CIRCULAR WQB-7

MONTANA
NUMERIC WATER QUALITY STANDARDS

Montana Department of Environmental Quality
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This document contains numeric water quality standards for Montana's surface and ground waters. Numeric standards which vary with use classifications, including fecal coliforms, color, turbidity, pH, and temperature are given in the surface water quality standards (17.30.620 through 17.30.637 of the Administrative Rules of Montana [ARM]). The surface water quality standards, and the ground water standards (ARM 17.30.1001 through 17.30.1045) also contain narrative standards. These narrative standards apply to substances or conditions for which sufficient information does not exist to develop specific numeric standards or which vary from site-to-site.

Narrative standards include alkalinity, chloride, hardness, sediment, sulfate, total dissolved solids and nutrients (for surface water) and any other substance or condition which may impair the uses of surface or ground water.

These standards were developed to comply with the Montana Water Quality Act requirement that standards be adopted to protect the present and future most beneficial uses of state waters (§ 75-5-301, MCA). The Federal Clean Water Act (CWA) requires states to adopt numeric water quality standards for priority toxic pollutants for which EPA has issued CWA section 304(a) criteria guidance and whose presence or discharge could reasonably be expected to interfere with designated uses. In addition, the Montana Agricultural Chemical Ground Water Protection Act (§ 80-15-201, MCA) requires the adoption of ground water standards for a selected list of pesticides.

The Montana Water Quality Act requires that human health standards for carcinogens be the more restrictive of the one in one hundred thousand (one in one thousand for arsenic) excess lifetime cancer risk level or EPA's drinking water maximum contaminant level (MCL). The Montana Agricultural Chemical Ground Water Protection Act requires that MCLs be adopted as ground water standards for pesticides. This Act requires the standards be based on MCLs if MCLs are available. If no MCLs or other federal standards are available, standards must be developed using available data on health effects [reference doses (RfDs)] and standard assumptions. These assumptions are that 2 liters of water are consumed per day and seventy kilogram adults are exposed for 70 years with twenty percent of the exposure due to the consumption of water. In some cases no data was found for a pesticide in surface water. In these cases, the ground water standard was adopted as a surface water standard.

The Integrated Risk Information System (IRIS) or other federal data sources were used when the EPA's October 1996 list of Drinking Water Regulations and Health Advisories (1996 EPA list) did not include data for a pesticide.

EPA has published priority pollutant (PP) criteria in numerous publications. These include, *EPA, 1986 Quality Criteria for Water, EPA 440/5/86-001 (the "Gold Book")* and numerous updates. *Toxics Criteria for those States not Complying with Clean Water Act § 303(c)(2)(B), [The National Toxics Rule (NTR)]*, which was published in the *Code of Federal Regulations, 40 CFR 131.36 (1992)*. The most recent publication is, *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; proposed at 62 F.R. 42159 (1997)*. The most recent PP criteria for each priority pollutant was used to develop this circular.

The standards for aquatic life are based on the most recent PP criteria. The surface water quality standards for human health for toxins are the more restrictive of the MCLs or the PP criteria. The ground water standards for human health for toxins are based on the least restrictive of the MCLs or the PP criteria. Because the PP criteria include exposure due to

consumption of contaminated aquatic organisms while the MCLs and the RfDs do not, the human health standards for surface and ground water frequently differ. If neither MCLs nor PP criteria for human health were available, RfDs in the October 1996 EPA list, or if necessary from other sources, were used to compute standards using the assumptions given above.

For carcinogens, the standards are the more restrictive of the criteria based on cancer risk (at the risk levels given above) or the criteria based on toxic effects. For ground water the risk based levels given in the drinking water regulations and the health advisories were used. For surface water the risk based levels given in the PP criteria list were used. In some cases substances are known to be carcinogenic but no risk levels are available. In these cases standards are based on toxic effects.

CIRCULAR WQB-7 will be updated as additional information becomes available. Users should ensure that they are using the edition cited in the Board's current rules.

