA	2.4E+5 (C)	2.4E+5 (C)	2.1E+7	4.4E+7	1.0E+8	2.3E+11	2.4E+5 (C)	2.4E+5
Hexabromobenzene	87821	NA	5,400	ID	5,400	ID	ID	ID	ID	ID	1.1E+6	NA
Hexachlorobenzene (C-66)	118741	NA	1,800	**350**	8,200	41,000	17,000	17,000	17,000	6.8E+6	8,900	NA
Hexachlorobutadiene (C-46)	87683	NA	26,000	**91**	3.5E+5 (C)	1.3E+5	1.3E+5	1.3E+5	1.3E+5	1.4E+8	1.0E+5	3.5E+5
alpha-Hexachlorocyclohexane	319846	NA	18	ID	2,500	30,000	12,000	22,000	25,000	1.7E+6	2,600	NA
beta-Hexachlorocyclohexane	319857	NA	37	ID	5,100	NLV	NLV	NLV	NLV	5.9E+6	5,400	NA
Hexachlorocyclopentadiene (C-56)	77474	NA	3.2E+5	ID	7.2E+5 (C)	30,000	50,000	50,000	50,000	1.3E+7	7.2E+5 (C)	7.2E+5
Hexachloroethane	67721	NA	**430**	1,800 (X)	1.1E+5	40,000	5.5E+5	9.3E+5	9.3E+5	2.3E+8	2.3E+5	NA

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n-Hexane	110543	NA	44,000 (C)	NA	44,000 (C)	44,000 (C)	3.0E+6	3.2E+6	6.2E+6	1.3E+10	44,000 (C)	44,000
2-Hexanone	591786	NA	20,000	ID	2.5E+6 (C)	9.9E+5	1.1E+6	1.1E+6	1.4E+6	2.7E+9	2.5E+6 (C)	2.5E+6
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	20,000	NA
Iron (B)	7439896	1.2E+7	6,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.6E+8	NA
Isobutyl alcohol (I)	78831	NA	46,000	NA	8.9E+6 (C)	8.9E+6 (C)	7.9E+7	7.9E+7	7.9E+7	1.0E+11	8.9E+6 (C)	8.9E+6
Isophorone	78591	NA	15,000	26,000 (X)	2.4E+6 (C)	NLV	NLV	NLV	NLV	1.2E+10	2.4E+6 (C)	2.4E+6
Isopropyl alcohol (I)	67630	NA	9,400	1.1E+6 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.5E+10	1.4E+7	1.1E+8
Isopropyl benzene	98828	NA	91,000	3,200	3.9E+5 (C)	3.9E+5 (C)	1.7E+6	1.7E+6	2.8E+6	5.8E+9	3.9E+5 (C)	3.9E+5
Lead (B)	7439921	21,000	7.0E+5	(G,X)	ID	NLV	NLV	NLV	NLV	1.0E+8	4.0E+5	NA
Lindane	58899	NA	20 (M); 7.0	20 (M); 1.1	7,100	ID	ID	ID	ID	ID	8,300	NA
Lithium (B)	7439932	9,800	3,400	8,800	1.1E+8	NLV	NLV	NLV	NLV	2.3E+9	4.2E+6 (DD)	NA
Magnesium (B)	7439954	NA	8.0E+6	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	6.7E+9	1.0E+9 (D)	NA
Manganese (B)	7439965	4.4E+5	1,000	(G,X)	1.8E+8	NLV	NLV	NLV	NLV	3.3E+6	2.5E+7	NA
Mercury (Total) (B,Z)	Varies	130	1,700	50 (M); 1.2	47,000	48,000	52,000	52,000	52,000	2.0E+7	1.6E+5	NA
Methane	74828	NA	ID	NA	ID	8.4E+6 ug/m3 (GG)	ID	ID	ID	ID	ID	ID
Methanol	67561	NA	74,000	3.1E+6 (C)	3.1E+6 (C)	3.1E+6 (C)	3.1E+7	4.4E+7	9.6E+7	2.2E+11	3.1E+6 (C)	3.1E+6
Methoxychlor	72435	NA	16,000	NA	18,000	ID	ID	ID	ID	ID	1.9E+6	NA
2-Methoxyethanol (I)	109864	NA	150	NA	1.7E+7	NLV	NLV	NLV	NLV	1.3E+9	2.3E+5	1.1E+8
2-Methyl-4-chlorophenoxyacetic acid	94746	NA	390	NA	4.9E+5	NLV	NLV	NLV	NLV	ID	2.3E+5	NA
2-Methyl-4,6-dinitrophenol	534521	NA	830 (M); 400	NA	1.9E+5	NLV	NLV	NLV	NLV	1.3E+8	79,000	NA
N-Methyl-morpholine (I)	109024	NA	400	NA	3.0E+7	NLV	NLV	NLV	NLV	ID	6.1E+5	1.1E+8

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Methyl parathion	298000	NA	46	NA	76,000	NLV	NLV	NLV	NLV	ID	56,000	NA
4-Methyl-2-pentanone (MIBK) (I)	108101	NA	36,000	ID	2.7E+6 (C)	2.7E+6 (C)	4.5E+7	4.5E+7	6.7E+7	1.4E+11	2.7E+6 (C)	2.7E+6
Methyl-tert-butyl ether (MTBE)	1634044	NA	800	1.4E+5 (X)	5.9E+6 (C)	5.9E+6 (C)	2.5E+7	3.9E+7	8.7E+7	2.0E+11	1.5E+6	5.9E+6
Methylcyclopentane (I)	96377	NA	ID	NA	ID	92,000	2.3E+6	8.2E+6	2.0E+7	4.7E+10	ID	3.5E+5
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	8.4E+7	6,800	NA
Methylene chloride	75092	NA	100	30,000 (X)	2.3E+6 (C)	45,000	2.1E+5	5.9E+5	1.4E+6	6.6E+9	1.3E+6	2.3E+6
2-Methylnaphthalene	91576	NA	57,000	4,200	5.5E+6	2.7E+6	1.5E+6	1.5E+6	1.5E+6	6.7E+8	8.1E+6	NA
Methylphenols (J)	1319773	NA	7,400	1,000 (M); 600	1.6E+7	NLV	NLV	NLV	NLV	6.7E+9	1.1E+7	NA
Metolachlor	51218452	NA	4,800	300	4.4E+5 (C)	NLV	NLV	NLV	NLV	ID	4.4E+5 (C,DD)	4.4E+5
Metribuzin	21087649	NA	3,600	NA	2.4E+7	ID	ID	ID	ID	ID	9.6E+6	NA
Mirex	2385855	NA	NLL	NLL	NLL	ID	ID	ID	ID	ID	9,600	NA
Molybdenum (B)	7439987	NA	1,500	64,000 (X)	1.9E+7	NLV	NLV	NLV	NLV	ID	2.6E+6	NA
Naphthalene	91203	NA	35,000	730	2.1E+6	2.5E+5	3.0E+5	3.0E+5	3.0E+5	2.0E+8	1.6E+7	NA
Nickel (B)	7440020	20,000	1.0E+5	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.3E+7	4.0E+7	NA
Nitrate (B,N)	14797558	NA	2.0E+5 (N)	ID	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	ID	NA
Nitrite (B,N)	14797650	NA	20,000 (N)	NA	3.8E+8	NLV	NLV	NLV	NLV	ID	ID	NA
Nitrobenzene (I)	98953	NA	330 (M); 68	3,600 (X)	2.2E+5	91,000	54,000	54,000	54,000	4.7E+7	1.0E+5	4.9E+5
2-Nitrophenol	88755	NA	400	ID	1.6E+6	NLV	NLV	NLV	NLV	ID	6.3E+5	NA
n-Nitroso-di-n-propylamine	621647	NA	330 (M); 100	NA	7,200	NLV	NLV	NLV	NLV	1.6E+6	1,200	1.5E+6
N-Nitrosodiphenylamine	86306	NA	5,400	NA	7.0E+5	NLV	NLV	NLV	NLV	2.2E+9	1.7E+6	NA

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Oxamyl	23135220	NA	4,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	8.6E+6	NA
Oxo-hexyl acetate	88230357	NA	1,500	NA	ID	ID	ID	ID	ID	5.4E+9	2.3E+6	1.0E+7
Pendimethalin	40487421	NA	1.1E+6	NA	1.1E+6	NLV	NLV	NLV	NLV	ID	4.6E+7	NA
Pentachlorobenzene	608935	NA	29,000	9,500	1.9E+5 (C)	ID	ID	ID	ID	ID	1.9E+5 (C)	1.9E+5
Pentachloronitrobenzene	82688	NA	37,000	NA	37,000	1.2E+5	2.3E+5	2.3E+5	2.3E+5	3.3E+8	1.7E+6	NA
Pentachlorophenol	87865	NA	22	(G,X)	4,300	NLV	NLV	NLV	NLV	1.0E+8	90,000	NA
Pentane	109660	NA	ID	NA	ID	2.4E+5 (C)	3.7E+7	3.1E+8	5.8E+8	1.2E+12	ID	2.4E+5
2-Pentene (I)	109682	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	2.2E+5
Phenanthrene	85018	NA	56,000	2,100	1.1E+6	2.8E+6	1.6E+5	1.6E+5	1.6E+5	6.7E+6	1.6E+6	NA
Phenol	108952	NA	88,000	9,000	1.2E+7 (C)	NLV	NLV	NLV	NLV	4.0E+10	1.2E+7 (C,DD)	1.2E+7
Phenytoin	57410	NA	830	4300 (X)	6.8E+5	NLV	NLV	NLV	NLV	2.2E+8	1.0E+5	NA
Phosphorus (Total)	7723140	NA	1.3E+6	(EE)	ID	NLV	NLV	NLV	NLV	6.7E+7	1.0E+9 (D)	NA
Phthalic acid	88993	NA	2.8E+5	NA	1.7E+6 (C)	NLV	NLV	NLV	NLV	ID	1.7E+6 (C)	1.7E+6
Phthalic anhydride	85449	NA	3.0E+5	NA	1.1E+6 (C)	NLV	NLV	NLV	NLV	ID	1.1E+6 (C)	1.1E+6
Picloram	1918021	NA	10,000	920	8.6E+6	NLV	NLV	NLV	NLV	ID	1.6E+7	NA
Piperidine	110894	NA	64	NA	6.8E+5	NLV	NLV	NLV	NLV	9.3E+9	99,000	1.2E+8
Polybrominated biphenyls (J)	67774327	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	1,200	NA
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	3.0E+6	2.4E+5	7.9E+6	7.9E+6	5.2E+6	(T)	NA
Prometon	1610180	NA	4,900	NA	5.5E+6	NLV	NLV	NLV	NLV	ID	5.0E+6	NA
Propachlor	1918167	NA	1,900	NA	8.8E+6	NLV	NLV	NLV	NLV	ID	2.9E+6	NA
Propazine	139402	NA	4,000	NA	1.7E+5	NLV	NLV	NLV	NLV	ID	6.1E+6	NA

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Propionic acid	79094	NA	2.4E+5	ID	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.0E+10	1.1E+8 (C)	1.1E+8
Propyl alcohol (I)	71238	NA	28,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	4.9E+10	1.3E+7 (DD)	1.1E+8
n-Propylbenzene (I)	103651	NA	1,600	ID	3.0E+5	ID	ID	ID	ID	1.3E+9	2.5E+6	1.0E+7
Propylene glycol	57556	NA	**3.0E+6**	5.8E+6	1.1E+8 (C)	NLV	NLV	NLV	NLV	4.0E+11	1.1E+8 (C)	1.1E+8
Pyrene	129000	NA	4.8E+5	ID	4.8E+5	1.0E+9 (D)	6.5E+8	6.5E+8	6.5E+8	6.7E+9	2.9E+7	NA
Pyridine (I)	110861	NA	400	NA	37,000 (C)	1,100	8,200	40,000	97,000	2.3E+8	37,000 (C)	37,000
Selenium (B)	7782492	410	4,000	**400**	7.8E+7	NLV	NLV	NLV	NLV	1.3E+8	2.6E+6	NA
Silver (B)	7440224	1,000	4,500	**100 (M); 27**	2.0E+8	NLV	NLV	NLV	NLV	6.7E+6	2.5E+6	NA
Silvex (2,4,5-TP)	93721	NA	3,600	**2,200**	3.1E+6	NLV	NLV	NLV	NLV	ID	1.7E+6	NA
Simazine	122349	NA	80	340	90,000	NLV	NLV	NLV	NLV	ID	1.2E+6	NA
Sodium	17341252	NA	2.5E+6	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	NA
Sodium azide	26628228	NA	1,800	1,000	ID	ID	ID	ID	ID	ID	2.7E+6	NA
Strontium (B)	7440246	NA	92,000	**4.2E+5**	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	3.3E+8	NA
Styrene	100425	NA	2,700	**2,100 (X)**	2.7E+5	2.5E+5	9.7E+5	9.7E+5	1.4E+6	5.5E+9	4.0E+5	5.2E+5
Sulfate	14808798	NA	5.0E+6	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA
Tebuthiuron	34014181	NA	10,000	NA	5.0E+7	NLV	NLV	NLV	NLV	ID	4.6E+6 (DD)	NA
2,3,7,8-Tetrabromodibenzo-p-dio (O)	50585416	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	(O)	(O)	NA
1,2,4,5-Tetrachlorobenzene	95943	NA	1.5E+6	3,400 (X)	1.5E+6	5.8E+5	2.3E+5	2.3E+5	2.3E+5	6.7E+7	7.7E+7	NA
2,3,7,8-Tetrachlorodibenzo-p-dio (O)	1746016	NA	NLL	NLL	NLL	NLV	NLV	NLV	NLV	71 (O)	**0.09 (O)**	NA
1,1,1,2-Tetrachloroethane	630206	NA	1,500	ID	4.4E+5 (C)	6,200	36,000	54,000	1.0E+5	4.2E+8	4.4E+5 (C)	4.4E+5
1,1,2,2-Tetrachloroethane	79345	NA	**170**	1,600 (X)	94,000	4,300	10,000	10,000	14,000	5.4E+7	53,000	8.7E+5

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			Groundwater Protection			Indoor Air	Ambient Air (Y)				Direct Contact	
Guidesheet Number ⟶		#10	#11	#12	#13	#14	#15	#16	#17	#18	#19	#20
Hazardous Substance	Chemical Abstract Service Number	Statewide Default Background Levels	Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels
Tetrachloroethylene	127184	NA	**100**	1,200 (X)	88,000 (C)	11,000	1.7E+5	4.8E+5	1.1E+6	2.7E+9	88,000 (C)	88,000
Tetrahydrofuran	109999	NA	**1,900**	2.2E+5 (X)	3.2E+7	1.3E+6	1.3E+7	6.7E+7	1.6E+8	3.9E+11	2.9E+6	1.2E+8
Tetranitromethane	509148	NA	ID	NA	ID	500(M); 110	500 (M); 51	ID	ID	2.1E+5	ID	ID
Thallium (B)	7440280	NA	**2,300**	4,200 (X)	1.5E+7	NLV	NLV	NLV	NLV	1.3E+7	35,000	NA
Toluene (I)	108883	NA	16,000	**5,400**	2.5E+5 (C)	2.5E+5 (C)	2.8E+6	5.1E+6	1.2E+7	2.7E+10	2.5E+5 (C)	2.5E+5
p-Toluidine	106490	NA	660 (M); 300	NA	4.8E+5	NLV	NLV	NLV	NLV	1.0E+8	94,000	1.2E+6
Toxaphene	8001352	NA	24,000	**8,200**	3.6E+5	NLV	NLV	NLV	NLV	9.7E+6	20,000	NA
Triallate	2303175	NA	95,000	NA	2.5E+5 (C)	ID	ID	ID	ID	ID	2.5E+5 (C)	2.5E+5
Tributylamine	102829	NA	7,800	ID	1.8E+6	5.8E+5	6.0E+5	6.0E+5	6.0E+5	4.7E+8	7.9E+5	3.7E+6
1,2,4-Trichlorobenzene	120821	NA	4,200	**5,900 (X)**	1.1E+6 (C)	1.1E+6 (C)	2.8E+7	2.8E+7	2.8E+7	2.5E+10	9.9E+5 (DD)	1.1E+6
1,1,1-Trichloroethane	71556	NA	4,000	1,800	4.6E+5 (C)	2.5E+5	3.8E+6	1.2E+7	2.8E+7	6.7E+10	4.6E+5 (C)	4.6E+5
1,1,2-Trichloroethane	79005	NA	**100**	6,600 (X)	4.2E+5	4,600	17,000	21,000	44,000	1.9E+8	1.8E+5	9.2E+5
Trichloroethylene	79016	NA	**100**	4,000 (X)	4.4E+5	1,000	11,000	25,000	57,000	1.3E+8	5.0E+5 (C,DD)	5.0E+5
Trichlorofluoromethane	75694	NA	52,000	NA	5.6E+5 (C)	5.6E+5 (C)	9.2E+7	6.3E+8	1.5E+9	3.8E+12	5.6E+5 (C)	5.6E+5
2,4,5-Trichlorophenol	95954	NA	39,000	NA	9.1E+6	NLV	NLV	NLV	NLV	2.3E+10	2.3E+7	NA
2,4,6-Trichlorophenol	88062	NA	2,400	330 (M); 100	2.0E+5	NLV	NLV	NLV	NLV	1.0E+9	7.1E+5	NA
1,2,3-Trichloropropane	96184	NA	840	NA	8.3E+5 (C)	4,000	9,200	9,200	11,000	2.0E+7	8.3E+5 (C)	8.3E+5
1,1,2-Trichloro-1,2,2-trifluoroetha	76131	NA	5.5E+5 (C)	**1,700**	5.5E+5 (C)	5.5E+5 (C)	1.8E+8	8.8E+8	2.1E+9	5.1E+12	5.5E+5 (C)	5.5E+5
Triethanolamine	102716	NA	74,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	3.3E+9	1.1E+8	1.1E+8
Triethylene glycol	112276	NA	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C,DD)	1.1E+5
3-Trifluoromethyl-4-nitrophenol	88302	NA	1.1E+5	NA	1.2E+8	NLV	NLV	NLV	NLV	ID	4.1E+7 (DD)	NA

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Trifluralin	1582098	NA	1.9E+5	NA	1.2E+7	ID	ID	ID	ID	ID	2.0E+6	NA
2,2,4-Trimethyl pentane	540841	NA	ID	NA	ID	19,000 (C)	5.2E+6	3.9E+7	9.6E+7	2.3E+11	ID	19,000
2,4,4-Trimethyl-2-pentene (I)	107404	NA	ID	NA	ID	ID	ID	ID	ID	ID	ID	56,000
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.1E+7	5.0E+8	5.0E+8	8.2E+10	1.1E+5 (C)	1.1E+5
1,3,5-Trimethylbenzene (I)	108678	NA	1,800	1,100	94,000 (C)	94,000 (C)	1.6E+7	3.8E+8	3.8E+8	8.2E+10	94,000 (C)	94,000
Triphenyl phosphate	115866	NA	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C)	1.1E+5
tris(2,3-Dibromopropyl)phosphate	126727	NA	930	ID	27,000 (C)	27,000 (C)	18,000	18,000	18,000	5.9E+6	4,400	27,000
Urea	57136	NA	ID	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA
Vanadium	7440622	NA	72,000	4.3E+5	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	7.5E+5 (DD)	NA
Vinyl acetate (I)	108054	NA	13,000	NA	2.4E+6 (C)	7.9E+5	1.7E+6	2.6E+6	5.8E+6	1.3E+10	2.4E+6 (C,DD)	2.4E+6
Vinyl chloride	75014	NA	40	260 (X)	20,000	270	4,200	30,000	73,000	3.5E+8	3,800	4.9E+5
White phosphorus (R)	12185103	NA	2.2	NA	58,000	NLV	NLV	NLV	NLV	ID	2,300 (DD)	NA
Xylenes (I)	1330207	NA	5,600	820	1.5E+5 (C)	1.5E+5 (C)	4.6E+7	6.1E+7	1.3E+8	2.9E+11	1.5E+5 (C)	1.5E+5
Zinc (B)	7440666	47,000	2.4E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.7E+8	NA