WQB-7 is a complex document. In addition to numeric standards for the protection of aquatic life and human health, it also contains the primary synonyms of each substance, the CASRN which is a unique number for each chemical, a categorization of the type of pollutant, the bioconcentration factor if known, trigger values which are used in the assessment of degradation, and required reporting values. The department can provide electronic copies of this document (in Word Perfect 6.1). Use of a electronic copy will enable the user to search for synonyms or CASRN numbers. Such searches will make this document easier to use. Substances are listed in alphabetical order. In order to facilitate this listing, substances which are normally written with the numbers first are listed with numbers last. For example, 2,4-Dinitrophenol is listed as Dinitrophenol, 2,4-.

There are many 'detailed notes of explanation'. They are in both the table headings and in individual line items. Detailed notes of explanation follow the table portion of CIRCULAR WQB-7. Note that some standards e.g. some metals, ammonia, dissolved oxygen, and phenol are set over a range of values, are computed using a complex formula, or depend upon special circumstances.

It may be difficult to determine compliance with some of the standards because some of them are lower than the required reporting levels (RRVs). Nevertheless, the standards in this circular are set at the levels necessary to protect the uses of water. They are based on the best available scientific evidence relating the concentration of pollutants to the effects on aquatic life and human health.

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Acenaphthene §§ --- § Acenaphthalene § Naphthyleneethylene § 1,8-Ethylenenaphthalene § 1,8-Ethylene Naphthalene § 1,2-Dihydroacenphthylene § Acenphthylene, 1,2-Dihydro-	83329 or 83-32-9 NIOSH: AB 1255500 SAX: AAE750	Toxin	---	---	242	1,200 PP	420 HA	N/A 10	10
Acenaphthylene (PAH) §§ --- § Cyclopenta(De)Naphthalene	208968 or 208-96-8 NIOSH: AB 1254000 SAX: AAF500	Toxin	---	---	30	420 HA	420 HA	2.3	10
Acifluorfen §§ Blazer § Tackle § Scepter § as sodium salt	62476-59-9	Carcinogen	---	---	---	100 HA	100 HA	N/A	---
Acrolein §§ Aqualine § Biocide § Crolean § Aqualin § Propenal § SHA 00701 § 2-propenal § Acraldehyde § Acrylaldehyde § Acrylic Aldehyde § Ethylene Aldehyde	107028 or 107-02-8 NIOSH: AS 1050000 SAX: ADR000	Toxin	---	---	215	320 PP	320 PP	0.7	20
Acrylamide §§ 2-Propenamide § Propenamide § Acrylic Amide § Ethylenecarboxamide § RCRA Waste Number U007	79061 or 79-06-1 NIOSH: AS 3325000 SAX: ADS250	Carcinogen	---	---	---	1.4 HA	1.4 HA	---	---
Acrylonitrile §§ Fumigrain § Ventox § ENT 54 § TL 314 § Carbacryl § Cyanoethylene § Vinyl cyanide § Propenenitrile § 2-Propenenitrile § Acrylonitrile monomer § RCRA Waste Number U009	107131 or 107-13-1 also listed as 75-05-8 NIOSH: AT 5250000 SAX: ADX500 75-05-8	Carcinogen	---	---	30	0.59 PP	0.59 HA	N/A	20
Alachlor §§ Lasso § Lazo § Alator § Alanex § Alochlor § Pillarzo § Metachlor § Chimiclor § SHA 090501 § Methachlor § 2-Chloro-N-(2,6-Diethyl)Phenyl-N-Methoxymethylacetamide § 2-Chloro-2',6'-Diethyl-N-(Methoxymethyl)Acetanilide	15972608 or 15972-60-8 NIOSH: AE 1225000 SAX: CFX000	Carcinogen	---	---	---	2 MCL	2 MCL	N/A	0.4
Aldicarb §§ Temik § Temic § Ambush § OMS 771 § Temik G 10 § Aldecarb § Carbamyl § SHA 098301 § Carbanolate § Sulfone Aldoxycarb § Union Carbide 21149 § RCRA Waste Number P070 § Propanal, 2-Methyl-2-(Methylthio)-, O-[(Methylamino)Carbonyl]Oxime	116063 or 116-06-3 NIOSH: UE 2275000 SAX: CBM500	Toxin	---	---	---	7 MCL	7 MCL	1	1

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Aldicarb Sulfone §§ Aldoxycarb § Standak § UC 21865 § Sulfocarb § SHA 110801 § Propionaldehyde, 2-Methyl-2-(Methylsulfonyl)-, O-(Methylcarbomoyl)Oxime § 2-Methyl-2-(Methylsulfonyl)Propanal O-[(Methylamino)Carbonyl]Oxime	1646884 or 1646-88-4 NIOSH: UE 2080000 SAX: AFK000	Toxin	---	---	---	7 MCL	7 MCL	2	1
Aldicarb Sulfoxide §§ ---	1646873 or 1646-87-3 NIOSH: --- SAX: ---	Toxin	---	---	---	7 MCL	7 MCL	2	1
Aldrin §§ --- § HHDN § Altox § Drinox § Aldrex § Aldrite § Seedrin § Octalene § SHA 045101 § RCRA Waste Number P004 § Hexachlorohexahydro-endo-exo-Dimethanonaphthalene § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4,5,8-Dimethanonaphthalene § 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-endo,exo- § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexa-Hydro-1,4:5,8-Endo,Exo-Dimethanonaphthalene § 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-Hexahydro-1,4-endo-exo-5,8-Dimethanonaphthalene	309002 or 309-00-2 NIOSH: IO 2100000 SAX: AFK250	Carcinogen	1.5	---	4,670	0.00013 PP	0.02 HA	N/A	0.2
Alpha Emitters (11) §§ --- § Gross Alpha § Adjusted Gross Alpha	Multiple	Carcinogen / Radioactive	---	---	---	1.5 pico-curies/liter HA	1.5 pico-curies/liter HA	N/A	---
alpha-Chlordane §§ --- § α-Chlordane § cis-Chlordan § cis-Chlordane § α(cis)-Chlordane § Chlordane, cis-Isomer	5103719 or 5103-71-9 NIOSH: PB 9705000 SAX: CDR675	Carcinogen	2.4	0.0043	14,100	0.0057 PP	0.3 HA	N/A	0.4
alpha-Hexachlorocyclohexane §§ Lindane--- § Benzene Hexachlorideα-isomer § α-BHC § alpha-BHC § HCH-alpha § alpha-HCH § alpha-Lindane § α Hexachlorocyclohexane § alpha-Benzenehexachloride § Hexachlorocyclohexane-alpha § alpha-Hexachlorocyclohexane § Benzene Hexachloride-alpha-isomer § alpha-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, alpha-1,2,3,4,5,6-Hexachloro- § 1-alpha,2-alpha,3-beta,4-alpha,5-beta,6-beta-Hexachlorocyclohexane § Cyclohexane, alpha-1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-beta, 4-alpha, 5-beta, 6-beta)-	319846 or 319-84-6 NIOSH: GV 3500000 SAX: BBQ000	Carcinogen	---	---	130	0.039 PP	0.039 PP	N/A	0.1
Aluminum, dissolved, pH 6.5 to 9.0 only (9)(6) §§ Al	7429905 or 7429-90-5 NIOSH: BD 0330000 SAX: AGX000	Toxin	750	87	---	---	---	30	100
Ametryn §§ Ametrex §	834-12-8	Toxin	---	---	---	60 HA	60 HA	---	---