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Acenaphthene	83329	NA	3.0E+5	8.8E+5	8,700	9.7E+5	3.5E+8	9.7E+7	9.7E+7	9.7E+7	6.2E+9	1.3E+8	NA
Acenaphthylene	208968	NA	5,900	17,000	ID	4.4E+5	3.0E+6	2.7E+6	2.7E+6	2.7E+6	1.0E+9	5.2E+6	NA
Acetaldehyde (I)	75070	NA	19,000	54,000	2,600	1.1E+8 (C)	4.0E+5	2.1E+5	2.1E+5	2.9E+5	2.6E+8	9.5E+7	1.1E+8
Acetate	71501	NA	ID	ID	(G)	ID	ID	ID	ID	ID	ID	ID	ID
Acetic acid	64197	NA	84,000	2.4E+5	(G)	6.5E+8 (C)	NLV	NLV	NLV	NLV	7.4E+9	4.2E+8	6.5E+8
Acetone (I)	67641	NA	15,000	42,000	34,000	1.1E+8 (C)	1.1E+8 (C)	1.6E+8	1.6E+8	2.0E+8	1.7E+11	7.3E+7	1.1E+8
Acetonitrile	75058	NA	2,800	8,000	NA	2.2E+7 (C)	8.8E+6	1.9E+6	1.9E+6	2.2E+6	1.8E+9	1.4E+7	2.2E+7
Acetophenone	98862	NA	30,000	88,000	ID	1.1E+6 (C)	1.1E+6 (C)	5.2E+7	5.2E+7	5.2E+7	1.4E+10	1.1E+6 (C)	1.1E+6
Acrolein (I)	107028	NA	2,400	6,600	NA	2.3E+7 (C)	760	370	370	630	5.9E+5	1.2E+7	2.3E+7
Acrylamide	79061	NA	10	10	200 (X)	2.6E+5	NLV	NLV	NLV	NLV	3.0E+6	8,700	NA
Acrylic acid	79107	NA	78,000	2.2E+5	NA	1.1E+8 (C)	5.5E+6	2.2E+5	2.7E+5	2.7E+5	2.9E+7	1.1E+8 (C,DD)	1.1E+8
Acrylonitrile (I)	107131	NA	100 (M); 52	220	100 (M); 40	2.8E+5	35,000	17,000	17,000	31,000	5.8E+7	74,000	8.3E+6
Alachlor	15972608	NA	52	52	290 (X)	44,000	NLV	NLV	NLV	NLV	ID	3.9E+5	NA
Aldicarb	116063	NA	60	60	NA	2.4E+6	NLV	NLV	NLV	NLV	ID	7.3E+5	NA
Aldicarb sulfone	1646884	NA	200 (M); 40	200 (M); 40	NA	4.2E+7	NLV	NLV	NLV	NLV	ID	8.0E+5	NA
Aldicarb sulfoxide	1646873	NA	200(M); 80	200 (M); 80	NA	5.4E+7	NLV	NLV	NLV	NLV	ID	9.5E+5	NA
Aldrin	309002	NA	NLL	NLL	NLL	NLL	7.1E+6	2.0E+5	2.0E+5	2.0E+5	8.0E+5	4,300	NA
Aluminum (B)	7429905	6.9E+6	1,000	1,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	3.7E+8 (DD)	NA
Ammonia	7664417	NA	ID	ID	(CC)	ID	ID	ID	ID	ID	2.9E+9	ID	1.0E+7
t-Amyl methyl ether (TAME)	994058	NA	3,900	3,900	NA	4.4E+5 (C)	1.1E+5	4.0E+5	7.8E+5	1.8E+6	1.8E+9	4.4E+5 (C)	4.4E+5
Aniline	62533	NA	1,100	4,400	330 (M); 80	2.8E+6	NLV	NLV	NLV	NLV	2.9E+7	1.5E+6	4.5E+6

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Anthracene	120127	NA	41,000	41,000	ID	41,000	1.0E+9 (D)	1.6E+9	1.6E+9	1.6E+9	2.9E+10	7.3E+8	NA
Antimony	7440360	NA	4,300	4,300	94,000 (X)	4.9E+7	NLV	NLV	NLV	NLV	5.9E+6	6.7E+5	NA
Arsenic	7440382	5,800	4,600	4,600	4,600	2.0E+6	NLV	NLV	NLV	NLV	9.1E+5	37,000	NA
Asbestos (BB)	1332214	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.0E+7 (M); 85,000	ID	NA
Atrazine	1912249	NA	60	60	150	1.1E+5	NLV	NLV	NLV	NLV	ID	3.3E+5 (DD)	NA
Azobenzene	103333	NA	4,200	17,000	ID	3.0E+5	3.2E+7	2.1E+6	2.1E+6	2.1E+6	1.3E+8	6.6E+5	NA
Barium (B)	7440393	75,000	1.3E+6	1.3E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.5E+8	1.3E+8	NA
Benzene (I)	71432	NA	100	100	4,000 (X)	2.2E+5	8,400	45,000	99,000	2.3E+5	4.7E+8	4.0E+5 (C)	4.0E+5
Benzidine	92875	NA	1,000 (M); 6.0	1,000 (M); 6.0	1,000 (M); 6.0	1,000 (M); 140	NLV	NLV	NLV	NLV	59,000	1,000 (M); 110	NA
Benzo(a)anthracene (Q)	56553	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA
Benzo(b)fluoranthene (Q)	205992	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	80,000	NA
Benzo(k)fluoranthene (Q)	207089	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	8.0E+5	NA
Benzo(g,h,i)perylene	191242	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	3.5E+8	7.0E+6	NA
Benzo(a)pyrene (Q)	50328	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.9E+6	8,000	NA
Benzoic acid	65850	NA	6.4E+5	1.8E+6	NA	7.0E+7	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	NA
Benzyl alcohol	100516	NA	2.0E+5	5.8E+5	NA	5.8E+6 (C)	NLV	NLV	NLV	NLV	1.5E+11	5.8E+6 (C)	5.8E+6
Benzyl chloride	100447	NA	150	640	NA	72,000	33,000	48,000	48,000	52,000	7.8E+7	2.2E+5	2.3E+5
Beryllium	7440417	NA	51,000	51,000	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	5.9E+5	1.6E+6	NA
bis(2-Chloroethoxy)ethane	112265	NA	ID	ID	ID	ID	NLV	NLV	NLV	NLV	ID	ID	2.7E+6
bis(2-Chloroethyl)ether (I)	111444	NA	100	170	100 (M); 20	1.1E+5	44,000	13,000	13,000	13,000	1.2E+7	58,000	2.2E+6

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bis(2-Ethylhexyl)phthalate	117817	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	8.9E+8	1.0E+7 (C)	1.0E+7
Boron (B)	7440428	NA	10,000	10,000	1.4E+5 (X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	3.5E+8 (DD)	NA
Bromate	15541454	NA	200	200	800 (X)	96,000	NLV	NLV	NLV	NLV	ID	91,000	NA
Bromobenzene (I)	108861	NA	550	1,500	NA	3.6E+5	5.8E+5	5.4E+5	5.4E+5	5.4E+5	2.4E+8	7.6E+5 (C)	7.6E+5
Bromodichloromethane	75274	NA	1,600 (W)	1,600 (W)	ID	2.8E+5	6,400	31,000	31,000	57,000	1.1E+8	4.9E+5	1.5E+6
Bromoform	75252	NA	1,600 (W)	1,600 (W)	ID	8.7E+5 (C)	7.7E+5	3.1E+6	3.1E+6	3.1E+6	3.6E+9	8.7E+5 (C)	8.7E+5
Bromomethane	74839	NA	200	580	700	1.4E+6	1,600	13,000	57,000	1.4E+5	1.5E+8	1.0E+6	2.2E+6
n-Butanol (I)	71363	NA	19,000	54,000	2.0E+5	8.7E+6 (C)	NLV	NLV	NLV	NLV	1.0E+10	8.7E+6 (C)	8.7E+6
2-Butanone (MEK) (I)	78933	NA	2.6E+5	7.6E+5	44,000	2.7E+7 (C)	2.7E+7 (C)	3.5E+7	3.5E+7	3.6E+7	2.9E+10	2.7E+7 (C,DD)	2.7E+7
n-Butyl acetate	123864	NA	11,000	32,000	NA	1.1E+6 (C)	1.1E+6 (C)	1.4E+8	3.1E+8	3.5E+8	2.1E+11	1.1E+6 (C)	1.1E+6
t-Butyl alcohol	75650	NA	78,000	2.2E+5	NA	1.1E+8 (C)	1.1E+8 (C)	1.2E+8	2.4E+8	2.4E+8	5.6E+10	1.1E+8 (C)	1.1E+8
Butyl benzyl phthalate	85687	NA	3.1E+5 (C)	3.1E+5 (C)	1.2E+5 (X)	3.1E+5 (C)	NLV	NLV	NLV	NLV	2.1E+10	3.1E+5 (C)	3.1E+5
n-Butylbenzene	104518	NA	1,600	4,600	ID	1.2E+5	ID	ID	ID	ID	8.8E+8	8.0E+6	1.0E+7
sec-Butylbenzene	135988	NA	1,600	4,600	ID	88,000	ID	ID	ID	ID	1.8E+8	8.0E+6	1.0E+7
t-Butylbenzene (I)	98066	NA	1,600	4,600	ID	1.8E+5	ID	ID	ID	ID	2.9E+8	8.0E+6	1.0E+7
Cadmium (B)	7440439	1,200	6,000	6,000	(G,X)	2.3E+8	NLV	NLV	NLV	NLV	2.2E+6	2.1E+6	NA
Camphene (I)	79925	NA	ID	ID	NA	ID	6,700	1.8E+5	9.1E+5	2.2E+6	2.4E+9	ID	NA
Caprolactam	105602	NA	1.2E+5	3.4E+5	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	2.9E+8	3.1E+8 (DD)	NA
Carbaryl	63252	NA	14,000	40,000	NA	2.6E+6	ID	ID	ID	ID	ID	7.0E+7	NA
Carbazole	86748	NA	9,400	39,000	1,100	8.2E+5	NLV	NLV	NLV	NLV	7.8E+7	2.4E+6	NA
Carbofuran	1563662	NA	800	800	NA	6.8E+6	NLV	NLV	NLV	NLV	ID	3.6E+6	NA

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			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact	
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Carbon disulfide (I,R)	75150	NA	16,000	46,000	ID	2.8E+5 (C)	1.4E+5	1.6E+6	8.0E+6	1.9E+7	2.1E+10	2.8E+5 (C,DD)	2.8E+5
Carbon tetrachloride	56235	NA	100	100	900 (X)	92,000	990	12,000	34,000	79,000	1.7E+8	3.9E+5 (C)	3.9E+5
Chlordane (J)	57749	NA	NLL	NLL	NLL	NLL	5.9E+7	4.2E+6	4.2E+6	4.2E+6	2.1E+7	1.5E+5	NA
Chloride	16887006	NA	5.0E+6	5.0E+6	(X)	ID	NLV	NLV	NLV	NLV	ID	5.0E+5 (F)	NA
Chlorobenzene (I)	108907	NA	2,000	2,000	500	2.6E+5 (C)	2.2E+5	9.2E+5	1.1E+6	2.1E+6	2.1E+9	2.6E+5 (C)	2.6E+5
p-Chlorobenzene sulfonic acid	98668	NA	1.5E+5	4.2E+5	ID	NA	ID	ID	ID	ID	ID	7.3E+8	ID
1-Chloro-1,1-difluoroethane	75683	NA	3.0E+5	8.8E+5	NA	9.6E+5 (C)	9.6E+5 (C)	9.4E+7	5.7E+8	1.4E+9	1.5E+12	9.6E+5 (C)	9.6E+5
Chloroethane	75003	NA	8,600	34,000	22,000 (X)	9.5E+5 (C)	9.5E+5 (C)	3.6E+7	1.2E+8	2.8E+8	2.9E+11	9.5E+5 (C)	9.5E+5
2-Chloroethyl vinyl ether	110758	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	1.9E+6
Chloroform	67663	NA	1,600 (W)	1,600 (W)	7,000	1.5E+6 (C)	38,000	1.5E+5	3.4E+5	7.9E+5	1.6E+9	1.5E+6 (C)	1.5E+6
Chloromethane (I)	74873	NA	5,200	22,000	ID	1.1E+6 (C)	10,000	1.2E+5	1.0E+6	2.5E+6	2.6E+9	1.1E+6 (C)	1.1E+6
4-Chloro-3-methylphenol	59507	NA	5,800	16,000	280	3.0E+6	NLV	NLV	NLV	NLV	ID	1.5E+7	NA
beta-Chloronaphthalene	91587	NA	6.2E+5	1.8E+6	NA	2.3E+6	ID	ID	ID	ID	ID	1.8E+8	NA
2-Chlorophenol	95578	NA	900	2,600	360	1.9E+6	8.0E+5	1.1E+6	1.1E+6	1.1E+6	5.3E+8	4.5E+6	1.9E+7
o-Chlorotoluene (I)	95498	NA	3,300	9,300	ID	5.0E+5 (C)	5.0E+5 (C)	1.5E+6	3.1E+6	6.4E+6	2.1E+9	5.0E+5 (C)	5.0E+5
Chlorpyrifos	2921882	NA	17,000	48,000	1,500	8.4E+5	240	5,500	23,000	56,000	5.9E+7	3.4E+7	NA
Chromium (III) (B,H)	16065831	18,000 (total)	1.0E+9 (D)	1.0E+9 (D)	(G,X)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.5E+8	1.0E+9 (D)	NA
Chromium (VI)	18540299	NA	30,000	30,000	3,300	1.4E+8	NLV	NLV	NLV	NLV	2.4E+5	9.2E+6	NA
Chrysene (Q)	218019	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	8.0E+6	NA
Cobalt	7440484	6,800	800	2,000	2,000	4.8E+7	NLV	NLV	NLV	NLV	5.9E+6	9.0E+6	NA
Copper (B)	7440508	32,000	5.8E+6	5.8E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	5.9E+7	7.3E+7	NA

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Cyanazine	21725462	NA	200	200	1,100 (X)	56,000	NLV	NLV	NLV	NLV	ID	66,000	NA
Cyanide (P,R)	57125	390 (total)	4,000	4,000	100	2.5E+5	NLV	NLV	NLV	NLV	2.5E+5	2.5E+5	NA
Cyclohexanone	108941	NA	5.2E+6	1.5E+7	NA	2.2E+8 (C)	32,000	1.3E+6	1.1E+7	2.7E+7	2.9E+10	2.2E+8 (C)	2.2E+8
Dacthal	1861321	NA	50,000	1.4E+5	NA	3.4E+5	NLV	NLV	NLV	NLV	ID	7.3E+6	NA
Dalapon	75990	NA	4,000	4,000	NA	5.9E+7 (C)	NLV	NLV	NLV	NLV	ID	5.9E+7 (C)	5.9E+7
4-4'-DDD	72548	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	5.6E+7	4.0E+5	NA
4-4'-DDE	72559	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	4.0E+7	1.9E+5	NA
4-4'-DDT	50293	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	4.0E+7	2.8E+5	NA
Decabromodiphenyl ether	1163195	NA	1.4E+5	1.4E+5	NA	1.4E+5	1.0E+9 (D)	1.0E+8	1.0E+8	1.0E+8	1.0E+9	1.1E+7	NA
Di-n-butyl phthalate	84742	NA	7.6E+5 (C)	7.6E+5 (C)	11,000	7.6E+5 (C)	NLV	NLV	NLV	NLV	1.5E+9	7.6E+5 (C)	7.6E+5
Di(2-ethylhexyl) adipate	103231	NA	9.6E+5 (C)	9.6E+5 (C)	ID	9.6E+5 (C)	NLV	NLV	NLV	NLV	1.2E+10	9.6E+5 (C,DD)	9.6E+5
Di-n-octyl phthalate	117840	NA	1.0E+8	1.4E+8 (C)	ID	1.4E+8 (C)	NLV	NLV	NLV	NLV	1.4E+10	2.0E+7	1.4E+8
Diacetone alcohol (I)	123422	NA	ID	ID	NA	ID	NLV	NLV	NLV	NLV	7.1E+10	ID	1.1E+8
Diazinon	333415	NA	95	280	72	95,000	NLV	NLV	NLV	NLV	ID	70,000 (DD)	3.1E+5
Dibenzo(a,h)anthracene (Q)	53703	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	8,000	NA
Dibenzofuran	132649	NA	ID	ID	1,700	ID	3.6E+6	1.6E+5	1.6E+5	1.6E+5	2.9E+6	ID	NA
Dibromochloromethane	124481	NA	1,600 (W)	1,600 (W)	ID	3.6E+5	21,000	80,000	80,000	98,000	1.6E+8	5.0E+5	6.1E+5
Dibromochloropropane	96128	NA	10 (M); 4.0	10 (M); 4.0	ID	1,200 (C)	1,200 (C)	900	900	900	7.0E+5	1,200 (C)	1,200
Dibromomethane	74953	NA	1,600	4,600	NA	2.0E+6 (C)	ID	ID	ID	ID	ID	2.0E+6 (C)	2.0E+6
Dicamba	1918009	NA	4,400	13,000	NA	1.2E+7	NLV	NLV	NLV	NLV	ID	1.7E+7	NA
1,2-Dichlorobenzene	95501	NA	14,000	14,000	280	2.1E+5 (C)	2.1E+5 (C)	4.6E+7	4.6E+7	5.5E+7	4.4E+10	2.1E+5 (C)	2.1E+5

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1,3-Dichlorobenzene	541731	NA	170	480	680	51,000	48,000	94,000	94,000	1.1E+5	8.8E+7	1.7E+5 (C)	1.7E+5
1,4-Dichlorobenzene	106467	NA	1,700	1,700	360	1.4E+5	1.0E+5	2.6E+5	2.6E+5	3.4E+5	5.7E+8	1.9E+6	NA
3,3'-Dichlorobenzidine	91941	NA	2,000 (M); 28	2,000 (M); 110	2,000 (M); 7.4	4,600	NLV	NLV	NLV	NLV	8.2E+6	30,000	NA
Dichlorodifluoromethane	75718	NA	95,000	2.7E+5	ID	1.0E+6 (C)	1.7E+6	6.3E+7	5.5E+8	1.4E+9	1.5E+12	1.0E+6 (C)	1.0E+6
1,1-Dichloroethane	75343	NA	18,000	50,000	15,000	8.9E+5 (C)	4.3E+5	2.5E+6	6.0E+6	1.4E+7	1.5E+10	8.9E+5 (C)	8.9E+5
1,2-Dichloroethane (I)	107062	NA	100	100	7,200 (X)	3.8E+5	11,000	21,000	33,000	74,000	1.5E+8	4.2E+5	1.2E+6
1,1-Dichloroethylene (I)	75354	NA	140	140	2,600	2.2E+5	330	3,700	15,000	37,000	7.8E+7	5.7E+5 (C)	5.7E+5
cis-1,2-Dichloroethylene	156592	NA	1,400	1,400	12,000	6.4E+5 (C)	41,000	2.1E+5	4.3E+5	1.0E+6	1.0E+9	6.4E+5 (C)	6.4E+5
trans-1,2-Dichloroethylene	156605	NA	2,000	2,000	30,000 (X)	1.4E+6 (C)	43,000	3.3E+5	8.4E+5	2.0E+6	2.1E+9	1.4E+6 (C)	1.4E+6
2,6-Dichloro-4-nitroaniline	99309	NA	44,000	1.3E+5	NA	1.4E+5	NLV	NLV	NLV	NLV	ID	2.2E+8	NA
2,4-Dichlorophenol	120832	NA	1,500	4,200	330 (M); 220	9.6E+5	NLV	NLV	NLV	NLV	2.3E+9	1.8E+6 (C,DD)	1.8E+6
2,4-Dichlorophenoxyacetic acid	94757	NA	1,400	1,400	4,400	2.4E+6	NLV	NLV	NLV	NLV	2.9E+9	8.6E+6	NA
1,2-Dichloropropane (I)	78875	NA	100	100	4,600 (X)	3.2E+5	7,400	30,000	51,000	1.2E+5	1.2E+8	5.5E+5 (C)	5.5E+5
1,3-Dichloropropene	542756	NA	170	700	180 (X)	1.1E+5	5,400	60,000	2.0E+5	4.7E+5	5.9E+8	2.4E+5	6.2E+5
Dichlorovos	62737	NA	50 (M); 32	130	NA	1.2E+5	NLV	NLV	NLV	NLV	1.5E+7	47,000	2.2E+6
Dicyclohexyl phthalate	84617	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	NA
Dieldrin	60571	NA	NLL	NLL	NLL	NLL	7.2E+5	64,000	64,000	64,000	8.5E+5	4,700	NA
Diethyl ether	60297	NA	200	200	ID	7.4E+6 (C)	7.4E+6 (C)	1.0E+8	1.6E+8	3.5E+8	3.5E+11	7.4E+6 (C)	7.4E+6
Diethyl phthalate	84662	NA	1.1E+5	3.2E+5	2,200	7.4E+5 (C)	NLV	NLV	NLV	NLV	1.5E+9	7.4E+5 (C)	7.4E+5
Diethylene glycol monobutyl ether	112345	NA	1,800	5,000	NA	8.0E+7	NLV	NLV	NLV	NLV	5.9E+8	8.7E+6	1.1E+8
Diisopropyl ether	108203	NA	600	1,300 (C)	ID	1,300 (C)	1,300 (C)	3.2E+6	4.8E+6	1.0E+7	1.1E+10	1,300 (C)	1,300

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Diisopropylamine (I)	108189	NA	110	320	NA	4.2E+5	6.7E+6 (C)	7.4E+6	7.4E+6	7.7E+6	5.9E+9	5.6E+5	6.7E+6
Dimethyl phthalate	131113	NA	7.9E+5 (C)	7.9E+5 (C)	NA	7.9E+5 (C)	NLV	NLV	NLV	NLV	1.5E+9	7.9E+5 (C)	7.9E+5
N,N-Dimethylacetamide	127195	NA	3,600	10,000	82,000 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	ID	1.8E+7	1.1E+8
N,N-Dimethylaniline	121697	NA	320	920	NA	4.0E+5	8.0E+5 (C)	5.2E+5	5.2E+5	5.2E+5	3.3E+8	8.0E+5 (C)	8.0E+5
Dimethylformamide (I)	68122	NA	14,000	40,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	8.8E+8	7.0E+7	1.1E+8
2,4-Dimethylphenol	105679	NA	7,400	20,000	7,600	1.0E+7	NLV	NLV	NLV	NLV	2.1E+9	3.6E+7	NA
2,6-Dimethylphenol	576261	NA	330 (M); 88	330 (M); 260	NA	1.3E+5	NLV	NLV	NLV	NLV	5.9E+7	4.4E+5	NA
3,4-Dimethylphenol	95658	NA	330 (M); 200	580	500	3.6E+5	NLV	NLV	NLV	NLV	1.0E+8	1.0E+6	NA
Dimethylsulfoxide	67685	NA	4.4E+6	1.3E+7	3.8E+6	1.8E+7 (C)	NLV	NLV	NLV	NLV	5.9E+8	1.8E+7 (C)	1.8E+7
2,4-Dinitrotoluene	121142	NA	430	640	NA	1.7E+5	NLV	NLV	NLV	NLV	2.0E+7	2.2E+5	NA
Dinoseb	88857	NA	300	300	200 (M); 43	1.4E+5 (C)	NLV	NLV	NLV	NLV	1.2E+8	1.4E+5 (C,DD)	1.4E+5
1,4-Dioxane (I)	123911	NA	1,700	7,000	56,000 (X)	3.4E+7	NLV	NLV	NLV	NLV	7.1E+8	2.4E+6	9.7E+7
Diquat	85007	NA	400	400	400	1.4E+7	NLV	NLV	NLV	NLV	ID	1.6E+6	NA
Diuron	330541	NA	620	1,800	NA	7.4E+5	NLV	NLV	NLV	NLV	2.1E+8	3.1E+6	NA
Endosulfan (J)	115297	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	4.4E+6	NA
Endothall	145733	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.0E+9	1.2E+7	NA
Endrin	72208	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	1.9E+5	NA
Epichlorohydrin (I)	106898	NA	100	100	NA	2.2E+5	1.2E+5	37,000	37,000	37,000	2.9E+7	41,000	7.3E+6
Ethanol (I)	64175	NA	3.8E+7	7.6E+7	ID	1.1E+8 (C)	NLV	NLV	NLV	NLV	5.6E+11	1.1E+8 (C,DD)	1.1E+8
Ethyl acetate (I)	141786	NA	1.3E+5	3.8E+5	NA	7.5E+6 (C)	7.5E+6 (C)	5.9E+7	5.9E+7	1.0E+8	9.4E+10	7.5E+6 (C)	7.5E+6
Ethyl-tert-butyl ether (ETBE)	637923	NA	980	980	ID	ID	6.5E+5 (C)	2.3E+6	4.6E+6	1.1E+7	1.1E+10	ID	6.5E+5