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Ammonia [total ammonia nitrogen (NH_3-N plus NH_4-N)] as mg/l N § Ammonia Anhydrous § Anhydrous Ammonia § Spirit of Hartshorn	7664417 or 7664-41-7 NIOSH: BO 0875000 SAX: AMY500	Toxin	(7)(8)	(7)(8)	---	---	---	10	50
Ammonium Sulfamate §§ ---	7773-06-0		---	---	---	2,000 HA	2,000 HA	---	---
Anthracene (PAH) §§ Paranaphthalene § Green Oil § Anthracin § Tetra Olive N2G	120127 or 120-12-7 NIOSH: CA 9350000 SAX: APG500	Toxin	---	---	30	9,600 PP	2,100 HA	0.04	0.2
Antimony §§ Sb § Antimony Black § Antimony Regulus § C.I. 77050 § Stibium	7440360 or 7440-36-0 NIOSH: CC 4025000 SAX: AQB750	Toxin	---	---	1	6 MCL	6 MCL	0.4	3
Arsenic §§ As § Arsenicals § Arsenic-75 § Arsenic Black § Colloidal Arsenic § Grey Arsenic § Metallic Arsenic	7440382 or 7440-38-2 NIOSH: CG 0525000 SAX: ARA750	Carcinogen	340	150	44	18 HA	20 HA	N/A	3
Asbestos, fibers longer than 10 microns in length §§ --- § Amianthus § Amosite (Obs.) § Amphibole § Asbestos Fiber § Fibrous Grunerite § NCI C08991 § Serpentine, includes Chrysotile, Actinolite, Aurosite, Anthophyllite, Crocidolite, and Tremolite	Multiple	Carcinogen	---	---	---	7,000,000 fibers/liter MCL	7,000,000 fibers/liter MCL	N/A	---
Atrazine §§ --- § Aatrex § Aktikon § Atrasine § Atred § Candex § Crisatrina § Crisazine § Cyazin § Fenamin § Fenamine § Zeaphos § Fenatrol § Gesaprim § Hungazin § Inakor § Primatol § Maiermais § Radazin § Radizine § Shell Atrazine herbicide § Strazine § Triazine A 1294 § Vectal § Weedex A § Wonuk § Zeazin § Zeazine § SHA 080803 § 1-Chloro-3-Ethylamino-5-Isopropylamino-2,4,6-Triazine § s-Triazine, 2-Chloro-4-Ethylamino-6-Isopropylamino- § 2-Chloro-4-Ethylamino-6-Isopropylamino-s-Triazine § 6-Chloro-N-Ethyl-N'-(1-Methylethyl)-1,3,5-Triazine-2,4-Diamine	1912249 or 1912-24-9 NIOSH: XY 5600000 SAX: PMC325	Toxin	---	---	---	3 MCL	3 MCL	0.1	0.6
Barium §§ Ba	7440393 or 7440-39-3 NIOSH: CA 8370000 SAX: BAH250	Toxin	---	---	---	2,000 MCL	2,000 MCL	2	5
Bentazon Methyl §§ --- § Basagran	50723-80-3 25057-89-0	Toxin	---	---	---	20 HA	20 HA	---	---

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Benzene §§ — § Phene § Benzol § Benzolene § Pyrobenzol § Carbon Oil § SHA 109301 § Coal Naphtha § Motor Benzol § Phenyl hydride § Cyclohexatriene § Caswell Number 077 § RCRA Waste Number U019 § EPA Pesticide Chemical Code 008801 § NCI C55276	71432 or 71-43-2 NIOSH: CY 1400000 SAX: BBL250	Carcinogen	---	---	5.2	5 MCL	5 MCL	N/A	0.5
Benzidine §§ — § p,p'-Bianiline § 4,4'-Bianiline § 4,4'-Biphenyldiamine § p,p'-Diaminobiphenyl § 4,4'-Diaminodiphenyl § RCRA Waste Number U021 § 4,4'-Biphenylenediamine § 4,4'-Diphenylenediamine § Biphenyl, 4,4'-Diamino- § 4,4'-Diamino-1,1'-Biphenyl § (1,1'-Biphenyl)-4,4'-Diamine § NCI C03361	92875 or 92-87-5 NIOSH: DC 9625000 SAX: BBX000	Carcinogen	---	---	87.5	0.0012 PP	0.0012 PP	N/A	20
Benzo(g,h,i)perylene (PAH) §§ 1,12-Benzoperylene § 1,12-Benzperylene § Benzo(ghi)Perylene	191242 or 191-24-2 NIOSH: DI 6200500 SAX: BCR000	Toxin	---	---	30	---	---	0.076	10
Benzo[a]Pyrene (PAH) §§ — § BaP § 3,4-BP § Benz(a)Pyrene § Benzo-a-Pyrene § 3,4-Benzpyrene § 6,7-Benzopyrene § 3,4-Benzopyrene § 3,4-Benz(a)Pyrene § Benzo(d,e,f)Chrysene § Benzo(def)Chrysene	50328 or 50-32-8 NIOSH: DJ 3675000 SAX: BCS750	Carcinogen	---	---	30	0.044 PP	0.048 I	N/A	0.2
Benzo[b]Fluoranthene (PAH) §§ — § B(b)F § Benzo(b)Fluoranthene § Benzo(e)Fluoranthene § Benzo[e]Fluoranthene § 2,3-Benzfluoranthene § 3,4-Benzfluoranthene § 3,4-Benzofluoranthene § 2,3-Benzofluoranthene § 2,3-Benzofluoranthrene § Benz(e)Acephenanthrylene § Benz[e]Acephenanthrylene § 3,4-Benz(e)Acephenanthrylene	205992 or 205-99-2 NIOSH: CU 1400000 SAX: BAW250	Carcinogen	---	---	30	0.044 PP	0.48 HA	N/A	0.25
Benzo[k]Fluoranthene (PAH) §§ — § Benzo(k)Fluoranthene § 8,9-Benzofluoranthene § Dibenzo(b,jk)Fluorene § 2,3,1'8'-Binaphthylene § 11,12-Benzofluoranthene § 11,12-Benzo(k)Fluoranthene	207089 or 207-08-9 NIOSH: DF 6350000 SAX: BCJ750	Carcinogen	---	---	30	0.044 PP	4.79 I	N/A	0.25
Benz[a]anthracene (PAH) §§ — § Tetraphene § Benzanthracene § Benzoanthracene § Naphthanthracene § 1,2-Benzanthrene § Benz(a)Anthracene § Benzo[a]Anthracene § Benzo(a)Anthracene § 1,2-Benzanthracene § Benzo(b)Phenanthrene § 1,2-Benzoanthracene § Benzanthracene, 1,2- § 1,2-Benz(a)Anthracene § 2,3-Benzophenanthrene § RCRA Waste Number U018	56553 or 56-55-3 NIOSH: CV 9275000 SAX: BBC250	Carcinogen	---	---	30	0.044 PP	0.48 I	N/A	0.25

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Beryllium §§ Be § Beryllium-9 § Glucinum § RCRA Waste Number P015	7440417 or 7440-41-7 NIOSH: DS 1750000 SAX: BFO750	Carcinogen	---	---	19	4 MCL	4 MCL	N/A	1
Beta Emitters (11) §§ — § Gross Beta	Multiple	Carcinogen / Radioactive	---	---	---	0.4 mrem ede/yr HA	0.4 mrem ede/yr HA	N/A	---
Beta-Chloronaphthalene §§ 2-Chloronaphthalene § ß-Chloronaphthalene § Naphthalene, 2-Chloro- § RCRA Waste Number U047	91587 or 91-58-7 NIOSH: QJ 2275000 SAX: CJA000	Toxin	---	---	202	1,700 PP	1,700 PP	0.94	10
beta-Hexachlorocyclohexane §§ Lindane § ß-BHC § beta-BHC § HCH-beta § beta-HCH § ß-Lindane § beta-Lindane § beta-Hexachlorobenzene § ß Hexachlorocyclohexane § Hexachlorocyclohexane-beta § Hexachlorocyclohexane, beta- § trans-alpha-Benzenehexachloride § Benzenehexachloride, trans-alpha- § beta-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, beta- § 1-alpha,2-beta,3-alpha,4-beta,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-beta, 3-alpha, 4-beta, 5-alpha, 6-beta)-	319857 or 319-85-7 NIOSH: GV 4375000 SAX: BBR000	Carcinogen	---	---	130	0.14 PP	0.14 PP	N/A	0.1
Bis(2-Chloroisopropyl) Ether §§ — § DCIP § NCI C50044 § RCRA Waste Number U027 § Dichlorodiisopropyl Ether § 2,2'-Oxybis(1-Chloropropane) § Bis (2-Chloroisopropyl) ether § Propane, 2,2'-Oxybis(2-Chloro- § Propane, 2,2'-Oxybis[1-Chloro- § 2',2'-Dichlorodiisopropyl Ether § Dichlorodiisopropyl Ether (DOT) § Bis(2-Chloro-1-Methylethyl) Ether	108601 or 108-60-1 NIOSH: KN 1750000 SAX: BII250 39638-32-9	Toxin	---	---	2.47	1,400 PP	1,400 PP	0.8	10
Bis(2-Chloroethoxy)Methane §§ — § Bis(ß-Chloroethyl)Formal	111911 or 111-91-1 NIOSH: PA 3675000 SAX: BID750	Toxin	---	---	0.64	---	---	0.5	---
Bis(Chloroethyl)Ether §§ — § BCEE § DCEE § Clorex § Chlorex § Chloroethyl Ether § Dichloroethyl Ether § Dichloroethyl Oxide § RCRA Waste Number U025 § Bis(Chloroethyl) Ether § Di(2-Chloroethyl) Ether § Bis (Chloroethyl) Ether § Bis(2-Chloroethyl) Ether § Bis(ß-Chloroethyl) Ether § ß,ß'-Dichloroethyl Ether § 2,2'-Dichloroethyl Ether § Bis (2-Chloroethyl) Ether § 1,1'-Oxybis(2-Chloro)Ethane § Ethane, 1,1'-Oxybis[2-Chloro- § beta,beta'-Dichloroethyl Ether § 1-Chloro-2-(beta-Chloroethoxy)Ethane	111444 or 111-44-4 NIOSH: KN 0875000 SAX: BIC750	Carcinogen	---	---	6.9	0.31 PP	0.31 PP	N/A	10