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			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact	
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Ethylbenzene (I)	100414	NA	1,500	1,500	360	1.4E+5 (C)	1.4E+5 (C)	2.4E+6	3.1E+6	6.5E+6	1.3E+10	1.4E+5 (C)	1.4E+5
Ethylene dibromide	106934	NA	20 (M); 1.0	20 (M); 1.0	110 (X)	500	3,600	5,800	5,800	9,800	1.8E+7	430	8.9E+5
Ethylene glycol	107211	NA	3.0E+5	8.4E+5	3.8E+6 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.9E+10	1.1E+8 (C)	1.1E+8
Ethylene glycol monobutyl ether	111762	NA	74,000	2.0E+5	NA	4.1E+7 (C)	1.4E+6	2.1E+7	1.5E+8	3.6E+8	3.8E+11	4.1E+7 (C)	4.1E+7
Fluoranthene	206440	NA	7.3E+5	7.3E+5	5,500	7.3E+5	1.0E+9 (D)	8.9E+8	8.8E+8	8.8E+8	4.1E+9	1.3E+8	NA
Fluorene	86737	NA	3.9E+5	8.9E+5	5,300	8.9E+5	1.0E+9 (D)	1.5E+8	1.5E+8	1.5E+8	4.1E+9	8.7E+7	NA
Fluorine (soluble fluoride) (B)	7782414	NA	40,000	40,000	ID	2.4E+8	NLV	NLV	NLV	NLV	ID	6.7E+7 (DD)	NA
Formaldehyde	50000	NA	26,000	76,000	2,400	6.0E+7 (C)	65,000	43,000	69,000	1.5E+5	2.6E+8	6.0E+7 (C)	6.0E+7
Formic acid (I,U)	64186	NA	2.0E+5	5.8E+5	ID	1.1E+8 (C)	2.8E+6	2.6E+5	1.6E+5	1.6E+5	5.9E+7	1.1E+8 (C)	1.1E+8
1-Formylpiperidine	2591868	NA	1,600	4,600	NA	ID	ID	ID	ID	ID	ID	8.0E+6	1.0E+7
Gentian violet	548629	NA	300	1,300	NA	2.0E+7	NLV	NLV	NLV	NLV	ID	4.4E+5	NA
Glyphosate	1071836	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	5.7E+7 (DD)	NA
Heptachlor	76448	NA	NLL	NLL	NLL	NLL	1.9E+6	2.1E+5	2.1E+5	2.1E+5	3.0E+6	23,000	NA
Heptachlor epoxide	1024573	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.5E+6	9,500	NA
n-Heptane	142825	NA	2.4E+5 (C)	2.4E+5 (C)	NA	2.4E+5 (C)	2.4E+5 (C)	2.5E+7	4.5E+7	1.0E+8	1.0E+11	2.4E+5 (C)	2.4E+5
Hexabromobenzene	87821	NA	5,400	5,400	ID	5,400	ID	ID	ID	ID	ID	3.1E+6	NA
Hexachlorobenzene (C-66)	118741	NA	1,800	1,800	350	8,200	2.2E+5	56,000	56,000	56,000	8.5E+6	37,000	NA
Hexachlorobutadiene (C-46)	87683	NA	26,000	72,000	91	3.5E+5 (C)	3.5E+5 (C)	4.6E+5	4.6E+5	4.6E+5	1.8E+8	3.5E+5 (C)	3.5E+5
alpha-Hexachlorocyclohexane	319846	NA	18	71	ID	2,500	1.6E+5	41,000	86,000	86,000	2.1E+6	12,000	NA
beta-Hexachlorocyclohexane	319857	NA	37	150	ID	5,100	NLV	NLV	NLV	NLV	7.4E+6	25,000	NA
Hexachlorocyclopentadiene (C-56)	77474	NA	3.2E+5	3.2E+5	ID	7.2E+5 (C)	56,000	60,000	60,000	60,000	5.9E+6	7.2E+5 (C)	7.2E+5

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Hexachloroethane	67721	NA	430	1,200	1,800 (X)	1.1E+5	79,000	6.6E+5	1.4E+6	1.4E+6	1.0E+8	7.3E+5	NA
n-Hexane	110543	NA	44,000 (C)	44,000 (C)	NA	44,000 (C)	44,000 (C)	3.5E+6	3.5E+6	6.4E+6	5.9E+9	44,000 (C)	44,000
2-Hexanone	591786	NA	20,000	58,000	ID	2.5E+6 (C)	1.8E+6	1.3E+6	1.3E+6	1.5E+6	1.2E+9	2.5E+6 (C)	2.5E+6
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	80,000	NA
Iron (B)	7439896	1.2E+7	6,000	6,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	5.8E+8	NA
Isobutyl alcohol (I)	78831	NA	46,000	1.3E+5	NA	8.9E+6 (C)	8.9E+6 (C)	9.5E+7	9.5E+7	9.5E+7	4.4E+10	8.9E+6 (C)	8.9E+6
Isophorone	78591	NA	15,000	62,000	26,000 (X)	2.4E+6 (C)	NLV	NLV	NLV	NLV	8.2E+9	2.4E+6 (C)	2.4E+6
Isopropyl alcohol (I)	67630	NA	9,400	26,000	1.1E+6 (X)	1.1E+8 (C)	NLV	NLV	NLV	NLV	6.5E+9	4.7E+7	1.1E+8
Isopropyl benzene	98828	NA	91,000	2.6E+5	3,200	3.9E+5 (C)	3.9E+5 (C)	2.0E+6	2.0E+6	3.0E+6	2.6E+9	3.9E+5 (C)	3.9E+5
Lead (B)	7439921	21,000	7.0E+5	7.0E+5	(G,X)	ID	NLV	NLV	NLV	NLV	4.4E+7	9.0E+5 (DD)	NA
Lindane	58899	NA	20 (M); 7.0	20 (M); 7.0	20 (M); 1.1	7,100	ID	ID	ID	ID	ID	42,000	NA
Lithium (B)	7439932	9,800	3,400	7,000	8,800	1.1E+8	NLV	NLV	NLV	NLV	1.0E+9	3.1E+7 (DD)	NA
Magnesium (B)	7439954	NA	8.0E+6	2.2E+7	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	2.9E+9	1.0E+9 (D)	NA
Manganese (B)	7439965	4.4E+5	1,000	1,000	(G,X)	1.8E+8	NLV	NLV	NLV	NLV	1.5E+6	9.0E+7	NA
Mercury (Total) (B,Z)	Varies	130	1,700	1,700	50 (M); 1.2	47,000	89,000	62,000	62,000	62,000	8.8E+6	5.8E+5	NA
Methane	74828	NA	ID	ID	NA	ID	8.4E+6 ug/m3 (GG)	ID	ID	ID	ID	ID	ID
Methanol	67561	NA	74,000	2.0E+5	3.1E+6 (C)	3.1E+6 (C)	3.1E+6 (C)	3.7E+7	4.6E+7	9.7E+7	9.6E+10	3.1E+6 (C)	3.1E+6
Methoxychlor	72435	NA	16,000	16,000	NA	18,000	ID	ID	ID	ID	ID	5.6E+6	NA
2-Methoxyethanol (I)	109864	NA	150	420	NA	1.7E+7	NLV	NLV	NLV	NLV	5.9E+8	7.3E+5	1.1E+8
2-Methyl-4-chlorophenoxyacetic acid	94746	NA	390	1,100	NA	4.9E+5	NLV	NLV	NLV	NLV	ID	7.3E+5	NA
2-Methyl-4,6-dinitrophenol	534521	NA	830 (M); 400	830 (M); 400	NA	1.9E+5	NLV	NLV	NLV	NLV	5.9E+7	2.6E+5	NA

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N-Methyl-morpholine (I)	109024	NA	400	1,100	NA	3.0E+7	NLV	NLV	NLV	NLV	ID	2.0E+6	1.1E+8
Methyl parathion	298000	NA	46	130	NA	76,000	NLV	NLV	NLV	NLV	ID	1.8E+5	NA
4-Methyl-2-pentanone (MIBK) (I)	108101	NA	36,000	1.0E+5	ID	2.7E+6 (C)	2.7E+6 (C)	5.3E+7	5.3E+7	7.0E+7	6.0E+10	2.7E+6 (C)	2.7E+6
Methyl-tert-butyl ether (MTBE)	1634044	NA	800	800	1.4E+5 (X)	5.9E+6 (C)	5.9E+6 (C)	3.0E+7	4.1E+7	8.9E+7	8.8E+10	5.9E+6 (C)	5.9E+6
Methylcyclopentane (I)	96377	NA	ID	ID	NA	ID	1.7E+5	2.8E+6	8.3E+6	2.0E+7	2.1E+10	ID	3.5E+5
4,4'-Methylene-bis-2- chloroaniline (MBOCA)	101144	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	1.1E+8	32,000	NA
Methylene chloride	75092	NA	100	100	30,000 (X)	2.3E+6 (C)	2.4E+5	7.0E+5	1.7E+6	4.0E+6	8.3E+9	2.3E+6 (C)	2.3E+6
2-Methylnaphthalene	91576	NA	57,000	1.7E+5	4,200	5.5E+6	4.9E+6	1.8E+6	1.8E+6	1.8E+6	2.9E+8	2.6E+7	NA
Methylphenols (J)	1319773	NA	7,400	20,000	1,000 (M); 600	1.6E+7	NLV	NLV	NLV	NLV	2.9E+9	3.6E+7	NA
Metolachlor	51218452	NA	4,800	20,000	300	4.4E+5 (C)	NLV	NLV	NLV	NLV	ID	4.4E+5 (C,DD)	4.4E+5
Metribuzin	21087649	NA	3,600	10,000	NA	2.4E+7	ID	ID	ID	ID	ID	2.8E+7	NA
Mirex	2385855	NA	NLL	NLL	NLL	NLL	ID	ID	ID	ID	ID	40,000	NA
Molybdenum (B)	7439987	NA	1,500	4,200	64,000 (X)	1.9E+7	NLV	NLV	NLV	NLV	ID	9.6E+6	NA
Naphthalene	91203	NA	35,000	1.0E+5	730	2.1E+6	4.7E+5	3.5E+5	3.5E+5	3.5E+5	8.8E+7	5.2E+7	NA
Nickel (B)	7440020	20,000	1.0E+5	1.0E+5	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	1.6E+7	1.5E+8	NA
Nitrate (B,N)	14797558	NA	2.0E+5 (N)	2.0E+5 (N)	ID	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	ID	NA
Nitrite (B,N)	14797650	NA	20,000 (N)	20,000 (N)	NA	3.8E+8	NLV	NLV	NLV	NLV	ID	ID	NA
Nitrobenzene (I)	98953	NA	330 (M); 68	330 (M); 190	3,600 (X)	2.2E+5	1.7E+5	64,000	64,000	64,000	2.1E+7	3.4E+5	4.9E+5
2-Nitrophenol	88755	NA	400	1,200	ID	1.6E+6	NLV	NLV	NLV	NLV	ID	2.0E+6	NA
n-Nitroso-di-n-propylamine	621647	NA	330 (M); 100	330 (M); 100	NA	7,200	NLV	NLV	NLV	NLV	2.0E+6	5,400	1.5E+6
N-Nitrosodiphenylamine	86306	NA	5,400	22,000	NA	7.0E+5	NLV	NLV	NLV	NLV	2.8E+9	7.8E+6	NA

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Hazardous Substance	Chemical Abstract Service Number	Statewide Default Background Levels	Residential Drinking Water Protection Criteria & RBSLs	Non-Residential Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels
Oxamyl	23135220	NA	4,000	4,000	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	2.8E+7	NA
Oxo-hexyl acetate	88230357	NA	1,500	4,200	NA	ID	ID	ID	ID	ID	2.4E+9	7.3E+6	1.0E+7
Pendimethalin	40487421	NA	1.1E+6	1.1E+6	NA	1.1E+6	NLV	NLV	NLV	NLV	ID	1.3E+8	NA
Pentachlorobenzene	608935	NA	29,000	81,000	9,500	1.9E+5 (C)	ID	ID	ID	ID	ID	1.9E+5 (C)	1.9E+5
Pentachloronitrobenzene	82688	NA	37,000	37,000	NA	37,000	2.2E+5	2.8E+5	2.8E+5	2.8E+5	1.5E+8	5.5E+6	NA
Pentachlorophenol	87865	NA	22	22	(G,X)	4,300	NLV	NLV	NLV	NLV	1.3E+8	3.2E+5	NA
Pentane	109660	NA	ID	ID	NA	ID	1.8E+5	4.4E+7	3.4E+8	6.0E+8	5.3E+11	ID	2.4E+5
2-Pentene (I)	109682	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	2.2E+5
Phenanthrene	85018	NA	56,000	1.6E+5	2,100	1.1E+6	5.1E+6	1.9E+5	1.9E+5	1.9E+5	2.9E+6	5.2E+6	NA
Phenol	108952	NA	88,000	2.6E+5	9,000	1.2E+7 (C)	NLV	NLV	NLV	NLV	1.8E+10	1.2E+7 (C,DD)	1.2E+7
Phenytoin	57410	NA	830	3300	4300 (X)	6.8E+5	NLV	NLV	NLV	NLV	2.8E+8	4.8E+5	NA
Phosphorus (Total)	7723140	NA	1.3E+6	4.8E+6	(EE)	ID	NLV	NLV	NLV	NLV	2.9E+7	1.0E+9 (D)	NA
Phthalic acid	88993	NA	2.8E+5	8.0E+5	NA	1.7E+6 (C)	NLV	NLV	NLV	NLV	ID	1.7E+6 (C)	1.7E+6
Phthalic anhydride	85449	NA	3.0E+5	8.8E+5	NA	1.1E+6 (C)	NLV	NLV	NLV	NLV	ID	1.1E+6 (C)	1.1E+6
Picloram	1918021	NA	10,000	10,000	920	8.6E+6	NLV	NLV	NLV	NLV	ID	5.1E+7	NA
Piperidine	110894	NA	64	180	NA	6.8E+5	NLV	NLV	NLV	NLV	4.1E+9	3.2E+5	1.2E+8
Polybrominated biphenyls (J)	67774327	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	ID	4,800	NA
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NA	NLL	NLL	NLL	NLL	1.6E+7	8.1E+5	2.8E+7	2.8E+7	6.5E+6	(T)	NA
Prometon	1610180	NA	4,900	14,000	NA	5.5E+6	NLV	NLV	NLV	NLV	ID	1.6E+7	NA
Propachlor	1918167	NA	1,900	5,400	NA	8.8E+6	NLV	NLV	NLV	NLV	ID	9.5E+6	NA
Propazine	139402	NA	4,000	11,000	NA	1.7E+5	NLV	NLV	NLV	NLV	ID	2.0E+7	NA

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DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

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			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact	
Guidesheet Number ——>		#10	#11	#21	#12	#13	#22	#23	#24	#25	#26	#27	#20
Hazardous Substance	Chemical Abstract Service Number	Statewide Default Background Levels	Residential Drinking Water Protection Criteria & RBSLs	Non-Residential Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels
Propionic acid	79094	NA	2.4E+5	7.0E+5	ID	1.1E+8 (C)	NLV	NLV	NLV	NLV	8.8E+9	1.1E+8 (C)	1.1E+8
Propyl alcohol (I)	71238	NA	28,000	80,000	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	2.1E+10	7.4E+7 (DD)	1.1E+8
n-Propylbenzene (I)	103651	NA	1,600	4,600	ID	3.0E+5	ID	ID	ID	ID	5.9E+8	8.0E+6	1.0E+7
Propylene glycol	57556	NA	3.0E+6	8.4E+6	5.8E+6	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.8E+11	1.1E+8 (C)	1.1E+8
Pyrene	129000	NA	4.8E+5	4.8E+5	ID	4.8E+5	1.0E+9 (D)	7.8E+8	7.8E+8	7.8E+8	2.9E+9	8.4E+7	NA
Pyridine (I)	110861	NA	400	420	NA	37,000 (C)	2,000	9,800	40,000	97,000	1.0E+8	37,000 (C)	37,000
Selenium (B)	7782492	410	4,000	4,000	400	7.8E+7	NLV	NLV	NLV	NLV	5.9E+7	9.6E+6	NA
Silver (B)	7440224	1,000	4,500	13,000	100 (M); 27	2.0E+8	NLV	NLV	NLV	NLV	2.9E+6	9.0E+6	NA
Silvex (2,4,5-TP)	93721	NA	3,600	3,600	2,200	3.1E+6	NLV	NLV	NLV	NLV	ID	5.5E+6	NA
Simazine	122349	NA	80	80	340	90,000	NLV	NLV	NLV	NLV	ID	3.8E+6	NA
Sodium	17341252	NA	2.5E+6	7.0E+6	NA	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	NA
Sodium azide	26628228	NA	1,800	5,000	1,000	ID	ID	ID	ID	ID	ID	8.7E+6	NA
Strontium (B)	7440246	NA	92,000	2.6E+5	4.2E+5	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	1.0E+9 (D)	NA
Styrene	100425	NA	2,700	2,700	2,100 (X)	2.7E+5	5.2E+5 (C)	3.3E+6	3.3E+6	4.2E+6	6.9E+9	5.2E+5 (C)	5.2E+5
Sulfate	14808798	NA	5.0E+6	5.0E+6	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA
Tebuthiuron	34014181	NA	10,000	30,000	NA	5.0E+7	NLV	NLV	NLV	NLV	ID	2.7E+7 (DD)	NA
2,3,7,8-Tetrabromodibenzo-p-dioxin (O)	50585416	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	(O)	(O)	NA
1,2,4,5-Tetrachlorobenzene	95943	NA	1.5E+6	1.5E+6	3,400 (X)	1.5E+6	1.1E+6	2.7E+5	2.7E+5	2.7E+5	2.9E+7	2.5E+8	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin (O)	1746016	NA	NLL	NLL	NLL	NLL	NLV	NLV	NLV	NLV	59 (O)	0.99 (O)	NA
1,1,1,2-Tetrachloroethane	630206	NA	1,500	6,400	ID	4.4E+5 (C)	33,000	1.2E+5	2.1E+5	3.3E+5	5.3E+8	4.4E+5 (C)	4.4E+5
1,1,2,2-Tetrachloroethane	79345	NA	170	700	1,600 (X)	94,000	23,000	34,000	34,000	34,000	6.8E+7	2.4E+5	8.7E+5

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All criteria, unless otherwise noted, are expressed in units of parts per billion (ppb). One ppb is equivalent to one microgram per kilogram (ug/kg). Criteria with six or more digits are expressed in scientific notation. For example, 200,000 is presented as 2.0E+5. The lowest generic soil criterion for a given hazardous substance is presented in a bold box. A footnote is designated by a letter in parentheses and is explained in the footnote pages that follow the criteria tables. When the risk-based criterion is less than the target detection limit (TDL), the TDL is listed as the criterion (R 299.5707). In these cases, two numbers are present in the cell. The first number is the criterion (i.e., TDL), and the second number is the risk-based value. Criteria were originally promulgated December 21, 2002 within the Administrative Rules for Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This table reflects revisions to the criteria pursuant to the December 2010 Part 201 amendments and new criteria consistent with the provisions of R299.5706a. The effective dates of the criteria and screening levels in this table vary. Please contact the Remediation Division Toxicology Unit for additional information.

			Groundwater Protection				Indoor Air	Ambient Air (Y)				Direct Contact	
Guidesheet Number ——>		#10	#11	#21	#12	#13	#22	#23	#24	#25	#26	#27	#20
Hazardous Substance	Chemical Abstract Service Number	Statewide Default Background Levels	Residential Drinking Water Protection Criteria & RBSLs	Non-Residential Drinking Water Protection Criteria & RBSLs	Groundwater Surface Water Interface Protection Criteria & RBSLs	Groundwater Contact Protection Criteria & RBSLs	Soil Volatilization to Indoor Air Inhalation Criteria & RBSLs	Infinite Source Volatile Soil Inhalation Criteria (VSIC) & RBSLs	Finite VSIC for 5 Meter Source Thickness	Finite VSIC for 2 Meter Source Thickness	Particulate Soil Inhalation Criteria & RBSLs	Direct Contact Criteria & RBSLs	Soil Saturation Concentration Screening Levels
Tetrachloroethylene	127184	NA	100	100	1,200 (X)	88,000 (C)	21,000	2.1E+5	4.9E+5	1.1E+6	1.2E+9	88,000 (C)	88,000
Tetrahydrofuran	109999	NA	1,900	5,400	2.2E+5 (X)	3.2E+7	2.4E+6	1.5E+7	6.7E+7	1.6E+8	1.7E+11	9.5E+6	1.2E+8
Tetranitromethane	509148	NA	ID	ID	NA	ID	600	500 (M); 180	ID	ID	2.6E+5	ID	ID
Thallium (B)	7440280	NA	2,300	2,300	4,200 (X)	1.5E+7	NLV	NLV	NLV	NLV	5.9E+6	1.3E+5	NA
Toluene (I)	108883	NA	16,000	16,000	5,400	2.5E+5 (C)	2.5E+5 (C)	3.3E+6	3.6E+7	3.6E+7	1.2E+10	2.5E+5 (C)	2.5E+5
p-Toluidine	106490	NA	660 (M); 300	1,200	NA	4.8E+5	NLV	NLV	NLV	NLV	1.3E+8	4.3E+5	1.2E+6
Toxaphene	8001352	NA	24,000	24,000	8,200	3.6E+5	NLV	NLV	NLV	NLV	1.2E+7	85,000	NA
Triallate	2303175	NA	95,000	2.5E+5 (C)	NA	2.5E+5 (C)	ID	ID	ID	ID	ID	2.5E+5 (C)	2.5E+5
Tributylamine	102829	NA	7,800	23,000	ID	1.8E+6	1.1E+6	7.2E+5	7.2E+5	7.2E+5	2.1E+8	2.6E+6	3.7E+6
1,2,4-Trichlorobenzene	120821	NA	4,200	4,200	5,900 (X)	1.1E+6 (C)	1.1E+6 (C)	3.4E+7	3.4E+7	3.4E+7	1.1E+10	1.1E+6 (C,DD)	1.1E+6
1,1,1-Trichloroethane	71556	NA	4,000	4,000	1,800	4.6E+5 (C)	4.6E+5	4.5E+6	1.5E+7	3.1E+7	2.9E+10	4.6E+5 (C)	4.6E+5
1,1,2-Trichloroethane	79005	NA	100	100	6,600 (X)	4.2E+5	24,000	57,000	57,000	1.2E+5	2.5E+8	8.4E+5	9.2E+5
Trichloroethylene	79016	NA	100	100	4,000 (X)	4.4E+5	1,900	14,000	25,000	58,000	5.9E+7	5.0E+5 (C,DD)	5.0E+5
Trichlorofluoromethane	75694	NA	52,000	1.5E+5	NA	5.6E+5 (C)	5.6E+5 (C)	1.1E+8	1.4E+11	1.4E+11	1.7E+12	5.6E+5 (C)	5.6E+5
2,4,5-Trichlorophenol	95954	NA	39,000	1.1E+5	NA	9.1E+6	NLV	NLV	NLV	NLV	1.0E+10	7.3E+7	NA
2,4,6-Trichlorophenol	88062	NA	2,400	9,400	330 (M); 100	2.0E+5	NLV	NLV	NLV	NLV	1.3E+9	3.3E+6	NA
1,2,3-Trichloropropane	96184	NA	840	2,400	NA	8.3E+5 (C)	7,500	11,000	11,000	12,000	8.8E+6	8.3E+5 (C)	8.3E+5
1,1,2-Trichloro-1,2,2-trifluoroethane	76131	NA	5.5E+5 (C)	5.5E+5 (C)	1,700	5.5E+5 (C)	5.5E+5 (C)	2.1E+8	8.9E+8	2.1E+9	2.3E+12	5.5E+5 (C)	5.5E+5
Triethanolamine	102716	NA	74,000	2.0E+5	NA	1.1E+8 (C)	NLV	NLV	NLV	NLV	1.5E+9	1.1E+8 (C)	1.1E+8
Triethylene glycol	112276	NA	1.1E+5 (C)	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C,DD)	1.1E+5
3-Trifluoromethyl-4-nitrophenol	88302	NA	1.1E+5	3.1E+5	NA	1.2E+8	NLV	NLV	NLV	NLV	ID	2.4E+8 (DD)	NA

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Trifluralin	1582098	NA	1.9E+5	5.7E+5	NA	1.2E+7	ID	ID	ID	ID	ID	5.7E+6	NA
2,2,4-Trimethyl pentane	540841	NA	ID	ID	NA	ID	19,000 (C)	6.3E+6	4.0E+7	9.6E+7	1.0E+11	ID	19,000
2,4,4-Trimethyl-2-pentene (I)	107404	NA	ID	ID	NA	ID	ID	ID	ID	ID	ID	ID	56,000
1,2,4-Trimethylbenzene (I)	95636	NA	2,100	2,100	570	1.1E+5 (C)	1.1E+5 (C)	2.5E+7	6.0E+8	6.0E+8	3.6E+10	1.1E+5 (C)	1.1E+5
1,3,5-Trimethylbenzene (I)	108678	NA	1,800	1,800	1,100	94,000 (C)	94,000 (C)	1.9E+7	4.6E+8	4.6E+8	3.6E+10	94,000 (C)	94,000
Triphenyl phosphate	115866	NA	1.1E+5 (C)	1.1E+5 (C)	NA	1.1E+5 (C)	NLV	NLV	NLV	NLV	ID	1.1E+5 (C)	1.1E+5
tris(2,3-Dibromopropyl)phosphate	126727	NA	930	930	ID	27,000 (C)	27,000 (C)	60,000	60,000	60,000	7.4E+6	20,000	27,000
Urea	57136	NA	ID	ID	NA	ID	NLV	NLV	NLV	NLV	ID	ID	NA
Vanadium	7440622	NA	72,000	9.9E+5	4.3E+5	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	5.5E+6 (DD)	NA
Vinyl acetate (I)	108054	NA	13,000	36,000	NA	2.4E+6 (C)	1.5E+6	2.0E+6	2.7E+6	5.9E+6	5.9E+9	2.4E+6 (C,DD)	2.4E+6
Vinyl chloride	75014	NA	40	40	260 (X)	20,000	2,800	29,000	1.7E+5	4.2E+5	8.9E+8	34,000	4.9E+5
White phosphorus (R)	12185103	NA	2.2	6.0	NA	58,000	NLV	NLV	NLV	NLV	ID	17,000 (DD)	NA
Xylenes (I)	1330207	NA	5,600	5,600	820	1.5E+5 (C)	1.5E+5 (C)	5.4E+7	6.5E+7	1.3E+8	1.3E+11	1.5E+5 (C)	1.5E+5
Zinc (B)	7440666	47,000	2.4E+6	5.0E+6	(G)	1.0E+9 (D)	NLV	NLV	NLV	NLV	ID	6.3E+8	NA

Attachment 1
TABLE 4. TOXICOLOGICAL AND CHEMICAL-PHYSICAL DATA
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS;
PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

Developed pursuant to R 299.5752 of the Administrative Rules for Part 201 Environmental Remediation of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Scientific notation is represented by E+ or E- a value, for example 200,000 is presented as 2.0E+5. Units are as indicated in each column heading. The dataset for each hazardous substance requires 22 columns. Review all 22 columns across 2 pages when evaluating data for a specific hazardous substance.

Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Acenaphthene	83329	1.8E-1	NA	2.1E+2	NA	NA	0.2	1.0	0.1	1.0	3.92	7,140
Acenaphthylene	208968	7.1E-3	NA	3.5E+1	NA	NA	0.2	1.0	0.1	1.0	3.6	3,460
Acetaldehyde (I)	75070	1.3E-1	NA	9.0E+0	2.2E-6	4.5E+4	0.2	1.0	0.1	1.0	-0.367	0.613
Acetate	71501	5.7E-1	NA	NA	NA	NA	0.2	NA	NA	NA	NA	NA
Acetic acid	64197	5.7E-1	NA	2.5E+2	NA	3.7E+4	0.2	1.0	0.1	1.0	-0.23	0.595
Acetone (I)	67641	1.0E-1	NA	5.9E+3	NA	1.7E+6	0.2	1.0	0.1	1.0	-0.240	0.581
Acetonitrile	75058	1.9E-2	NA	6.0E+1	NA	1.01E+5	0.2	1.0	0.1	1.0	-0.337	0.648
Acetophenone	98862	2.1E-1	NA	4.9E+2	NA	NA	0.2	1.0	0.1	1.0	1.6	37.4
Acrolein (I)	107028	1.6E-2	NA	2.0E-2	NA	6.9E+2	0.2	1.0	0.1	1.0	-0.01	1.18
Acrylamide	79061	2.0E-4	2.8E+0	6	1.3E-3	NA	0.2	1.0	0.1	1.0	-0.96	0.114
Acrylic acid	79107	5.3E-1	NA	1.0E+0	NA	NA	0.2	1.0	0.1	1.0	0.35	2.21
Acrylonitrile (I)	107131	NA	3.3E-1	2.0E+0	6.8E-5	NA	0.2	1.0	0.1	1.0	0.255	1.78
Alachlor	15972608	1.0E-2	9.6E-2	NA	NA	NA	0.2	0.5	0.1	1.0	3.52	734
Aldicarb	116063	1.0E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.1	12.1
Aldicarb sulfone	1646884	1.1E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-0.57	0.275
Aldicarb sulfoxide	1646873	1.3E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-0.67	0.22
Aldrin	309002	2.5E-5	8.7E+0	NA	4.9E-3	NA	0.2	0.5	0.1	1.0	6.5	2.45E+6
Aluminum (B)	7429905	3.3E-1	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Ammonia	7664417	NA	NA	1.0E+2	NA	2.4E+4	0.2	1.0	0.1	1.0	NA	NA
t-Amyl methyl ether (TAME)	994058	1.3E-1	NA	6.2E+1	NA	NA	0.2	1.0	0.1	1.0	1.73	28.1
Aniline	62533	NA	1.6E-2	1.0E+0	1.6E-6	NA	0.2	1.0	0.1	1.0	0.978	9.15

Attachment 1
TABLE 4. TOXICOLOGICAL AND CHEMICAL-PHYSICAL DATA
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS;
PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

Developed pursuant to R 299.5752 of the Administrative Rules for Part 201 Environmental Remediation of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Scientific notation is represented by E+ or E- a value, for example 200,000 is presented as 2.0E+5. Units are as indicated in each column heading. The dataset for each hazardous substance requires 22 columns. Review all 22 columns across 2 pages when evaluating data for a specific hazardous substance.

Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Acenaphthene	83329	NR	NR	1.55E-4	0.0421	7.69E-6	NA	NA	4,240	Solid	154.2
Acenaphthylene	208968	NR	NR	1.48E-3	0.08	8.0E-6	NA	NA	3,930	Solid	152.271
Acetaldehyde (I)	75070	NR	NR	7.95E-5	0.08	8.0E-6	0.04	-36	1.0E+9	Liquid	44.1
Acetate	71501	NA	NA	NA	NA	NA	NA	NA	ID	NA	NA
Acetic acid	64197	NR	NR	1.00E-7	0.08	8.0E-6	0.04	103	6.0E+9	Liquid	60.05
Acetone (I)	67641	NR	NR	3.88E-5	0.124	1.14E-5	0.025	0.0	1.0E+9	Liquid	58.08
Acetonitrile	75058	NR	NR	2.40E-5	0.13	1.7E-5	0.03	42	2.00E+8	Liquid	41.05
Acetophenone	98862	NR	NR	1.1E-5	0.08	8.0E-6	NA	NA	6.1E+6	Liquid	120.2
Acrolein (I)	107028	NR	NR	9.40E-5	0.11	1.2E-5	0.028	-15	2.10E+8	Liquid	56.06
Acrylamide	79061	NR	NR	3.22E-10	0.097	1.1E-4	NA	280	2.20E+9	Solid	71.08
Acrylic acid	79107	NR	NR	3.20E-7	0.08	8.0E-6	0.024	121	1.0E+9	Liquid	72.06
Acrylonitrile (I)	107131	NR	NR	1.00E-4	0.12	1.3E-5	0.03	30	7.50E+7	Liquid	53.06
Alachlor	15972608	NR	NR	8.32E-9	0.08	8.0E-6	NA	NA	1.83E+5	Solid	269.77
Aldicarb	116063	NR	NR	4.17E-9	0.08	8.0E-6	NA	NA	6.00E+6	Solid	190.25
Aldicarb sulfone	1646884	NR	NR	3.37E-9	0.08	8.0E-6	NA	NA	7.80E+6	Solid	222.27
Aldicarb sulfoxide	1646873	NR	NR	9.69E-10	0.08	8.0E-6	NA	NA	2.80E+7	Solid	206.27
Aldrin	309002	NR	NR	1.70E-4	0.0132	4.86E-6	NA	NA	180	Solid	364.9
Aluminum (B)	7429905	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	26.982
Ammonia	7664417	NR	NR	3.20E-4	0.08	8.0E-6	0.15	NA	5.30E+8	Liquid	17.04
t-Amyl methyl ether (TAME)	994058	NR	NR	2.68E-3	0.08	8.0E-6	NA	NA	2.64E+6	Liquid	102.18
Aniline	62533	NR	NR	2.30E-6	0.07	8.3E-6	0.013	158	3.60E+7	Liquid	93.13

Attachment 1
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PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Anthracene	120127	1.0E+0	NA	1.0E+3	NA	NA	0.2	1.0	0.1	1.0	4.55	29,700
Antimony	7440360	3.5E-4	NA	2.0E-1	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Arsenic	7440382	2.7E-4	1.5E+0	NA	4.3E-3	NA	0.2	0.5	0.03	1.0	NR	NR
Asbestos (BB)	1332214	NA	NA	NA	4.6E-2	NA	1.0	1.0	0	1.0	NR	NR
Atrazine	1912249	3.5E-2	7.4E-2	NA	NA	NA	0.2	1.0	0.1	1.0	2.7	451
Azobenzene	103333	NA	3.7E-2	NA	3.1E-5	NA	0.2	1.0	0.1	1.0	3.82	5,690
Barium (B)	7440393	7.0E-2	NA	5.0E+0	NA	NA	1.0	0.5	0.01	1.0	NR	NR
Benzene (I)	71432	NA	2.9E-2	30	8.3E-6	8.0E+3	0.2	1.0	0.1	1.0	2.13	58.2
Benzidine	92875	2.7E-3	2.3E+2	NA	6.7E-2	NA	0.2	1.0	0.1	1.0	1.66	42.9
Benzo(a)anthracene (Q)	56553	NA	4.1E-1	NA	NA	NA	0.2	0.5	0.13	1.0	5.7	4.01E+5
Benzo(b)fluoranthene (Q)	205992	NA	4.1E-1	NA	NA	NA	0.2	0.5	0.13	1.0	6.2	1.24E+6
Benzo(k)fluoranthene (Q)	207089	NA	4.1E-2	NA	NA	NA	0.2	0.5	0.13	1.0	6.2	1.24E+6
Benzo(g,h,i)perylene	191242	7.1E-3	NA	1.2E+1	NA	NA	0.2	0.5	0.13	1.0	6.7	3.86E+6
Benzo(a)pyrene (Q)	50328	NA	4.1E+0	NA	2.1E-3	NA	0.2	0.5	0.13	1.0	6.11	1.01E+6
Benzoic acid	65850	4.4E+0	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.86	0.6
Benzyl alcohol	100516	1.4E+0	NA	5.0E+3	NA	NA	0.2	1.0	0.1	1.0	1.11	12.3
Benzyl chloride	100447	NA	1.1E-1	NA	5.0E-5	NA	0.2	1.0	0.1	1.0	2.30	182
Beryllium	7440417	1.5E-3	NA	2.0E-2	2.4E-3	1.0E+1	0.2	1.0	0	1.0	NR	NR
bis(2-Chloroethoxy)ethane	112265	NA	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.28	18.1
bis(2-Chloroethyl)ether (I)	111444	NA	4.2E-1	NA	3.3E-4	5.8E+4	0.2	1.0	0.1	1.0	1.21	10.9
bis(2-Ethylhexyl)phthalate	117817	1.9E-2	3.2E-3	NA	4.43E-6	1.0E+4	0.2	0.5	0.1	1.0	7.3	1.50E+7

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Anthracene	120127	NR	NR	6.50E-5	0.0324	7.74E-6	NA	NA	43.4	Solid	178.24
Antimony	7440360	NR	45	NR	NR	NR	NA	NA	NA	Inorganic	121.760
Arsenic	7440382	NR	29	NR	NR	NR	NA	NA	NA	Inorganic	74.922
Asbestos (BB)	1332214	NR	NA	NR	NR	NR	NR	NR	NA	Inorganic	NA
Atrazine	1912249	NR	NR	2.63E-9	0.08	8.0E-6	NA	NA	70,000	Solid	215.72
Azobenzene	103333	NR	NR	1.35E-5	0.08	8.0E-6	NA	NA	6,400	Solid	182.23
Barium (B)	7440393	NR	41	NR	NR	NR	NA	NA	NA	Inorganic	137.327
Benzene (I)	71432	NR	NR	5.55E-3	0.088	9.8E-6	0.012	12	1.75E+6	Liquid	78.11
Benzidine	92875	NR	NR	3.90E-11	0.08	1.5E-5	NA	NA	5.20E+5	Solid	184.24
Benzo(a)anthracene (Q)	56553	NR	NR	3.35E-6	0.051	9.0E-6	NA	NA	9.4	Solid	228.3
Benzo(b)fluoranthene (Q)	205992	NR	NR	1.11E-4	0.0226	5.56E-6	NA	NA	1.5	Solid	252.32
Benzo(k)fluoranthene (Q)	207089	NR	NR	8.29E-7	0.0226	5.56E-6	NA	NA	0.8	Solid	252.32
Benzo(g,h,i)perylene	191242	NR	NR	5.34E-8	0.08	8.0E-6	NA	NA	0.26	Solid	276.34
Benzo(a)pyrene (Q)	50328	NR	NR	1.13E-6	0.043	9.0E-6	NA	NA	1.62	Solid	252.32
Benzoic acid	65850	0.6	NR	1.54E-6	0.0536	7.97E-6	NA	NA	3.50E+6	Solid	122.1
Benzyl alcohol	100516	NR	NR	3.90E-7	0.08	8.0E-6	NA	NA	4.40E+7	Liquid	108.13
Benzyl chloride	100447	NR	NR	4.00E-4	0.075	7.8E-6	0.011	153	4.90E+5	Liquid	126.58
Beryllium	7440417	NR	790	NR	NR	NR	NA	NA	NA	Inorganic	9.012
bis(2-Chloroethoxy)ethane	112265	NR	NR	7.81E-7	0.08	8.0E-6	NA	NA	1.89E+7	Liquid	187.07
bis(2-Chloroethyl)ether (I)	111444	NR	NR	1.80E-5	0.0692	7.53E-6	0.027	131	1.72E+7	Liquid	143.01
bis(2-Ethylhexyl)phthalate	117817	NR	NR	1.02E-7	0.0351	3.66E-6	NA	420	340	Liquid	390.57

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Boron (B)	7440428	3.2E-1	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Bromate	15541454	4.0E-3	7.0E-1	NA	NA	NA	0.2	0.5	0.01	1.0	0.63	NR
Bromobenzene (I)	108861	2.4E-3	NA	8.0E+0	NA	NA	0.2	1.0	0.1	1.0	2.99	870
Bromodichloromethane	75274	1.8E-2	5.0E-2	NA	3.7E-5	NA	0.2	1.0	0.1	1.0	2.1	55.1
Bromoform	75252	1.8E-2	6.4E-3	NA	1.1E-6	NA	0.2	1.0	0.1	1.0	2.35	87.0
Bromomethane	74839	1.4E-3	NA	5.0E+0	NA	NA	0.2	1.0	0.1	1.0	1.18	14.5
n-Butanol (I)	71363	1.3E-1	NA	3.5E+2	NA	1.52E+5	0.2	1.0	0.1	1.0	0.851	5.65
2-Butanone (MEK) (I)	78933	1.8E+0	NA	1.0E+3	NA	8.85E+5	0.2	1.0	0.1	1.0	0.279	1.99
n-Butyl acetate	123864	7.6E-2	NA	7.1E+3	NA	9.5E+5	0.2	1.0	0.1	1.0	1.78	30.8
t-Butyl alcohol	75650	5.4E-1	NA	1.89E+3	NA	NA	0.2	1.0	0.1	1.0	0.35	2.27
Butyl benzyl phthalate	85687	1.6E-1	NA	7.0E+2	NA	NA	0.2	1.0	0.1	1.0	4.84	57,300
n-Butylbenzene	104518	1.1E-2	NA	30	NA	NA	0.2	1.0	0.1	1.0	4.38	20,200
sec-Butylbenzene	135988	1.1E-2	NA	6E+0	NA	NA	0.2	1.0	0.1	1.0	4.57	31,100
t-Butylbenzene (I)	98066	1.1E-2	NA	10	NA	NA	0.2	1.0	0.1	1.0	4.11	11,000
Cadmium (B)	7440439	1.0E-3	NA	NA	1.8E-3	NA	0.2	0.5	0.001	1.0	NR	NR
Camphene (I)	79925	NA	NA	80	NA	NA	0.2	1.0	0.1	1.0	3.53	2,950
Caprolactam	105602	8.0E-1	NA	1.0E+1	NA	4.6E+4	0.2	1.0	0.1	1.0	-0.19	0.65
Carbaryl	63252	9.6E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.4	229
Carbazole	86748	NA	1.0E-2	NA	5.0E-5	NA	0.2	1.0	0.1	1.0	3.59	3,380
Carbofuran	1563662	5.0E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.6	37.4
Carbon disulfide (I,R)	75150	1.1E-1	NA	7.0E+2	NA	NA	0.2	1.0	0.1	1.0	2	45.9

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Boron (B)	7440428	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	10.811
Bromate	15541454	NR	NA	1.00E+0	NR	NR	NA	NA	38,000	Solid	79.9
Bromobenzene (I)	108861	NR	NR	4.74E-4	0.08	8.0E-6	NA	NA	4.13E+5	Liquid	157.015
Bromodichloromethane	75274	NR	NR	1.60E-3	0.0298	1.06E-5	NA	NA	6.74E+6	Liquid	163.8
Bromoform	75252	NR	NR	5.35E-4	0.0149	1.03E-5	NA	NA	3.10E+6	Liquid	252.8
Bromomethane	74839	NR	NR	1.42E-2	0.08	8.0E-6	0.1	NA	1.45E+7	Liquid	94.94
n-Butanol (I)	71363	NR	NR	8.81E-6	0.08	9.6E-6	0.014	84	7.40E+7	Liquid	74.14
2-Butanone (MEK) (I)	78933	NR	NR	3.60E-5	0.081	9.8E-6	NA	16	2.40E+8	Liquid	72.1
n-Butyl acetate	123864	NR	NR	3.20E-4	0.08	8.0E-6	0.017	72	6.70E+6	Liquid	116.16
t-Butyl alcohol	75650	NR	NR	1.17E-5	0.08	8.0E-6	0.024	52	1.0E+9	Liquid	74.12
Butyl benzyl phthalate	85687	NR	NR	1.26E-6	0.0174	4.83E-6	NA	NA	2,690	Liquid	312.37
n-Butylbenzene	104518	NR	NR	NA	0.08	8.0E-6	NA	NA	NA	Liquid	134.22
sec-Butylbenzene	135988	NR	NR	NA	0.08	8.0E-6	NA	NA	NA	Liquid	134.22
t-Butylbenzene (I)	98066	NR	NR	NA	0.08	8.0E-6	NA	NA	NA	Liquid	134.22
Cadmium (B)	7440439	NR	75	NR	NR	NR	NA	NA	NA	Inorganic	112.411
Camphene (I)	79925	NR	NR	2.05E+0	0.08	8.0E-6	NA	NA	33,400	Solid	136.26
Caprolactam	105602	NR	NR	2.53E-8	0.08	8.0E-6	0.014	282	5.25E+9	Solid	113.2
Carbaryl	63252	NR	NR	6.80E-4	0.08	8.0E-6	NA	NA	1.26E+5	Solid	201.24
Carbazole	86748	NR	NR	1.53E-8	0.039	7.03E-6	NA	NA	7,480	Solid	167.21
Carbofuran	1563662	NR	NR	3.90E-10	0.08	8.0E-6	NA	NA	7.00E+5	Solid	221.3
Carbon disulfide (I,R)	75150	NR	NR	3.03E-2	0.104	1.0E-5	0.013	-22	1.19E+6	Liquid	76.14

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PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

Developed pursuant to R 299.5752 of the Administrative Rules for Part 201 Environmental Remediation of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Scientific notation is represented by E+ or E- a value, for example 200,000 is presented as 2.0E+5. Units are as indicated in each column heading. The dataset for each hazardous substance requires 22 columns. Review all 22 columns across 2 pages when evaluating data for a specific hazardous substance.

Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Carbon tetrachloride	56235	7.1E-4	5.5E-2	100	2.36E-5	6.3E+4	0.2	1.0	0.1	1.0	2.73	174
Chlordane (J)	57749	1.5E-3	3.5E-1	7.0E-1	1.0E-4	NA	0.2	0.5	0.04	1.0	6.32	1.21E+5
Chloride	16887006	NA	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Chlorobenzene (I)	108907	1.9E-2	NA	7.0E+1	NA	NA	0.2	1.0	0.1	1.0	2.86	220
p-Chlorobenzene sulfonic acid	98668	1.0E+0	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-0.52	4.64E-1
1-Chloro-1,1-difluoroethane	75683	2.1E+0	NA	5.0E+4	NA	NA	0.2	1.0	0.1	1.0	1.81	32.5
Chloroethane	75003	1.8E+1	2.0E-3	1.0E+4	NA	NA	0.2	1.0	0.1	1.0	1.4	23.8
2-Chloroethyl vinyl ether	110758	NA	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.07	8.43
Chloroform	67663	1.3E-2	4.4E-3	NA	2.4E-6	NA	0.2	1.0	0.1	1.0	1.92	39.7
Chloromethane (I)	74873	NA	3.3E-3	9.0E+1	6.39E-7	2.07E+5	0.2	1.0	0.1	1.0	0.91	6.30
4-Chloro-3-methylphenol	59507	2.0E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	3.1	1,120
beta-Chloronaphthalene	91587	2.5E-1	NA	NA	NA	NA	0.2	1.0	0.1	1.0	4.1	10,700
2-Chlorophenol	95578	6.2E-3	NA	1.8E+1	NA	NA	0.2	1.0	0.1	1.0	2.15	388
o-Chlorotoluene (I)	95498	2.0E-2	NA	7.0E+1	NA	NA	0.2	1.0	0.1	1.0	3.42	612
Chlorpyrifos	2921882	3.0E-2	NA	2.0E+0	NA	NA	0.2	0.5	0.1	1.0	5.3	18,900
Chromium (III) (B,H)	16065831	1.5E+0	NA	5.0E+0	NA	NA	0.7	0.5	0.01	1.0	NR	NR
Chromium (VI)	18540299	4.8E-3	NA	8.0E-3	1.2E-2	NA	0.7	0.5	0.01	1.0	NR	NR
Chrysene (Q)	218019	NA	4.1E-3	NA	NA	NA	0.2	0.5	0.13	1.0	5.7	4.01E+5
Cobalt	7440484	5.0E-3	NA	2.0E-1	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Copper (B)	7440508	3.8E-2	NA	2.0E+0	NA	NA	1.0	0.5	0.01	1.0	NR	NR
Cyanazine	21725462	3.0E-3	3.7E-1	NA	NA	NA	0.2	1.0	0.1	1.0	2.2	146

Attachment 1
TABLE 4. TOXICOLOGICAL AND CHEMICAL-PHYSICAL DATA
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS;
PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Carbon tetrachloride	56235	NR	NR	3.04E-2	0.078	8.8E-6	NA	NA	7.93E+5	Liquid	153.92
Chlordane (J)	57749	NR	NR	4.86E-5	0.0118	4.37E-6	NA	NA	56	Solid	409.8
Chloride	16887006	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	35.453
Chlorobenzene (I)	108907	NR	NR	3.70E-3	0.073	8.7E-6	0.013	82	4.72E+5	Liquid	112.56
p-Chlorobenzene sulfonic acid	98668	NR	NR	NA	NA	NA	NA	226	NA	Solid	192.62
1-Chloro-1,1-difluoroethane	75683	NR	NR	6.16E-2	0.08	8.0E-6	0.06	NA	3.9E+06	Gas	100.5
Chloroethane	75003	NR	NR	8.80E-3	0.08	8.0E-6	0.038	-58	5.74E+6	Liquid	64.52
2-Chloroethyl vinyl ether	110758	NR	NR	6.25E-4	0.08	8.0E-6	NA	NA	1.50E+7	Liquid	106.55
Chloroform	67663	NR	NR	3.67E-3	0.104	1.0E-5	NA	NA	7.92E+6	Liquid	119.38
Chloromethane (I)	74873	NR	NR	4.52E-2	0.13	6.5E-6	0.081	-60.8	6.34E+6	Liquid	50.49
4-Chloro-3-methylphenol	59507	NR	NR	4.00E-7	0.08	8.0E-6	NA	NA	3.90E+6	Solid	142.6
beta-Chloronaphthalene	91587	NR	NR	3.10E-4	0.08	8.0E-6	NA	NA	6,740	Solid	162.62
2-Chlorophenol	95578	388	NR	3.91E-4	0.0501	9.46E-6	NA	NA	2.20E+7	Liquid	128.56
o-Chlorotoluene (I)	95498	NR	NR	3.57E-3	0.08	8.0E-6	NA	96	3.73E+5	Liquid	126.58
Chlorpyrifos	2921882	NR	NR	7.80E+0	0.08	8.0E-6	NA	NA	1,120	Solid	350.59
Chromium (III) (B,H)	16065831	NR	1.8E+6	NR	NR	NR	NA	NA	NA	Inorganic	51.996
Chromium (VI)	18540299	NR	19	NR	NR	NR	NA	NA	NA	Inorganic	51.996
Chrysene (Q)	218019	NR	NR	9.46E-5	0.0248	6.21E-6	NA	NA	1.6	Solid	228.3
Cobalt	7440484	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	58.933
Copper (B)	7440508	NR	360	NR	NR	NR	NA	NA	NA	Inorganic	63.546
Cyanazine	21725462	NR	NR	1.00E-10	0.08	8.0E-6	NA	NA	1.70E+5	Solid	241

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Cyanide (P,R)	57125	5.4E-3	NA	5.0E+1	NA	NA	0.2	1.0	0	1.0	NA	NA
Cyclohexanone	108941	4.5E+0	NA	1.0E+3	NA	NA	0.2	1.0	0.1	1.0	0.81	6.26
Dacthal	1861321	1.0E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	4.4	21,200
Dalapon	75990	8.5E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	0.77	5.72
4-4'-DDD	72548	3.0E-3	9.4E-2	NA	7.0E-5	NA	0.2	0.5	0.1	1.0	6.1	81,100
4-4'-DDE	72559	7.0E-4	2.0E-1	NA	9.7E-5	NA	0.2	0.5	0.1	1.0	6.76	2.70E+5
4-4'-DDT	50293	5.0E-4	2.0E-1	NA	9.7E-5	NA	0.2	0.5	0.03	1.0	6.53	1.78E+5
Decabromodiphenyl ether	1163195	1.0E-2	NA	3.5E+1	4.0E-7	NA	0.2	0.5	0.1	1.0	5.24	1.42E+5
Di-n-butyl phthalate	84742	1.2E-1	NA	5.0E+1	NA	NA	0.2	1.0	0.1	1.0	4.61	34,000
Di(2-ethylhexyl) adipate	103231	1.7E+0	5.9E-4	NA	3.4E-7	NA	0.2	0.5	0.1	1.0	6.11	1.01E+6
Di-n-octyl phthalate	117840	1.8E-2	NA	4.7E+2	NA	NA	0.2	0.5	0.1	1.0	7.51	2.41E+7
Diacetone alcohol (I)	123422	NA	NA	2.4E+3	NA	NA	0.2	1.0	0.1	1.0	-0.34	0.464
Diazinon	333415	1.8E-4	NA	NA	NA	NA	0.2	1.0	0.1	1.0	3.4	2,200
Dibenzo(a,h)anthracene (Q)	53703	NA	4.1E+0	NA	NA	NA	0.2	0.5	0.13	1.0	6.69	3.77E+6
Dibenzofuran	132649	NA	NA	1E-1	NA	NA	0.2	1.0	0.1	1.0	4.2	13,500
Dibromochloromethane	124481	2.1E-2	4.9E-2	NA	2.45E-5	NA	0.2	1.0	0.1	1.0	2.17	62.6
Dibromochloropropane	96128	NA	1.2E+0	2.0E-1	5.6E-3	NA	0.2	1.0	0.1	1.0	2.68	431
Dibromomethane	74953	1.1E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.62	39.2
Dicamba	1918009	3.0E-2	NA	NA	NA	NA	0.2	0.5	0.1	1.0	2.4	95.3
1,2-Dichlorobenzene	95501	8.6E-2	NA	1.5E+3	NA	3.01E+5	0.2	1.0	0.1	1.0	3.43	623
1,3-Dichlorobenzene	541731	9.0E-4	NA	3E+0	NA	NA	0.2	1.0	0.1	1.0	3.5	708

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Cyanide (P,R)	57125	NR	NR	NR	0.08	8.0E-6	NA	NA	NA	Inorganic	26.02
Cyclohexanone	108941	NR	NR	7.80E+0	0.08	8.0E-6	NA	146	2.30E+7	Liquid	98.14
Dacthal	1861321	NR	NR	2.18E-6	0.08	8.0E-6	NA	NA	500	Solid	331
Dalapon	75990	NR	NR	6.43E-8	0.08	8.0E-6	NA	NA	5.02E+8	Liquid	142.97
4-4'-DDD	72548	NR	NR	4.00E-6	0.0169	4.76E-6	NA	NA	90	Solid	320.05
4-4'-DDE	72559	NR	NR	2.10E-5	0.0144	5.87E-6	NA	NA	120	Solid	518.03
4-4'-DDT	50293	NR	NR	8.10E-6	0.0137	4.95E-6	NA	162	25	Solid	354.49
Decabromodiphenyl ether	1163195	NR	NR	4.02E-5	0.08	8.0E-6	NA	NA	30	Solid	959.22
Di-n-butyl phthalate	84742	NR	NR	9.38E-10	0.0438	7.86E-6	NA	315	11,200	Liquid	278.34
Di(2-ethylhexyl) adipate	103231	NR	NR	4.34E-7	0.08	8.0E-6	NA	NA	471	Liquid	370
Di-n-octyl phthalate	117840	NR	NR	7.66E-7	0.0151	3.58E-6	NA	NA	3,000	Liquid	390.62
Diacetone alcohol (I)	123422	NR	NR	2.61E-7	0.08	8.0E-6	0.018	125	1.0E+9	Liquid	116.2
Diazinon	333415	NR	NR	1.13E-7	0.08	8.0E-6	NA	180	68,800	Liquid	304.3
Dibenzo(a,h)anthracene (Q)	53703	NR	NR	1.47E-8	0.0202	5.18E-6	NA	NA	2.49	Solid	278.36
Dibenzofuran	132649	NR	NR	1.30E-5	0.08	8.0E-6	NA	NA	10,000	Solid	168.21
Dibromochloromethane	124481	NR	NR	7.83E-4	0.0229	1.05E-5	NA	NA	2.60E+6	Liquid	208.29
Dibromochloropropane	96128	NR	NR	1.90E-4	0.08	8.0E-6	NA	170	1,230	Liquid	236.34
Dibromomethane	74953	NR	NR	9.00E-4	0.08	8.6E-6	NA	NA	1.10E+7	Liquid	173.85
Dicamba	1918009	NR	NR	7.90E-9	0.08	8.0E-6	NA	NA	4.5E+6	Solid	221.04
1,2-Dichlorobenzene	95501	NR	NR	1.90E-3	0.069	7.9E-6	0.022	151	1.56E+5	Liquid	147.01
1,3-Dichlorobenzene	541731	NR	NR	1.80E-3	0.08	8.0E-6	NA	NA	1.11E+5	Liquid	147.01

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		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
1,4-Dichlorobenzene	106467	NA	1.3E-2	8E+2	6.9E-6	NA	0.2	1.0	0.1	1.0	3.42	612
3,3'-Dichlorobenzidine	91941	NA	8.0E-1	NA	4.8E-4	NA	0.2	1.0	0.1	1.0	3.51	721
Dichlorodifluoromethane	75718	2.3E-1	NA	4.95E+4	NA	NA	0.2	1.0	0.1	1.0	2.15	60.4
1,1-Dichloroethane	75343	1.2E-1	NA	5.0E+2	NA	NA	0.2	1.0	0.1	1.0	1.79	31.3
1,2-Dichloroethane (I)	107062	NA	5.8E-2	NA	2.6E-5	NA	0.2	1.0	0.1	1.0	1.47	17.5
1,1-Dichloroethylene (I)	75354	9.0E-4	NA	2E+2	5.0E-5	7.9E+4	0.2	1.0	0.1	1.0	2.13	58.2
cis-1,2-Dichloroethylene	156592	1.1E-2	NA	3.4E+1	NA	NA	0.2	1.0	0.1	1.0	1.86	35.6
trans-1,2-Dichloroethylene	156605	1.7E-2	NA	7.0E+1	NA	NA	0.2	1.0	0.1	1.0	2.07	52.2
2,6-Dichloro-4-nitroaniline	99309	3.0E-1	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.76	517
2,4-Dichlorophenol	120832	1.0E-2	NA	7.7E+1	NA	NA	0.2	1.0	0.1	1.0	3.08	147
2,4-Dichlorophenoxyacetic acid	94757	1.0E-2	NA	1.0E+2	NA	NA	0.2	1.0	0.05	1.0	2.7	451
1,2-Dichloropropane (I)	78875	4.4E-1	3.7E-2	4.0E+0	NA	5.08E+5	0.2	1.0	0.1	1.0	1.97	43.5
1,3-Dichloropropene	542756	3.4E-2	1.0E-1	2.0E+1	4.0E-6	NA	0.2	1.0	0.1	1.0	2.0	45.9
Dichlorovos	62737	4.0E-4	5.2E-1	5.0E-1	NA	NA	0.2	1.0	0.1	1.0	1.4	15.4
Dicyclohexyl phthalate	84617	NA	NA	NA	NA	NA	0.2	0.5	0.1	1.0	6.2	1.24E+6
Dieldrin	60571	7.6E-5	8.0E+0	NA	4.6E-3	NA	0.2	0.5	0.1	1.0	5.37	21,400
Diethyl ether	60297	5.0E-1	NA	1.2E+4	NA	1.52E+6	0.2	1.0	0.1	1.0	0.83	6.55
Diethyl phthalate	84662	7.5E-1	NA	5.0E+1	NA	NA	0.2	1.0	0.1	1.0	2.5	287
Diethylene glycol monobutyl ether	112345	1.2E-2	NA	2.0E+1	NA	NA	0.2	1.0	0.1	1.0	0.32	2.06
Diisopropyl ether	108203	4.1E-3	NA	3.58E+2	NA	NA	0.2	1.0	0.1	1.0	1.67	25.2
Diisopropylamine (I)	108189	7.7E-4	NA	2E+2	NA	NA	0.2	1.0	0.1	1.0	1.6	37.4

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
1,4-Dichlorobenzene	106467	NR	NR	2.43E-3	0.069	7.9E-6	0.025	150	73,800	Solid	147
3,3'-Dichlorobenzidine	91941	NR	NR	4.00E-9	0.0194	6.74E-6	NA	NA	3,110	Solid	253.1
Dichlorodifluoromethane	75718	NR	NR	2.60E+0	0.08	8.0E-6	NA	NA	3.00E+5	Liquid	120.91
1,1-Dichloroethane	75343	NR	NR	5.62E-3	0.0742	1.05E-5	0.054	2.0	5.06E+6	Liquid	98.96
1,2-Dichloroethane (I)	107062	NR	NR	9.79E-4	0.104	9.9E-6	0.062	56	8.52E+6	Liquid	98.97
1,1-Dichloroethylene (I)	75354	NR	NR	2.61E-2	0.09	1.04E-5	0.065	-2	2.25E+6	Liquid	96.94
cis-1,2-Dichloroethylene	156592	NR	NR	4.08E-3	0.0736	1.13E-5	0.056	36	3.50E+6	Liquid	96.94
trans-1,2-Dichloroethylene	156605	NR	NR	9.38E-3	0.0707	1.19E-5	0.056	36	6.30E+6	Liquid	96.94
2,6-Dichloro-4-nitroaniline	99309	NR	NR	4.67E-8	0.08	8.0E-6	NA	NA	7,000	Solid	207.02
2,4-Dichlorophenol	120832	147	NR	3.16E-6	0.0346	8.77E-6	NA	NA	4.50E+6	Liquid	163
2,4-Dichlorophenoxyacetic acid	94757	NR	NR	4.50E-6	0.059	6.5E-6	NA	NA	6.80E+5	Solid	221.04
1,2-Dichloropropane (I)	78875	NR	NR	2.80E-3	0.0782	8.73E-6	0.034	60	2.80E+6	Liquid	112.99
1,3-Dichloropropene	542756	NR	NR	1.77E-2	0.0626	1.0E-5	0.053	77	2.80E+6	Liquid	110.97
Dichlorovos	62737	NR	NR	9.58E-7	0.08	8.0E-6	NA	175	1.60E+7	Liquid	220.98
Dicyclohexyl phthalate	84617	NR	NR	7.61E-5	0.08	8.0E-6	NA	NA	4,000	Solid	330.43
Dieldrin	60571	NR	NR	1.51E-5	0.0125	4.74E-6	NA	NA	195	Solid	380.9
Diethyl ether	60297	NR	NR	8.70E-4	0.074	9.3E-6	0.019	-49	6.10E+7	Liquid	74.12
Diethyl phthalate	84662	NR	NR	4.50E-7	0.0256	6.35E-6	NA	322	1.08E+6	Liquid	222.23
Diethylene glycol monobutyl ether	112345	NR	NR	1.52E-9	0.08	8.0E-6	NA	NA	1.0E+9	Liquid	162.23
Diisopropyl ether	108203	NR	NR	1.3E-3	0.08	8.0E-6	0.014	-18	8,041	Liquid	102.18
Diisopropylamine (I)	108189	NR	NR	9.60E-5	0.08	8.0E-6	0.011	20	3.69E+7	Liquid	101.22

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DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Dimethyl phthalate	131113	1.0E+1	NA	5.0E+1	NA	NA	0.2	1.0	0.1	1.0	1.64	41.0
N,N-Dimethylacetamide	127195	2.5E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-0.77	0.175
N,N-Dimethylaniline	121697	2.2E-3	NA	NA	1.18E-5	5.0E+4	0.2	1.0	0.1	1.0	2.46	262
Dimethylformamide (I)	68122	9.6E-2	NA	3.0E+1	NA	NA	0.2	1.0	0.1	1.0	-1.01	0.102
2,4-Dimethylphenol	105679	5.0E-2	NA	7.0E+1	NA	NA	0.2	1.0	0.1	1.0	2.36	209
2,6-Dimethylphenol	576261	6.0E-4	NA	2E+0	NA	NA	0.2	1.0	0.1	1.0	2.36	209
3,4-Dimethylphenol	95658	1.4E-3	NA	3.5E+0	NA	NA	0.2	1.0	0.1	1.0	2.23	156
Dimethylsulfoxide	67685	3.0E+1	NA	2E+1	NA	NA	0.2	1.0	0.1	1.0	-1.66	0.0234
2,4-Dinitrotoluene	121142	2.0E-3	1.1E-1	2.0E+0	2.0E-4	NA	0.2	1.0	0.1	1.0	2.01	94.6
Dinoseb	88857	1.0E-3	NA	4E+0	NA	NA	0.2	1.0	0.1	1.0	3.15	1,250
1,4-Dioxane (I)	123911	NA	1.0E-2	100	5.5E-6	NA	0.2	1.0	0.1	1.0	-0.39	0.588
Diquat	85007	2.2E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-2.82	0.00169
Dissolved oxygen (DO)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diuron	330541	4.3E-3	NA	7.0E+0	NA	NA	0.2	1.0	0.1	1.0	2.77	187
Endosulfan (J)	115297	6.0E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	4.1	2,110
Endothall	145733	1.7E-2	NA	3.5E+1	NA	NA	0.2	1.0	0.1	1.0	-0.55	0.288
Endrin	72208	1.7E-4	NA	NA	NA	NA	0.2	0.5	0.1	1.0	5.06	12,200
Epichlorohydrin (I)	106898	1.0E-3	5.9E-1	1.0E+0	1.2E-6	NA	0.2	1.0	0.1	1.0	0.26	1.92
Ethanol (I)	64175	6.2E+1	NA	1.9E+4	NA	NA	1.0	1.0	0.1	1.0	-0.31	0.496
Ethyl acetate (I)	141786	9.0E-1	NA	3.2E+3	NA	NA	0.2	1.0	0.1	1.0	0.69	4.77
Ethyl-tert-butyl ether (ETBE)	637923	NA	NA	3.73E+2	NA	NA	NA	1.0	0.1	1.0	1.92	3.97

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Dimethyl phthalate	131113	NR	NR	5.78E-7	0.067	6.3E-6	NA	295	4.19E+6	Liquid	194.19
N,N-Dimethylacetamide	127195	NR	NR	1.31E-8	0.08	8.0E-6	NA	158	1.0E+9	Liquid	87.14
N,N-Dimethylaniline	121697	NR	NR	8.12E-5	0.08	8.0E-6	NA	142	1.27E+6	Liquid	121.18
Dimethylformamide (I)	68122	NR	NR	7.39E-8	0.08	8.0E-6	NA	136	1.0E+9	Liquid	73.1
2,4-Dimethylphenol	105679	NR	NR	2.0E-6	0.0584	8.69E-6	NA	NA	7.87E+6	Solid	122.16
2,6-Dimethylphenol	576261	NR	NR	5.02E-6	0.08	8.0E-6	NA	NA	6.14E+6	Solid	122.16
3,4-Dimethylphenol	95658	NR	NR	3.78E-7	0.08	8.0E-6	NA	NA	4.93E+6	Solid	122.16
Dimethylsulfoxide	67685	NR	NR	5.80E-8	0.08	8.0E-6	NA	NA	1.66E+8	Liquid	78.14
2,4-Dinitrotoluene	121142	NR	NR	9.26E-8	0.203	7.06E-6	NA	NA	2.70E+5	Solid	183.15
Dinoseb	88857	NR	NR	4.60E-7	0.08	8.0E-6	NA	NA	52,000	Liquid	240.2
1,4-Dioxane (I)	123911	NR	NR	4.90E-6	0.23	1.0E-5	0.02	55	9.00E+8	Liquid	88.11
Diquat	85007	NR	NR	1.42E-13	0.08	8.0E-6	NA	NA	7.00E+5	Solid	344.08
Dissolved oxygen (DO)	NA	NR	NA	NR	NA	NA	NA	NA	NA	NA	NA
Diuron	330541	NR	NR	2.70E-6	0.08	8.0E-6	NA	NA	37,300	Solid	233.1
Endosulfan (J)	115297	NR	NR	1.12E-5	0.0115	4.55E-6	NA	NA	510	Solid	406.9
Endothall	145733	NR	NR	2.60E-10	0.08	8.0E-6	NA	NA	1.00E+8	Solid	186.18
Endrin	72208	NR	NR	7.52E-6	0.0125	4.74E-6	NA	NA	250	Solid	380.9
Epichlorohydrin (I)	106898	NR	NR	3.00E-5	0.086	9.8E-6	0.038	93	6.60E+7	Liquid	92.53
Ethanol (I)	64175	NR	NR	6.29E-6	0.08	8.0E-6	0.033	55	1.0E+9	Liquid	46.07
Ethyl acetate (I)	141786	NR	NR	1.70E-4	0.073	9.7E-6	0.02	24	6.40E+7	Liquid	88.12
Ethyl-tert-butyl ether (ETBE)	637923	NR	NR	1.389E-3	0.08	8.0E-6	NA	NA	5.63E+6	Liquid	102.18

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Ethylbenzene (I)	100414	9.7E-2	NA	1.0E+3	3.1E-7	5.43E+5	0.2	1.0	0.1	1.0	3.14	367
Ethylene dibromide	106934	NA	5.7E+1	9E+0	2.2E-4	NA	0.2	1.0	0.1	1.0	1.75	52.5
Ethylene glycol	107211	2.0E+0	NA	1.0E+3	NA	1.0E+5	0.2	1.0	0.1	1.0	-1.4	0.0421
Ethylene glycol monobutyl ether	111762	5.0E-1	NA	1.3E+4	NA	NA	0.2	1.0	0.1	1.0	0.83	6.55
Fluoranthene	206440	1.2E-1	NA	1.4E+2	NA	NA	0.2	0.5	0.1	1.0	5.12	1.08E+05
Fluorene	86737	1.2E-1	NA	1.4E+2	NA	NA	0.2	1.0	0.1	1.0	4.21	13,800
Fluorine (soluble fluoride) (B)	7782414	6.0E-2	NA	NA	NA	3.1E+3	1.0	0.5	0.01	1.0	NR	NR
Formaldehyde	50000	1.8E-1	NA	9.0E+0	1.3E-5	3.7E+2	0.2	1.0	0.1	1.0	-0.051	1.09
Formic acid (I,U)	64186	1.4E+0	NA	2.0E+0	NA	1.9E+4	0.2	1.0	0.1	1.0	-0.538	0.449
1-Formylpiperidine	2591868	1.1E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	NA	NA
Gentian violet	548629	1.4E-1	5.5E-2	NA	NA	NA	0.2	1.0	0.1	1.0	0.51	3.17
Glyphosate	1071836	1.0E-1	NA	NA	NA	NA	0.2	0.5	0.1	1.0	-4.47	4.04E-5
Heptachlor	76448	2.3E-3	1.6E+0	NA	1.3E-3	NA	0.2	0.5	0.1	1.0	6.26	1.43E+6
Heptachlor epoxide	1024573	8.5E-6	2.9E+0	NA	2.6E-3	NA	0.2	0.5	0.1	1.0	5.0	82,300
n-Heptane	142825	4.4E+0	NA	3.5E+3	NA	2.05E+6	0.2	1.0	0.1	1.0	4.72	43,700
Hexabromobenzene	87821	2.8E-3	NA	NA	NA	NA	0.2	0.5	0.1	1.0	6.1	9.92E+5
Hexachlorobenzene (C-66)	118741	8.0E-4	1.0E+0	NA	4.6E-4	NA	0.2	0.5	0.1	1.0	5.89	55,300
Hexachlorobutadiene (C-46)	87683	2.0E-3	5.2E-2	NA	2.2E-5	NA	0.2	1.0	0.1	1.0	4.81	53,500
alpha-Hexachlorocyclohexane	319846	NA	2.0E+0	NA	1.83E-3	NA	0.2	1.0	0.1	1.0	3.8	1,220
beta-Hexachlorocyclohexane	319857	NA	9.7E-1	NA	5.3E-4	NA	0.2	1.0	0.1	1.0	3.81	1,250
Hexachlorocyclopentadiene (C-56)	77474	6.0E-3	NA	2.0E-1	NA	NA	0.2	0.5	0.1	1.0	5.39	1.99E+05

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		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Ethylbenzene (I)	100414	NR	NR	7.88E-3	0.075	7.8E-6	0.008	55	1.69E+5	Liquid	106.17
Ethylene dibromide	106934	NR	NR	4.60E-4	0.08	8.0E-6	NA	NA	4.20E+6	Liquid	187.9
Ethylene glycol	107211	NR	NR	6.00E-8	0.08	8.0E-6	0.032	232	1.0E+9	Liquid	62.07
Ethylene glycol monobutyl ether	111762	NR	NR	5.13E-2	0.08	8.0E-6	NA	143	2.24E+8	Liquid	118.2
Fluoranthene	206440	NR	NR	1.61E-5	0.0302	6.35E-6	NA	NA	206	Solid	202.24
Fluorene	86737	NR	NR	6.36E-5	0.0363	7.88E-6	NA	NA	1,980	Solid	166.23
Fluorine (soluble fluoride) (B)	7782414	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	38
Formaldehyde	50000	NR	NR	2.80E-4	0.18	2.0E-5	0.07	NA	5.50E+8	Liquid	30.03
Formic acid (I,U)	64186	NR	NR	2.50E-6	0.079	1.4E-6	0.18	122	1.0E+9	Liquid	46.03
1-Formylpiperidine	2591868	NR	NR	NA	0.08	8.0E-6	NA	NA	NA	Liquid	113.2
Gentian violet	548629	NR	NR	3.06E-16	0.08	8.0E-6	NA	NA	1.00E+6	Solid	408
Glyphosate	1071836	NR	NR	1.50E-9	0.08	8.0E-6	NA	NA	1.16E+7	Solid	169.09
Heptachlor	76448	NR	NR	1.48E-3	0.0112	5.69E-6	NA	NA	180	Solid	373.4
Heptachlor epoxide	1024573	NR	NR	9.50E-6	0.0132	4.23E-6	NA	NA	200	Solid	389.32
n-Heptane	142825	NR	NR	2.11E+0	0.08	8.0E-6	0.0105	25	2,690	Liquid	100.2
Hexabromobenzene	87821	NR	NR	1.30E-5	0.08	8.0E-6	NA	NA	0.17	Solid	551
Hexachlorobenzene (C-66)	118741	NR	NR	1.32E-3	0.0542	5.91E-6	NA	NA	6,200	Solid	284.78
Hexachlorobutadiene (C-46)	87683	NR	NR	8.15E-3	0.0561	6.16E-6	NA	NA	3,230	Liquid	260.76
alpha-Hexachlorocyclohexane	319846	NR	NR	1.06E-5	0.0142	7.34E-6	NA	NA	2,000	Solid	290.82
beta-Hexachlorocyclohexane	319857	NR	NR	7.43E-7	0.0142	7.34E-6	NA	NA	240	Solid	290.82
Hexachlorocyclopentadiene (C-56)	77474	NR	NR	2.70E-2	0.0161	7.21E-6	NA	NA	1,800	Liquid	272.77

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		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Hexachloroethane	67721	1.0E-3	8.5E-3	3.5E+0	4.0E-6	NA	0.2	1.0	0.1	1.0	4.0	1,760
n-Hexane	110543	4.1E-1	NA	2.0E+2	NA	NA	0.2	1.0	0.1	1.0	4.0	1,760
2-Hexanone	591786	1.4E-1	NA	4.0E+1	NA	NA	0.2	1.0	0.1	1.0	1.4	23.8
Indeno(1,2,3-cd)pyrene (Q)	193395	NA	4.1E-1	NA	NA	NA	0.2	0.5	0.13	1.0	6.65	3.45E+6
Iron (B)	7439896	3.0E-1	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Isobutyl alcohol (I)	78831	3.2E-1	NA	1.5E+3	NA	NA	0.2	1.0	0.1	1.0	0.75	5.46
Isophorone	78591	1.5E-1	1.1E-3	2.8E+2	2.7E-7	2.8E+4	0.2	1.0	0.1	1.0	1.699	46.8
Isopropyl alcohol (I)	67630	6.4E-2	NA	2.2E+2	NA	1.23E+6	0.2	1.0	0.1	1.0	0.05	1.31
Isopropyl benzene	98828	1.1E-1	NA	8.7E+1	NA	NA	0.2	1.0	0.1	1.0	3.6	3,460
Lead (B)	7439921	NA	NA	1.5E+0	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Lindane	58899	3.3E-4	7.1E-1	NA	NA	NA	0.2	1.0	0.04	1.0	3.73	1,080
Lithium (B)	7439932	2.8E-2	NA	3.5E+1	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Magnesium (B)	7439954	1.1E+1	NA	1.0E+2	NA	NA	1.0	0.5	0.01	1.0	NR	NR
Manganese (B)	7439965	4.7E-2	NA	5.0E-2	NA	NA	0.5	0.5	0.01	1.0	NR	NR
Mercury (Total) (B,Z)	Varies	3.0E-4	NA	3.0E-1	NA	NA	0.2	0.5	0.01	1.0	5.95	NR
Methane	74828	NA	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.09	11.8
Methanol	67561	5.0E-1	NA	3.25E+3	NA	3.28E+6	0.2	1.0	0.1	1.0	-0.72	0.196
Methoxychlor	72435	5.0E-3	NA	NA	NA	NA	0.2	0.5	0.1	1.0	5.08	12,600
2-Methoxyethanol (I)	109864	1.0E-3	NA	2.0E+1	NA	NA	0.2	1.0	0.1	1.0	-0.77	0.175
2-Methyl-4-chlorophenoxyacetic acid	94746	1.0E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	3.25	1,570
2-Methyl-4,6-dinitrophenol	534521	3.5E-4	NA	2.0E+0	NA	NA	0.2	1.0	0.1	1.0	2.1	116

Attachment 1
TABLE 4. TOXICOLOGICAL AND CHEMICAL-PHYSICAL DATA
PART 201 GENERIC CLEANUP CRITERIA AND SCREENING LEVELS;
PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
DOCUMENT RELEASE DATE: SEPTEMBER 28, 2012

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Hexachloroethane	67721	NR	NR	3.89E-3	0.0025	6.8E-6	NA	NA	50,000	Solid	236.74
n-Hexane	110543	NR	NR	1.40E-2	0.08	8.0E-6	0.011	-7	12,000	Liquid	86.18
2-Hexanone	591786	NR	NR	9.57E-5	0.08	8.0E-6	NA	77	1.60E+7	Liquid	100.16
Indeno(1,2,3-cd)pyrene (Q)	193395	NR	NR	1.60E-6	0.019	5.66E-6	NA	NA	0.022	Solid	276.34
Iron (B)	7439896	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	55.845
Isobutyl alcohol (I)	78831	NR	NR	1.30E-5	0.08	8.0E-6	NA	82	7.60E+7	Liquid	74.14
Isophorone	78591	NR	NR	6.20E-6	0.0623	6.76E-6	0.008	184	1.20E+7	Liquid	138.23
Isopropyl alcohol (I)	67630	NR	NR	8.07E-6	0.08	8.0E-6	0.02	53	1.0E+9	Liquid	60.09
Isopropyl benzene	98828	NR	NR	1.50E-2	0.086	7.1E-6	0.009	96	56,000	Liquid	122.16
Lead (B)	7439921	NR	11,000	NR	NR	NR	NA	NA	NA	Inorganic	207.2
Lindane	58899	NR	NR	1.40E-5	0.0176	7.34E-6	NA	NA	6,800	Solid	290.9
Lithium (B)	7439932	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	6.941
Magnesium (B)	7439954	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	24.305
Manganese (B)	7439965	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	54.938
Mercury (Total) (B,Z)	Varies	NR	52	7.10E-10	0.037	6.3E-6	NA	NA	56	Inorganic	200.59
Methane	74828	NR	NR	6.58E-1	0.08	8.0E-6	0.053	-306	NA	Gas	16.04
Methanol	67561	NR	NR	1.70E-4	0.15	1.3E-5	0.06	52	2.90E+7	Liquid	32.05
Methoxychlor	72435	NR	NR	1.58E-5	0.0156	4.46E-6	NA	NA	45	Solid	345.7
2-Methoxyethanol (I)	109864	NR	NR	9.51E-7	0.08	8.0E-6	NA	NA	1.0E+9	Liquid	76.1
2-Methyl-4-chlorophenoxyacetic acid	94746	NR	NR	1.33E-9	0.08	8.0E-6	NA	NA	9.24E+5	Solid	305.79
2-Methyl-4,6-dinitrophenol	534521	NR	NR	4.30E-7	0.08	8.0E-6	NA	NA	2.00E+5	Solid	198.13

Attachment 1
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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
N-Methyl-morpholine (I)	109024	2.7E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-0.33	0.474
Methyl parathion	298000	2.5E-4	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.9	710
4-Methyl-2-pentanone (MIBK) (I)	108101	2.5E-1	NA	2.05E+3	NA	3.07E+6	0.2	1.0	0.1	1.0	1.18	14.5
Methyl-tert-butyl ether (MTBE)	1634044	3.3E-2	3.4E-3	3.0E+3	NA	NA	0.2	1.0	0.1	1.0	0.99	9.41
Methylcyclopentane (I)	96377	NA	NA	700	NA	NA	0.2	1.0	0.1	1.0	3.37	2,060
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	7.3E-4	7.7E-1	NA	3.7E-5	NA	0.2	1.0	0.1	1.0	3.92	7,140
Methylene chloride	75092	5.8E-2	4.2E-3	2.0E+3	4.7E-7	NA	0.2	1.0	0.1	1.0	1.26	11.9
2-Methylnaphthalene	91576	3.6E-2	NA	1E+1	NA	NA	0.2	1.0	0.1	1.0	3.9	6,820
Methylphenols (J)	1319773	5.0E-2	NA	1.0E+2	NA	NA	0.2	1.0	0.1	1.0	1.99	45.1
Metolachlor	51218452	2.3E-1	3.5E-3	NA	NA	NA	0.2	1.0	0.1	1.0	3.13	361
Metribuzin	21087649	2.5E-2	NA	NA	NA	NA	0.2	0.5	0.1	1.0	1.7	46.9
Mirex	2385855	2.3E-4	9.3E-1	NA	NA	NA	0.2	0.5	0.1	1.0	6.70	3.86E+6
Molybdenum (B)	7439987	5.0E-3	NA	NA	NA	NA	0.4	0.5	0.01	1.0	NR	NR
Naphthalene	91203	7.1E-2	NA	3.0E+0	3.1E-6	7.9E+4	0.2	1.0	0.1	1.0	3.36	2,010
Nickel (B)	7440020	7.6E-2	NA	NA	2.4E-4	NA	0.2	0.5	0.01	1.0	NR	NR
Nitrate (B,N)	14797558	1.6E+0	NA	NA	NA	NA	1.0	0.5	0.01	1.0	NR	NR
Nitrite (B,N)	14797650	1.0E-1	NA	NA	NA	NA	1.0	0.5	0.01	1.0	NR	NR
Nitrobenzene (I)	98953	4.6E-4	NA	7.0E-1	2.0E-5	NA	0.2	1.0	0.1	1.0	1.84	64.4
2-Nitrophenol	88755	2.8E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.8	58.8
n-Nitroso-di-n-propylamine	621647	2.5E-1	4.5E+0	NA	2.0E-3	NA	0.2	1.0	0.1	1.0	1.4	23.8
N-Nitrosodiphenylamine	86306	2.5E-1	3.1E-3	NA	1.4E-6	NA	0.2	1.0	0.1	1.0	3.16	381

Attachment 1
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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
N-Methyl-morpholine (I)	109024	NR	NR	2.50E-7	0.08	8.0E-6	NA	NA	1.0E+9	Liquid	101.17
Methyl parathion	298000	NR	NR	1.10E-7	0.08	8.0E-6	NA	NA	50,000	Solid	263.23
4-Methyl-2-pentanone (MIBK) (I)	108101	NR	NR	1.20E-4	0.075	7.8E-6	NA	64	2.00E+7	Liquid	100.2
Methyl-tert-butyl ether (MTBE)	1634044	NR	NR	6.39E-4	0.08	8.0E-6	NA	NA	4.68E+7	Liquid	88.15
Methylcyclopentane (I)	96377	NR	NR	3.63E-1	0.08	8.0E-6	NA	NA	73,890	Liquid	84.16
4,4'-Methylene-bis-2-chloroaniline (MBOCA)	101144	NR	NR	4.10E-11	0.08	8.0E-6	NA	NA	14,000	Solid	267.17
Methylene chloride	75092	NR	NR	2.40E-3	0.101	1.17E-5	0.13	NA	1.70E+7	Liquid	50.5
2-Methylnaphthalene	91576	NR	NR	4.99E-4	0.08	8.0E-6	NA	NA	24,600	Solid	142.2
Methylphenols (J)	1319773	NR	NR	1.60E-6	0.074	8.3E-6	NA	178	2.80E+7	Solid	108.13
Metolachlor	51218452	NR	NR	9.90E-9	0.08	8.0E-6	NA	NA	5.30E+5	Liquid	283.83
Metribuzin	21087649	NR	NR	8.80E-2	0.08	8.0E-6	NA	NA	1.2E+6	Solid	214.29
Mirex	2385855	NR	NR	5.16E-4	0.08	8.0E-6	NA	NA	6.8E-6	Solid	545.54
Molybdenum (B)	7439987	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	95.94
Naphthalene	91203	NR	NR	4.83E-4	0.059	7.5E-6	0.009	174	31,000	Solid	128.17
Nickel (B)	7440020	NR	65	NR	NR	NR	NA	NA	NA	Inorganic	58.7
Nitrate (B,N)	14797558	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	62
Nitrite (B,N)	14797650	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	46
Nitrobenzene (I)	98953	NR	NR	2.40E-5	0.076	8.6E-6	NA	190	2.09E+6	Liquid	123.11
2-Nitrophenol	88755	NR	NR	3.50E-6	0.08	8.0E-6	NA	NA	2.50E+6	Solid	139.11
n-Nitroso-di-n-propylamine	621647	NR	NR	2.25E-6	0.0545	8.17E-6	NA	NA	9.89E+6	Liquid	130.22
N-Nitrosodiphenylamine	86306	NR	NR	5.00E-6	0.0312	6.35E-6	NA	NA	35,100	Solid	198.22

Attachment 1
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PART 213 TIER 1 RISK-BASED SCREENING LEVELS (RBSLs)
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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Oxamyl	23135220	3.8E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-0.47	0.508
Oxo-hexyl acetate	88230357	1.0E-2	NA	3.1E+1	NA	NA	0.2	1.0	0.1	1.0	NA	NA
Pendimethalin	40487421	1.2E-1	NA	NA	NA	NA	0.2	0.5	0.1	1.0	5.18	1.24E+5
Pentachlorobenzene	608935	8.3E-4	NA	NA	NA	NA	0.2	0.5	0.1	1.0	5.26	1.48E+5
Pentachloronitrobenzene	82688	7.5E-3	NA	5.0E+0	NA	NA	0.2	1.0	0.1	1.0	4.64	36,400
Pentachlorophenol	87865	3.0E-2	6.8E-2	1.0E+2	3.0E-5	NA	0.2	0.5	0.25	1.0	5.09	592
Pentane	109660	NA	NA	1.8E+4	NA	2.21E+6	0.2	1.0	0.1	1.0	3.42	2,300
2-Pentene (l)	109682	NA	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.58	344
pH	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR
Phenanthrene	85018	7.1E-3	NA	1.0E-1	NA	NA	0.2	1.0	0.1	1.0	4.6	33,300
Phenol	108952	6.0E-1	NA	6.0E+2	NA	NA	0.2	1.0	0.1	1.0	1.48	17.8
Phenytoin	57410	3.0E-2	5.1E-2	NA	1.4E-5	NA	0.2	1.0	0.1	1.0	2.47	1473
Phosphorus (Total)	7723140	1.1E+1	NA	1E+0	NA	NA	0.2	0.5	0.1	1.0	NR	NA
Phthalic acid	88993	1.9E+0	NA	NA	NA	NA	0.2	1.0	0.1	1.0	0.73	5.22
Phthalic anhydride	85449	2.1E+0	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.6	37.4
Picloram	1918021	7.0E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	0.3	1.97
Piperidine	110894	4.4E-4	NA	1.4E+2	NA	NA	0.2	1.0	0.1	1.0	0.84	6.7
Polybrominated biphenyls (J)	67774327	4.3E-6	7.2E+0	NA	NA	NA	0.2	0.5	0.1	1.0	7.07	8.91E+6
Polychlorinated biphenyls (PCBs) (J,T)	1336363	2.0E-5	2.0E+0	NA	6.0E-4	NA	0.2	0.5	0.14	1.0	5.58	3.06E+5
Prometon	1610180	2.2E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.99	870
Propachlor	1918167	1.3E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.01	94.6

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Oxamyl	23135220	NR	NR	2.37E-10	0.08	8.0E-6	NA	NA	2.80E+8	Solid	219.29
Oxo-hexyl acetate	88230357	NR	NR	NA	0.08	8.0E-6	NA	NA	NA	Liquid	144.2
Pendimethalin	40487421	NR	NR	8.56E-7	0.08	8.0E-6	NA	NA	275	Solid	281.31
Pentachlorobenzene	608935	NR	NR	8.40E-4	0.067	6.3E-6	NA	NA	650	Liquid	250.3
Pentachloronitrobenzene	82688	NR	NR	2.90E-2	0.08	8.0E-6	NA	NA	32	Solid	295.32
Pentachlorophenol	87865	592	NR	2.44E-8	0.056	6.1E-6	NA	NA	1.85E+6	Solid	266.32
Pentane	109660	NR	NR	1.26E+0	0.08	8.0E-6	0.015	-57	38,200	Liquid	72.15
2-Pentene (I)	109682	NR	NR	2.3E-1	0.08	8.0E-6	NA	NA	2.03E+5	Liquid	70.13
pH	NA	NR	NA	NR	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85018	NR	NR	2.3E-5	0.08	8.0E-6	NA	NA	1,000	Solid	178.24
Phenol	108952	NR	NR	3.97E-7	0.082	9.1E-6	0.018	175	8.28E+7	Liquid	147.01
Phenytoin	57410	NA	NR	1.02E-11	0.08	8.0E-6	NA	NA	3.2E+4	Solid	252.2718
Phosphorus (Total)	7723140	NR	NR	NR	0.08	8.0E-6	NA	NA	NA	Solid	30.974
Phthalic acid	88993	NR	NR	2.18E-12	0.08	8.0E-6	NA	NA	1.42E+7	Liquid	166.13
Phthalic anhydride	85449	NR	NR	1.63E-8	0.08	8.0E-6	1.7E+7	305	6.2E+6	Liquid	148.1
Picloram	1918021	NR	NR	4.05E-11	0.08	8.0E-6	NA	NA	4.30E+5	Solid	241.48
Piperidine	110894	NR	NR	4.45E-6	0.08	8.0E-6	NA	NA	1.0E+9	Liquid	85.15
Polybrominated biphenyls (J)	67774327	NR	NR	3.90E-6	0.08	8.0E-6	NA	NA	1.66E+7	Solid	NA
Polychlorinated biphenyls (PCBs) (J,T)	1336363	NR	NR	4.20E-4	0.08	8.0E-6	NA	NA	44.7	Solid	268.4
Prometon	1610180	NR	NR	1.98E-9	0.08	8.0E-6	NA	NA	7.50E+5	Solid	225.29
Propachlor	1918167	NR	NR	1.09E-7	0.08	8.0E-6	NA	NA	6.55E+5	Solid	211.69

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Propazine	139402	2.7E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.75	505
Propionic acid	79094	1.7E+0	NA	3.0E+2	NA	NA	0.2	1.0	0.1	1.0	0.28	1.89
Propyl alcohol (I)	71238	1.9E-1	NA	7.3E+2	NA	6.14E+5	0.2	1.0	0.1	1.0	0.25	1.89
n-Propylbenzene (I)	103651	1.1E-2	NA	2.0E+1	NA	NA	0.2	1.0	0.1	1.0	3.69	4,240
Propylene glycol	57556	2.0E+1	NA	6.0E+3	NA	NA	0.2	1.0	0.1	1.0	-0.92	0.125
Pyrene	129000	7.5E-2	NA	1.0E+2	NA	NA	0.2	0.5	0.1	1.0	5.11	1.06E+5
Pyridine (I)	110861	1.0E-3	NA	3.5E+0	NA	NA	0.2	1.0	0.1	1.0	0.67	4.56
Selenium (B)	7782492	5.0E-3	NA	2.0E+0	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Silver (B)	7440224	4.7E-3	NA	1.0E-1	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Silvex (2,4,5-TP)	93721	7.5E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	3.4	2,200
Simazine	122349	5.2E-3	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.93	79.0
Sodium	17341252	3.4E+1	NA	NA	NA	NA	0.1	0.5	0.01	1.0	NR	NR
Sodium azide	26628228	1.2E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	NA	NA
Strontium (B)	7440246	6.3E-1	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Styrene	100425	2.0E-1	1.3E-2	1.0E+3	5.7E-7	1.7E+5	0.2	1.0	0.1	1.0	2.94	777
Sulfate	14808798	NA	NA	NA	NA	NA	NA	0.5	0.1	1.0	NR	NR
Tebuthiuron	34014181	7.0E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	1.78	56.2
2,3,7,8-Tetrabromodibenzo-p-dio (O)	50585416	NA	7.5E+4	NA	NA	NA	0.2	0.5	0.03	1.0	7.24	1.31E+7
1,2,4,5-Tetrachlorobenzene	95943	3.4E-1	NA	1E+0	NA	NA	0.2	1.0	0.1	1.0	4.64	36,400
2,3,7,8-Tetrachlorodibenzo-p-dio (O)	1746016	NA	7.5E+4	2.0E-6	4.4E+1	NA	0.2	0.5	0.03	1.0	7.04	8.33E+6
1,1,1,2-Tetrachloroethane	630206	8.9E-2	1.1E-2	NA	7.4E-6	NA	0.2	1.0	0.1	1.0	2.63	145

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Hazardous Substance	Chemical Abstract Service Number	Soil Koc for Ionizing Organic Compounds at pH=6.8	Soil-Water Distribution Coefficients for Inorganic Compounds at pH=6.8 (Kd)	Henry's Law Constant at 25°C (HLC)	Air Diffusivity (D_i or D_a or D^{air})	Water Diffusivity (D_w)	Lower Explosive Limit in Air (LEL)	Flash Point (FP)	Water Solubility (S)	Physical State at Standard Temperature & Pressure	Molecular Weight (MW)
		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Propazine	139402	NR	NR	4.60E-9	0.08	8.0E-6	NA	NA	8,600	Solid	229.75
Propionic acid	79094	NR	NR	4.45E-7	0.08	8.0E-6	0.029	126	1.0E+9	Liquid	74.09
Propyl alcohol (I)	71238	NR	NR	7.41E-6	0.08	8.0E-6	0.022	72	1.0E+9	Liquid	60.11
n-Propylbenzene (I)	103651	NR	NR	NA	0.08	8.0E-6	NA	NA	NA	Liquid	120.19
Propylene glycol	57556	NR	NR	1.24E-8	0.08	8.0E-6	NA	NA	1.0E+9	Liquid	76.1
Pyrene	129000	NR	NR	1.10E-5	0.0272	7.24E-6	NA	NA	135	Solid	202.26
Pyridine (I)	110861	NR	NR	7.00E-3	0.091	7.6E-6	0.018	68	3.00E+5	Liquid	79.11
Selenium (B)	7782492	NR	5	NR	NR	NR	NA	NA	NA	Inorganic	78.96
Silver (B)	7440224	NR	8.3	NR	NR	NR	NA	NA	NA	Inorganic	107.868
Silvex (2,4,5-TP)	93721	NR	NR	1.30E-8	0.08	8.0E-6	NA	NA	1.40E+5	Solid	269.51
Simazine	122349	NR	NR	3.37E-9	0.08	8.0E-6	NA	NA	4,470	Solid	201.67
Sodium	17341252	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	23
Sodium azide	26628228	NR	NA	NA	0.08	8.0E-6	NA	NA	NA	Solid	65.01
Strontium (B)	7440246	NR	NA	NR	NA	NA	NA	NA	NA	Inorganic	87.62
Styrene	100425	NR	NR	2.75E-3	0.071	8.0E-6	0.009	88	3.10E+5	Liquid	104.15
Sulfate	14808798	NR	NA	NR	0.08	8.0E-6	NA	NA	NA	Inorganic	96.066
Tebuthiuron	34014181	NR	NR	2.40E-10	0.08	8.0E-6	NA	NA	2.50E+6	Solid	228.31
2,3,7,8-Tetrabromodibenzo-p-dio (O)	50585416	NR	NR	2.95E-7	0.08	8.0E-6	NA	NA	0.00996	Solid	499.6
1,2,4,5-Tetrachlorobenzene	95943	NR	NR	1.20E-3	0.08	8.0E-6	NA	NA	1,300	Solid	215.28
2,3,7,8-Tetrachlorodibenzo-p-dio (O)	1746016	NR	NR	9.20E-6	0.047	8.0E-6	NA	NA	0.019	Solid	322
1,1,1,2-Tetrachloroethane	630206	NR	NR	2.40E-3	0.071	7.9E-6	NA	NA	1.10E+6	Liquid	167.85

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Hazardous Substance	Chemical Abstract Service Number	Oral Reference Dose (RFD)	Oral Slope Factor (SF)	Chronic Inhalation Reference Concentration (RfC)	Inhalation Unit Risk Factor (IURF)	Occupational Short Term Exposure Level (STEL)	Relative Source Contribution for Drinking Water (RSC)	Ingestion Absorption Efficiency (AEi)	Dermal Absorption Efficiency (AEd)	Relative Source Contribution for Soil (RSC)	Log Octanol-Water Partition Coefficient (Log Kow)	Soil Organic Carbon-Water Partition Coefficients for Organic Compounds (Koc)
		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
1,1,2,2-Tetrachloroethane	79345	NA	1.0E-1	NA	5.8E-5	NA	0.2	1.0	0.1	1.0	2.39	93.5
Tetrachloroethylene	127184	1.0E-2	2.6E-2	4.0E+1	5.8E-7	6.85E+5	0.2	1.0	0.1	1.0	2.67	156
Tetrahydrofuran	109999	1.3E-2	NA	5.9E+3	2.0E-6	7.37E+5	0.2	1.0	0.1	1.0	0.46	2.83
Tetranitromethane	509148	NA	NA	4E-1	1.5E-2	NA	0.2	NA	NA	1.0	-2.05	9.66E-3
Thallium (B)	7440280	6.7E-5	NA	0.2	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Toluene (I)	108883	2.2E-1	NA	4.0E+2	NA	NA	0.2	1.0	0.1	1.0	2.75	180
p-Toluidine	106490	NA	5.6E-2	NA	3.1E-5	NA	0.2	1.0	0.1	1.0	1.39	23.3
Total dissolved solids (TDS)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NR
Toxaphene	8001352	NA	4.4E-1	NA	3.2E-4	1.0E+3	0.2	0.5	0.1	1.0	5.5	2.55E+5
Triallate	2303175	1.3E-2	NA	NA	NA	NA	0.2	1.0	0.1	1.0	4.57	31,100
Tributylamine	102829	3.5E-3	NA	7.0E+0	NA	NA	0.2	1.0	0.1	1.0	4.46	24,200
1,2,4-Trichlorobenzene	120821	1.5E-2	NA	3.7E+2	NA	3.7E+4	0.2	1.0	0.1	1.0	4.01	1,790
1,1,1-Trichloroethane	71556	2.2E+0	NA	1.0E+3	NA	2.46E+6	0.2	1.0	0.1	1.0	2.48	110
1,1,2-Trichloroethane	79005	3.9E-3	2.9E-2	NA	1.6E-5	NA	0.2	1.0	0.1	1.0	2.05	50.3
Trichloroethylene	79016	1.7E-3	1.0E-2	2.0E+0	1.7E-6	5.37E+5	0.2	1.0	0.1	1.0	2.71	168
Trichlorofluoromethane	75694	3.5E-1	NA	5.62E+4	NA	5.62E+6	0.2	1.0	0.1	1.0	2.53	121
2,4,5-Trichlorophenol	95954	1.0E-1	NA	3.5E+2	NA	NA	0.2	1.0	0.1	1.0	3.9	1,597
2,4,6-Trichlorophenol	88062	NA	7.4E-3	NA	3.1E-6	NA	0.2	1.0	0.1	1.0	3.7	381
1,2,3-Trichloropropane	96184	5.7E-3	NA	0.3	NA	NA	0.2	1.0	0.1	1.0	2.26	167
1,1,2-Trichloro-1,2,2-trifluoroetha	76131	2.7E+1	NA	7.67E+4	NA	9.59E+6	0.2	1.0	0.1	1.0	3.15	1,250
Triethanolamine	102716	5.0E-1	NA	5.0E+1	NA	NA	0.2	1.0	0.1	1.0	-1.38	0.044

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		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
1,1,2,2-Tetrachloroethane	79345	NR	NR	3.45E-4	0.071	7.9E-6	NA	NA	2.97E+6	Liquid	167.85
Tetrachloroethylene	127184	NR	NR	1.84E-2	0.072	8.2E-6	NA	NA	2.0E+5	Liquid	165.83
Tetrahydrofuran	109999	NR	NR	9.63E-3	0.08	8.0E-6	0.02	6.0	1.0E+9	Liquid	72.12
Tetranitromethane	509148	NR	NR	2.60E-5	0.08	8.0E-6	NA	NA	85,000	Liquid	196.03
Thallium (B)	7440280	NR	71	NR	NR	NR	NA	NA	NA	Inorganic	204.383
Toluene (I)	108883	NR	NR	6.64E-3	0.087	8.6E-6	0.011	40	5.26E+5	Liquid	92.14
p-Toluidine	106490	NR	NR	6.10E-6	0.08	8.0E-6	NA	188	7.60E+6	Liquid	107.17
Total dissolved solids (TDS)	NA	NR	NA	NR	NA	NA	NA	NA	NA	NA	NA
Toxaphene	8001352	NR	NR	6.00E-6	0.0116	4.34E-6	NA	NA	740	Solid	414
Triallate	2303175	NR	NR	1.93E-5	0.08	8.0E-6	NA	NA	4,000	Liquid	304.66
Tributylamine	102829	NR	NR	5.60E-3	0.08	8.0E-6	NA	NA	75,400	Liquid	185.4
1,2,4-Trichlorobenzene	120821	NR	NR	1.42E-3	0.03	8.23E-6	NA	222	3.00E+5	Liquid	181.45
1,1,1-Trichloroethane	71556	NR	NR	1.72E-2	0.078	8.8E-6	0.075	NA	1.33E+6	Liquid	133.4
1,1,2-Trichloroethane	79005	NR	NR	9.13E-4	0.078	8.8E-6	0.06	NA	4.42E+6	Liquid	133.4
Trichloroethylene	79016	NR	NR	1.03E-2	0.079	9.1E-6	0.08	NA	1.10E+6	Liquid	131.39
Trichlorofluoromethane	75694	NR	NR	1.3E-1	0.087	9.7E-6	NA	NA	1.10E+6	Liquid	137.38
2,4,5-Trichlorophenol	95954	1,597	NR	4.33E-6	0.0291	7.03E-6	NA	NA	1.20E+6	Solid	197.5
2,4,6-Trichlorophenol	88062	381	NR	7.79E-6	0.0318	6.25E-6	NA	NA	8.00E+5	Solid	197.5
1,2,3-Trichloropropane	96184	NR	NR	3.80E-4	0.071	7.9E-6	NA	160	1.90E+6	Liquid	147.43
1,1,2-Trichloro-1,2,2-trifluoroetha	76131	NR	NR	5.30E-1	0.078	8.2E-6	NA	NA	1.70E+5	Liquid	187.38
Triethanolamine	102716	NR	NR	3.38E-19	0.08	8.0E-6	NA	NA	1.0E+9	Liquid	149.19

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		mg/Kg-day	$(mg/Kg\text{-}day)^{-1}$	ug/m^3	$(ug/m^3)^{-1}$	ug/m^3	unitless	unitless	unitless	unitless	unitless	L/Kg
Triethylene glycol	112276	5.9E-1	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-1.69	0.0218
3-Trifluoromethyl-4-nitrophenol	88302	6.2E-1	NA	NA	NA	NA	0.2	1.0	0.1	1.0	2.87	663
Trifluralin	1582098	5.1E-3	4.5E-3	NA	NA	NA	0.2	0.5	0.1	1.0	5.3	1.62E+5
2,2,4-Trimethyl pentane	540841	NA	NA	3.5E+3	NA	NA	0.2	1.0	0.1	1.0	4.09	2,080
2,4,4-Trimethyl-2-pentene (I)	107404	NA	NA	NA	NA	NA	0.2	1.0	0.1	1.0	4.0	1,760
1,2,4-Trimethylbenzene (I)	95636	1.4E-1	NA	1.23E+3	NA	NA	0.2	1.0	0.1	1.0	3.67	965
1,3,5-Trimethylbenzene (I)	108678	1.4E-1	NA	1.23E+3	NA	NA	0.2	1.0	0.1	1.0	3.5	708
Triphenyl phosphate	115866	1.6E-1	NA	NA	NA	NA	0.2	1.0	0.1	1.0	4.67	39,000
tris(2,3-Dibromopropyl)phosphate	126727	NA	1.2E+0	NA	5.3E-4	NA	0.2	1.0	0.1	1.0	3.51	2,820
Urea	57136	NA	NA	NA	NA	NA	0.2	1.0	0.1	1.0	-2.11	0.0256
Vanadium	7440622	5.0E-3	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Vinyl acetate (I)	108054	8.8E-2	NA	2.0E+2	NA	5.3E+4	0.2	1.0	0.1	1.0	0.73	5.22
Vinyl chloride	75014	3.0E-3	1.4E+0	1.0E+2	8.8E-6	NA	0.2	1.0	0.1	1.0	1.5	18.5
White phosphorus (R)	12185103	1.5E-5	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR
Xylenes (I)	1330207	1.8E+0	NA	4.4E+3	NA	6.51E+5	0.2	1.0	0.1	1.0	3.11	348
Zinc (B)	7440666	3.3E-1	NA	NA	NA	NA	0.2	0.5	0.01	1.0	NR	NR

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		L/Kg	L/Kg	atm-m^3/mol	cm^2/s	cm^2/s	unitless	°F	ug/L	unitless	g/mol
Triethylene glycol	112276	NR	NR	2.61E-10	0.0427	8.06E-6	NA	NA	1.00E+6	Liquid	150.17
3-Trifluoromethyl-4-nitrophenol	88302	NR	NR	1.92E-8	0.08	8.0E-6	NA	NA	5.00E+6	Solid	207
Trifluralin	1582098	NR	NR	2.60E-5	0.08	8.0E-6	NA	NA	8,100	Solid	335.29
2,2,4-Trimethyl pentane	540841	NR	NR	3.13E+0	0.08	8.0E-6	0.011	10	2,330	Liquid	114.23
2,4,4-Trimethyl-2-pentene (I)	107404	NR	NR	8.81E-1	0.08	8.0E-6	NA	NA	11,900	Liquid	112.2
1,2,4-Trimethylbenzene (I)	95636	NR	NR	5.87E-3	0.08	8.0E-6	0.009	112	55,890	Liquid	120.2
1,3,5-Trimethylbenzene (I)	108678	NR	NR	7.38E-3	0.08	8.0E-6	NA	122	61,150	Liquid	120.2
Triphenyl phosphate	115866	NR	NR	3.60E-7	0.08	8.0E-6	NA	NA	1,430	Liquid	326.3
tris(2,3-Dibromopropyl)phosphate	126727	NR	NR	3.00E-5	0.08	8.0E-6	NA	NA	4,700	Liquid	697.67
Urea	57136	NR	NR	NR	0.08	8.0E-6	NA	NA	NA	Solid	60.07
Vanadium	7440622	NR	1,000	NR	NR	NR	NA	NA	NA	Inorganic	50.942
Vinyl acetate (I)	108054	NR	NR	5.11E-4	0.085	9.2E-6	0.026	18	2.00E+7	Liquid	86.09
Vinyl chloride	75014	NR	NR	2.70E-2	0.106	1.23E-5	0.036	NA	2.76E+6	Liquid	62.5
White phosphorus (R)	12185103	NR	NA	NR	NR	NR	NA	NA	NA	Inorganic	123.9
Xylenes (I)	1330207	NR	NR	6.04E-3	0.078	3.21E-5	NA	NA	1.86E+5	Liquid	106.17
Zinc (B)	7440666	NR	62	NR	NR	NR	NA	NA	NA	Inorganic	65.39

FOOTNOTES
for
Part 201 Criteria and Part 213 Risk-Based Screening Levels
Document Release Date: September 28, 2012

(A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion. Background levels may be less than criteria for some inorganic compounds.

(C) Value presented is a screening level based on the chemical-specific generic soil saturation concentration (C_{sat}) since the calculated risk-based criterion is greater than C_{sat}. Concentrations greater than C_{sat} are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.

(D) Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

(E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in the following table:

Hazardous Substance	Chemical Abstract Service Number	Residential Health-Based Drinking Water Value	Non-Residential Health-Based Drinking Water Value
Aluminum	7429905	300	4,100
tertiary Amyl methyl ether	994058	910	2,600
Copper	7440508	1,400	4,000
Diethyl ether	60297	3,700	10,000
Ethylbenzene	100414	700	700
Iron	7439896	2,000	5,600
Manganese	7439965	860	2,500
Methyl-tert-butyl ether (MTBE)	1634044	240	690
Toluene	108883	1,000	1,000
1,2,4-Trimethylbenzene	95636	1,000	2,900
1,3,5-Trimethylbenzene	108678	1,000	2,900
Xylenes	1330207	10,000	10,000

(F) Criterion is based on adverse impacts to plant life and phytotoxicity.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg $CaCO_3$/L, use 400 mg $CaCO_3$/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of

the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	FCV Formula ug/L	FCV Conversion Factor (CF)	WV ug/L	HNDV ug/L
Acetate	EXP(0.2732*(pH) + 7.0362)	NA	NA	1.3E+6
Acetic Acid	EXP(0.2732*(pH) + 7.0362)	NA	NA	1.3E+6
Barium	EXP(1.0629*(LnH)+1.1869)	NA	NA	1.6E+5
Beryllium	EXP(2.5279*(LnH)-10.7689)	NA	NA	1,200
Cadmium$^{\otimes}$	(EXP(0.7852*(LnH)-2.715))*CF	1.101672-((LnH)*(0.041838))	NA	130
Chromium (III) $^{\otimes}$	(EXP(0.819*(LnH)+0.6848))*CF	0.86	NA	9,400
Copper	(EXP(0.8545*(LnH)-1.702)) *CF	0.96	NA	38,000
Lead$^{\otimes}$	(EXP(0.9859*(LnH)-1.270))*CF	1.46203-((LnH)*(0.14571))	NA	190
Manganese$^{\otimes}$	EXP(0.8784*(LnH)+3.5385)	NA	NA	59,000
Nickel	(EXP(0.846*(LnH)+0.0584))*CF	0.997	NA	2.1E+5
Pentachlorophenol$^{\otimes}$	EXP(1.005*(pH)-5.134)	NA	NA	2.8
Zinc	(EXP(0.8473*(LnH)+0.884))*CF	0.986	NA	16,000

where,

EXP(x) = The base of the natural logarithm raised to power x (e^x).
LnH = The natural logarithm of water hardness in mg $CaCO_3$/L.
* = The multiplication symbol.
$^{\otimes}$ = The GSI criterion developed here may not be protective for surface water that is used as a drinking water source. Refer to footnote (X) for further guidance.

A spreadsheet that may be used to calculate GSI and GSI protection criteria for (G)-footnoted hazardous substances is available on the Department of Environmental Quality (DEQ) internet web site.

(H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/L. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the DEQ, Remediation and Redevelopment Division (RRD), 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(K) Hazardous substance may be flammable or explosive, or both.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in the following table:

Acceptable Combinations of Lead in Drinking Water and Soil

Drinking Water Concentration (ug/L)	Soil Concentration (mg/kg)
5	386-395
6	376-385
7	376-385
8	366-375
9	356-365
10	346-355
11	336-345
12	336-345
13	326-335
14	316-325
15	306-315

(M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(N) The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater that is used as a source of drinking water shall not, when added together, exceed the nitrate drinking water criterion of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen shall not, when added together, exceed the nitrate drinking water protection criterion of 2.0E+5 ug/kg.

(O) The concentration of all polychlorinated and polybrominated dibenzodioxin and dibenzofuran isomers present at a facility, expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based upon their relative potency, shall be added together and compared to the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin. The generic cleanup criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin are not calculated according to the algorithms presented in R 299.5714 to R 299.5726. The generic cleanup criteria are being held at the values that the DEQ has used since August 1998, in recognition of

the fact that national efforts to reassess risks posed by dioxin are not yet complete. Until these studies are complete, it is premature to select a revised slope factor and/or reference dose for calculation of generic cleanup criteria.

(P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Nonresidential direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.

(Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

(R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001), which is adopted by reference in these rules and is available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the DEQ, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(T) Refer to the federal Toxic Substances Control Act (TSCA), 40 C.F.R. §761, Subpart D and 40 C.F.R. §761, Subpart G, to determine the applicability of TSCA cleanup standards. Subpart D and Subpart G of 40 C.F.R. §761 (July 1, 2001) are adopted by reference in these rules and are available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan. Copies of the regulations may be purchased, at a cost as of the time of adoption of these rules of $55, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401, or from the DEQ, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost. Alternatives to compliance with the TSCA standards listed below are possible under 40 C.F.R. §761 Subpart D. New releases may be subject to the standards identified in 40 C.F.R. §761, Subpart G. Use Part 201 soil direct contact cleanup criteria in the following table if TSCA standards are not applicable.

Land Use Category	TSCA, Subpart D Cleanup Standards	Part 201 Soil Direct Contact Cleanup Criteria
Residential	1,000 ppb, or 10,000 ppb if capped	4,000 ppb
Nonresidential	1,000 ppb, or 10,000 ppb if capped	16,000 ppb

(U) Hazardous substance may exhibit the characteristic of corrosivity as defined in 40 C.F.R. §261.22 (revised as of July 1, 2001), which is adopted by reference in

these rules and is available for inspection at the DEQ, 525 West Allegan Street, Lansing, Michigan. Copies of the regulation may be purchased, at a cost as of the time of adoption of these rules of $45, from the Superintendent of Documents, Government Printing Office, Washington, DC 20401 (stock number 869-044-00155-1), or from the DEQ, RRD, 525 West Allegan Street, Lansing, Michigan 48933, at cost.

(V) Criterion is the aesthetic drinking water value as required by Section 20120(a)(5) of the NREPA. Concentrations up to 200 ug/L may be acceptable, and still allow for drinking water use, as part of a site-specific cleanup under Section 20120a(2) of the NREPA.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. See formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	Chemical Abstract Service Number	Surface Water Human Drinking Water Values (HDV) (ug/L)	Soil GSI Protection Criteria for HDV (ug/kg)
Acrylamide	79061	0.5 (M); 0.12	10
Alachlor	15972608	3.5	88
Antimony	7440360	2.0 (M); 1.7	1,200
Benzene	71432	12	240
Boron	7440428	4,000	80,000
Bromate	15541454	10 (M); 0.5	200
n-Butanol	71363	3,500	70,000
Butyl benzyl phthalate	85687	6.9	13,000
Cadmium	7440439	2.5*	*
Carbon tetrachloride	56235	5.6	110
Chloride	16887006	50,000	1.0E+6
Chloroethane	75003	170	3,400
Chromium (III)	16065831	120*	*
Cyanazine	21725462	2.0 (M); 0.93	200 (M); 40
1,2-Dichloroethane	107062	6.0	120
trans-1,2-Dichloroethylene	156605	470	9,400
1,2-Dichloropropane	78875	9.1	180
1,3-Dichloropropene	542756	3.3	100 (M); 66
N,N-Dimethylacetamide	127195	700	14,000
1,4-Dioxane	123911	34	680
Ethylene dibromide	106934	0.17	20 (M); 3.4
Ethylene glycol	107211	56,000	1.1E+6
Hexachloroethane	67721	5.3	310
Isophorone	78591	310	6,200
Isopropyl alcohol	67630	28,000	5.6E+5
Lead	7439921	14*	*
Manganese	7439965	1,300*	*
Methanol	67561	14,000	2.8E+5
Methyl-tert-butyl ether (MTBE)	1634044	100	2,000
Methylene chloride	75092	47	940
Molybdenum	7439987	120	2,400
Nitrobenzene	98953	4.7	330 (M); 94
Pentachlorophenol	87865	1.8*	*
Styrene	100425	20	530
1,2,4,5-Tetrachlorobenzene	95943	2.8	3,300
1,1,2,2-Tetrachloroethane	79345	3.2	64
Tetrachloroethylene	127184	11	220
Tetrahydrofuran	109999	350	7,000
Thallium	7440280	2.0 (M); 1.2	1,400
1,2,4-Trichlorobenzene	120821	80	4,700
1,1,2-Trichloroethane	79005	12	240
Trichloroethylene	79016	29	580
Vinyl chloride	75014	1.0 (M); 0.25	40 (M); 20

(Y) Source size modifiers shown in the following table shall be used to determine soil inhalation criteria for ambient air when the source size is not one-half acre. The modifier shall be multiplied by the generic soil inhalation criteria shown in the

table of generic cleanup criteria to determine the applicable criterion.

Source Size sq. feet or acres	Modifier
400 sq feet	3.17
1000 sq feet	2.2
2000 sq feet	1.76
1/4 acre	1.15
1/2 acre	1
1 acre	0.87
2 acre	0.77
5 acre	0.66
10 acre	0.6
32 acre	0.5
100 acre	0.43

(Z) Mercury is typically measured as total mercury. The generic cleanup criteria, however, are based on data for different species of mercury. Specifically, data for elemental mercury, chemical abstract service (CAS) number 7439976, serve as the basis for the soil volatilization to indoor air criteria, groundwater volatilization to indoor air, and soil inhalation criteria. Data for methyl mercury, CAS number 22967926, serve as the basis for the GSI criterion; and data for mercuric chloride, CAS number 7487947, serve as the basis for the drinking water, groundwater contact, soil direct contact, and the groundwater protection criteria. Comparison to criteria shall be based on species-specific analytical data only if sufficient facility characterization has been conducted to rule out the presence of other species of mercury.

(AA) Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

(BB) The state drinking water standard for asbestos is in units of fibers per milliliter of water (f/mL) longer than 10 millimicrons. Soil concentrations of asbestos are determined by polarized light microscopy.

(CC) Groundwater: The generic GSI criteria are based on the toxicity of unionized ammonia (NH_3); the criteria are 29 ug/L and 53 ug/L for cold water and warm water surface water, respectively. As a result, the GSI criterion shall be compared to the percent of the total ammonia concentration in the groundwater that will become NH_3 in the surface water. This percent NH_3 is a function of the pH and temperature of the receiving surface water and can be estimated using the following table, taken from Emerson, et al., (Journal of the Fisheries Research Board of Canada, Volume 32(12):2382, 1975).

Percent NH_3 in Aqueous Ammonia Solutions for 0-30 ^oC and pH 6-10

Temp (^oF)	Temp (^oC)	pH 6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
32.0	0	0.00827	0.0261	0.0826	0.261	0.820	2.55	7.64	20.7	45.3
33.8	1	0.00899	0.0284	0.0898	0.284	0.891	2.77	8.25	22.1	47.3
35.6	2	0.00977	0.0309	0.0977	0.308	0.968	3.00	8.90	23.6	49.4
37.4	3	0.0106	0.0336	0.106	0.335	1.05	3.25	9.60	25.1	51.5
39.2	4	0.0115	0.0364	0.115	0.363	1.14	3.52	10.3	26.7	53.5
41.0	5	0.0125	0.0395	0.125	0.394	1.23	3.80	11.1	28.3	55.6
42.8	6	0.0136	0.0429	0.135	0.427	1.34	4.11	11.9	30.0	57.6
44.6	7	0.0147	0.0464	0.147	0.462	1.45	4.44	12.8	31.7	59.5
46.4	8	0.0159	0.0503	0.159	0.501	1.57	4.79	13.7	33.5	61.4
48.2	9	0.0172	0.0544	0.172	0.542	1.69	5.16	14.7	35.3	63.3
50.0	10	0.0186	0.0589	0.186	0.586	1.83	5.56	15.7	37.1	65.1
51.8	11	0.0201	0.0637	0.201	0.633	1.97	5.99	16.8	38.9	66.8
53.6	12	0.0218	0.0688	0.217	0.684	2.13	6.44	17.9	40.8	68.5
55.4	13	0.0235	0.0743	0.235	0.738	2.30	6.92	19.0	42.6	70.2
57.2	14	0.0254	0.0802	0.253	0.796	2.48	7.43	20.2	44.5	71.7
59.0	15	0.0274	0.0865	0.273	0.859	2.67	7.97	21.5	46.4	73.3
60.8	16	0.0295	0.0933	0.294	0.925	2.87	8.54	22.8	48.3	74.7
62.6	17	0.0318	0.101	0.317	0.996	3.08	9.14	24.1	50.2	76.1
64.4	18	0.0343	0.108	0.342	1.07	3.31	9.78	25.5	52.0	77.4
66.2	19	0.0369	0.117	0.368	1.15	3.56	10.5	27.0	53.9	78.7
68.0	20	0.0397	0.125	0.396	1.24	3.82	11.2	28.4	55.7	79.9
69.8	21	0.0427	0.135	0.425	1.33	4.10	11.9	29.9	57.5	81.0
71.6	22	0.0459	0.145	0.457	1.43	4.39	12.7	31.5	59.2	82.1
73.4	23	0.0493	0.156	0.491	1.54	4.70	13.5	33.0	60.9	83.2
75.2	24	0.0530	0.167	0.527	1.65	5.03	14.4	34.6	62.6	84.1
77.0	25	0.0569	0.180	0.566	1.77	5.38	15.3	36.3	64.3	85.1
78.8	26	0.0610	0.193	0.607	1.89	5.75	16.2	37.9	65.9	85.9
80.6	27	0.0654	0.207	0.651	2.03	6.15	17.2	39.6	67.4	86.8
82.4	28	0.0701	0.221	0.697	2.17	6.56	18.2	41.2	68.9	87.3
84.2	29	0.0752	0.237	0.747	2.32	7.00	19.2	42.9	70.4	88.3
86.0	30	0.0805	0.254	0.799	2.48	7.46	20.3	44.6	71.8	89.0

The generic approach for estimating NH_3 assumes a default pH of 8 and default temperatures of 68°F and 85°F for cold water and warm water surface water, respectively. The resulting percent NH_3 is 3.8 percent and 7.2 percent for cold water and warm water, respectively. This default percentage shall be multiplied by the total ammonia-nitrogen (NH_3-N) concentration in the groundwater and the resulting NH_3 concentration compared to the applicable GSI criterion. As an

alternative, the maximum pH and temperature data from the specific receiving surface water can be used to estimate, from the table in this footnote, a lower percent unionized ammonia concentration for comparison to the generic GSI.

Soil: The generic soil GSI protection criteria for unionized ammonia are 580 ug/kg and 1,100 ug/kg for cold water and warm water surface water, respectively.

(DD) Hazardous substance causes developmental effects. Residential direct contact criteria are protective of both prenatal and postnatal exposure. Nonresidential direct contact criteria are protective for a pregnant adult receptor.

(EE) The following are applicable generic GSI criteria as required by Section 20120a(15) of the NREPA.

Hazardous Substance	GSI (ug/L)	Notes
Phosphorus	1,000	Criteria applicable unless receiving water is a surface water that has a phosphorus waste load allocation or is an inland lake. In those cases, contact the department for applicable values.
Total dissolved solids (TDS)	5.0E+5	If TDS data are not available, the TDS criterion may be used a screening level for the sum of the concentrations of the following substances: Calcium, Chlorides, Iron, Magnesium, Potassium, Sodium, Sulfate.
Dissolved Oxygen (DO): Cold receiving waters Warm receiving waters	 ≥ 7,000 ≥ 5,000	Since a low level of DO can be harmful to aquatic life, the criterion represents a minimum level that on-site samples must exceed. This is in contrast to other criteria which represent "not to exceed" concentrations. DO criteria are not applicable if groundwater Carbonaceous Biochemical Oxygen Demand (CBOD) is less than 10,000 ug/L and groundwater ammonia concentration is less than 2,000 ug/L.

(FF) The chloride GSI criterion shall be 125 mg/l when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/l when the discharge is to the Great Lakes or connecting waters. Chloride GSI criteria shall not apply for surface waters of the state that are not designated as a public water supply source, however, the total dissolved solids criterion is applicable.

(GG) Risk-based criteria are not available for methane due to insufficient toxicity data. An acceptable soil gas concentration (presented for both residential and nonresidential land uses) was derived utilizing 25 percent of the lower explosive level for methane. This equates to 1.25 percent or 8.4E+6 ug/m^3.

"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background and CAS numbers, not applicable.
"NLL" means hazardous substance is not likely to leach under most soil conditions.
"NLV" means hazardous substance is not likely to volatilize under most conditions.

Michigan Department of Environment, Great Lakes, and Energy
Materials Management Division

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Required and Recommended Minimum Laboratory Analyte List for Groundwater Analysis

Below is the minimum laboratory PFAS analyte list for groundwater analysis. The list includes PFAS compounds that are currently required to be tested for under the current Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), as well as PFAS compounds that are currently recommended. The PFAS compounds that are currently recommended for analysis in groundwater are recommended due to potential human health impacts. These compounds can be tested for using the United States Environmental Protection Agency (EPA) Method 8327, Modified EPA Method 537.1, or ASTM Method D7979.

Acronym / Analyte Name	Molecular Formula	CAS Number	EPA Method 8327, Modified EPA 537.1 Method, ASTM D7979
Required PFAS Compounds Under the NREPA			
PFNA **Perfluorononanoic acid**	$C_8F_{17}COOH$	375-95-1	X
PFOA **Perfluorooctanoic acid**	$C_7F_{15}COOH$	335-67-1	X
PFHxA **Perfluorohexanoic acid**	$C_5F_{11}COOH$	307-24-4	X
PFOS **Perfluorooctanesulfonic acid**	$C_8F_{17}SO_3H$	1763-23-1	X
PFHxS **Perfluorohexanesulfonic acid**	$C_6F_{13}SO_3H$	355-46-4	X
PFBS **Perfluorobutanesulfonic acid**	$C_4F_9SO_3H$	375-73-5	X
HFPO-DA **Hexafluoropropylene oxide dimer acid**	$C_6HF_{11}O_3$	13252-13-6	X
Recommended PFAS Compounds			
PFTeDA Perfluorotetradecanoic acid	$C_{13}F_{27}COOH$	376-06-7	X
PFTrDA Perfluorotridecanoic acid	$C_{12}F_{25}COOH$	72629-94-8	X
PFDoA Perfluorododecanoic acid	$C_{11}F_{23}COOH$	307-55-1	X
PFUnA Perfluoroundecanoic acid	$C_{10}F_{21}COOH$	2058-94-8	X

PFDA Perfluorodecanoic acid	$C_9F_{19}COOH$	335-76-2	X
PFHpA Perfluoroheptanoic acid	$C_6F_{13}COOH$	375-85-9	X
PFPeA Perfluoropentanoic acid	C_4F_9COOH	2706-90-3	X
PFBA Perfluorobutanoic acid	C_3F_7COOH	375-22-4	X
PFDS Perfluorodecanesulfonic acid	$C_{10}F_{21}SO_3H$	335-77-3	X
PFNS Perfluorononanesulfonic acid	$C_9F_{19}SO_3H$	68259-12-1	X
PFHpS Perfluoroheptanesulfonic acid	$C_7F_{15}SO_3H$	375-92-8	X
PFPeS Perfluoropentanesulfonic acid	$C_5F_{11}SO_3H$	2706-91-4	X
PFOSA Perfluorooctanesulfonamide	$C_8F_{17}SO_2NH_2$	754-91-6	X
8:2 FTS Fluorotelomer sulfonic acid 8:2	$C_8F_{17}CH_2CH_2SO_3$	39108-34-4	X
6:2 FTS Fluorotelomer sulfonic acid 6:2	$C_6F_{13}CH_2CH_2SO_3$	27619-97-2	X
4:2 FTS Fluorotelomer sulfonic acid 4:2	$C_4F_9CH_2CH_2SO_3$	757124-72-4	X
NEtFOSAA 2-(N-Ethylperfluorooctanesulfonamido) acetic acid	$C_8F_{17}SO_2N(C_2H_5)$ CH_2COOH	2991-50-6	X
NMeFOSAA 2-(N-Methylperfluorooctanesulfonamido) acetic acid	$C_8F_{17}SO_2N(CH_3)$ $CHCOOH$	2355-31-9	X
11Cl-PF3OUdS 11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	$C_{10}HF_{20}ClSO_4$	763051-92-9	X
9Cl-PF3ONS 9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid	$C_8HF_{16}ClSO_4$	756426-58-1	X
ADONA 4,8-dioxa-3H-perfluorononanoic acid	$C_7H_2F_{12}O_4$	919005-14-4	X
PFECHS Perfluoro-4-ethylcyclohexanesulfonic acid	$C_8HF_{15}O_3S$	133201-07-7	X
PFBSA Perfluorobutylsulfonamide	$C_4H_2F_9NO_2S$	30334-69-1	X
PFHxSA Perfluorohexanesulfonamide	$C_6H_2F_{13}NO_2S$	41997-13-1	X