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Bis(Chloromethyl)Ether §§ --- § BCME § bis-CME § Chloromethyl Ether § Oxybis(Chloromethane) § RCRA Waste Number P016 § Bis (Chloromethyl) Ether § sym-Dichlorodimethyl Ether § 1,1'-Dichlorodimethyl Ether § Dimethyl-1,1'-Dichloroether § Chloro(Chloromethoxy)Methane	542881 or 542-88-1 NIOSH: 1575000 SAX: BIK000	Carcinogen	---	---	0.63	0.0016 PP	0.0016 PP	N/A	10
Bromacil §§ Hyvar §	314-40-9	Carcinogen	---	---	---	90 HA	90 HA	N/A	---
Bromodichloromethane (HM) §§ Dichlorobromomethane § BDCM § NCI C55243 § Methane, bromodichloro- § Dichloromonobromomethane § Monobromodichloromethane	75274 or 75-27-4 NIOSH: PA 5310000 SAX: BND500	Carcinogen	---	---	3.75	6 HA	6 HA	N/A	0.5
Bromoform (HM) §§ Tribromomethane § NCI C55130 § Methane, Tribromo- § Methenyl Tribromide § RCRA Waste Number U225	75252 or 75-25-2 NIOSH: PB 5600000 SAX: BNL000	Carcinogen	---	---	3.75	40 HA	40 HA	N/A	0.5
Bromomethane (HM) §§ Methyl Bromide § EDCO § Celfume § Dowfume § Methogas § SHA 053201 § Brom-O-Sol § Brom-O-Gas § Terr-O-Gas § Halon 1001 § Terr-O-Cide § Bromo-O-Gas § Bromo Methane § Methylbromide § Methyl Bromide § Methane, Bromo- § Monobromomethane § RCRA Waste Number U029	74839 or 74-83-9 NIOSH: PA 4900000 SAX: BNM500	Toxin	---	---	3.75	48 PP	48 PP	0.11	0.5
Butyl Benzyl Phthalate §§ --- § BBP § Sicol 160 § Unimoll BB § Palatinol BB § Santicizer 160 § Butylbenzylphthalate § Butylbenzyl Phthalate § Benzyl Butyl Phthalate § n-Benzyl Butyl Phthalate § Benzyl n-Butyl Phthalate § Phthalic Acid, Benzyl Butyl Ester § Butyl Phenylmethyl 1,2-Benzenedicarboxylate § 1,2-Benzenedicarboxylic Acid, Butyl Phenylmethyl Ester § NCI C54375	85687 or 85-68-7 NIOSH: TH 9990000 SAX: BEC500	Toxin with BCF >300	---	---	414	3,000 PP	3,000 PP	N/A	10
Butylate §§ Sutan §	2008-41-5	Carcinogen	---	---	---	350 HA	350 HA	N/A	---
Cadmium §§ Cd § C.I. 77180 § Colloidal Cadmium	7440439 or 7440-43-9 NIOSH: EU 9800000 SAX: CAD000	Toxin	2.067 @ 50 mg/l hardness (12)	1.429 @ 50 mg/l hardness (12)	64	5 MCL	5 MCL	0.1	0.1
Carbaryl §§ Sevin §	63-25-2	Toxin	---	---	---	700 HA	700 HA	2	---

CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS(9)

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Carbofuran §§ --- § Yaltox § Euradan § Furadan § Curaterr § Furacarb § SHA 090601 § Niagra 10242 § 2,2-Dimethyl-7-Coumaranyl N-Methylcarbamate § 2,2-Dimethyl-2,3-Dihydro-7-Benzofuranyl N-Methylcarbamate § Carbamic Acid, Methyl-, 2 3-Dihydro-2,2-Dimethyl-7-Benzofuranyl Ester	1563662 or 1563-66-2 NIOSH: FB 9450000 SAX: FPE000	Toxin	---	---	---	40 MCL	40 MCL	1	1
Carbon Tetrachloride §§ Freon 10 § R 10 § Univerm § Tetrasol § Fascioiin § Flukoids § Necatorina § Necatorine § Halon 104 § Tetraform § Carbon Tet § Benzinoform § Carbon Chloride § Perchloromethane § Tetrachloromethane § Methane Tetrachloroide § RCRA Waste Number U211	56235 or 56-23-5 NIOSH: FG 4900000 SAX: CBY000	Carcinogen	---	---	18.75	2.5 PP	3 HA	N/A	0.5
Carboxin §§ Vitavax §	5234-68-4	Toxin	---	---	---	700 HA	700 HA'	1	---
Chloramben §§ Vegiben §	133-90-4	Toxin	---	---	---	100 HA	100 HA	---	---
Chlordane §§ --- Termex § Belt § Niran § Dowchlor § Chlortox § Chlordan § Clordano § Chlor Kil § Toxichlor § Octa-Klor § Ortho-Klor § SHA 058201 § Gold Crest C-100 § Chlordane, Technical § RCRA Waste Number U036 § Octachloro-4,7-Methanohydroindane § Octachlorodihydrodicyclopentadiene § 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-Hexahydro § Octachloro-4,7-Methanotetrahydroindane-4,7-Methylene Indane § 4,7-Methanoindan, 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro- § 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro-4,7-Methano-Indene § 4,7-Methano-1H-Indene 1,2,4,5,6,7,8,8-Octachloro-2,3,3a,4,7,7a-Hexahydro-	57749 or 57-74-9 NIOSH: PB 9800000 SAX: CDR750	Carcinogen	2.4	0.0043	14,100	0.0057 PP	2 MCL	N/A	0.4
Chlorimuron Ethyl §§ Classic §	90982-32-4	Toxin	---	---	---	0.14 HA	0.14 HA	0.1	---
Chlorine, total residual §§ Cl § Bertholite § Chlorine, molecular § Molecular Chlorine	7782505 or 7782-50-5 NIOSH: FO 2100000 SAX: CDV750	Toxin	19	11	---	4,000 MCL	4,000 MCL		---
Chlorobenzene §§ Monochlorobenzene § MCB § Chlorobenzol § Chlorbenzene § Phenyl Chloride § Benzene Chloride § Benzene, Chloro- § Monochlorbenzene § RCRA Waste Number U037 § NCI C54886	108907 or 108-90-7 NIOSH: CZ 0175000 SAX: BBM750	Toxin	---	---	10.3	100 MCL	100 MCL	0.5	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Chloroethane §§ Ethyl Chloride § Aethylis § Aethylis Chloridum § Anodynon § Chelen § Chlorethyl § Chloridum § Chloryl § Chloryl Anesthetic § Ether Chloratus § Ether Hydrochloric § Ether Muriatic § Hydrochloric Ether § Kelene § Monochlorethane § Muriatic Ether § Narcotile § NCI C06224	75003 or 75-00-3 NIOSH: KH 7525000 SAX: EHH000	Toxin	---	---	---	---	---	0.52	---
Chloroform (HM) §§ Trichloromethane § TCM § Freon 20 § Trichloroform § R-20 Refrigerant § Methenyl Chloride § Formyl Trichloride § Methyl Trichloride § Methane Trichloride § Methane, Trichloro- § Methenyl Trichloride § RCRA Waste Number U044 § NCI CO2686	67663 or 67-66-3 NIOSH: FS 9100000 SAX: CHJ500	Carcinogen	---	---	3.75	57 PP	60 HA	N/A	0.5
Chlorophenol, 2- §§ Phenol, 2-Chloro § o-Chlorophenol § 2-Chlorophenol § Phenol, o-Chloro- § RCRA Waste Number U048	95578 or 95-57-8 NIOSH: SK 2625000 SAX: CJK250	Toxin	---	---	134	120 PP	120 PP	0.3	10
Chlorophenyl Phenyl Ether, 4- §§ --- § 4- Chlorophenyl Phenyl Ether	7005723 or 7005-72-3 NIOSH: --- SAX: ---	Toxin with BCF >300	---	---	1,200	---	---	---	---
Chlorsulfuron §§ Glean § § Telar	64902-72-3	Toxin	---	---	---	350 HA	350 HA	---	---
Chlorothalonil §§ Bravo §	1897-45-6	Carcinogen	---	---	---	15 HA	15 HA	N/A	---
Chlorpyrifos §§ Dursban § Ethion § Brodan § Eradex § Lorsban § Pyrinex § NA 2783 § Piridane § DowCo 179 § SHA 059101 § Ethion, dry § Chlorothalonil § Chlorpyrifos-Ethyl § O,O-Diethyl O-3,5,6-Trichloro-2-Pyridyl Phosphorothioate § Phosphorothioic Acid, O,O-Diethyl O-(3,5,6-Trichloro-2-Pyridyl) Ester	2921882 or 2921-88-2 NIOSH: TF 6300000 SAX: DYE000	Toxin	0.083	0.041	---	20 HA	20 HA	0.25	1
Chromium, all forms §§ Cr § Chrome	7440473 or 7440-47-3 NIOSH: GB 4200000 SAX: CMI750	Toxin	---	---	---	100 MCL	100 MCL	1	1
Chromium, hexavalent §§ Chromium (VI)	18540299 or 18540-29-9 NIOSH: --- SAX: ---	Toxin	16	11	16	---	---		5

CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS(9)

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Chromium, trivalent §§ Chromium (III)	16065831 or 16065-83-1 NIOSH: --- SAX: ---	Toxin	1,700 @ 100 mg/l hardness (12)	210 @ 100 mg/l hardness (12)	16	---	---	1	---
Chrysene (PAH) §§ --- § Benz(a)Phenanthrene § Benzo(a)Phenanthrene § 1,2-Benzphenanthrene § 1,2-Benzophenanthrene § RCRA Waste Number U050 § 1,2,5,6-Dibenzonaphthalene	218019 or 218-01-9 NIOSH: GC0700000 SAX: CML810	Carcinogen	---	---	30	0.044 PP	48 1	N/A	0.25
cis-1,2-Dichloroethylene §§ --- § 1,2-Dichloroethylene § cis-Dichloroethylene § cis-1,2-Dichloroethene § 1,2,cis-Dichloroethylene § ethylene, 1,2-Dichloro-, (z)-	156592 or 156-59-2 NIOSH: KV 9420000 SAX: DFI200	Toxin	---	---	---	70 MCL	70 MCL	0.002	0.5
cis-1,3-Dichloropropene §§ Telone II § 1,3-Dichloropropene § 1,3-Dichloropropylene § (Z)-1,3-Dichloropropene § cis-1,3-Dichloropropylene § 1-Propene, 1,3-Dichloro-, (Z)-	10061015 or 10061-01-5 NIOSH: UC 8325000 SAX: DGH200	Carcinogen	---	---	1.91	2 HA	2 HA	N/A	0.5
Clopyralid §§ Stinger §	1702-17-6	Toxin	---	---	---	3,500 1	3,500 1	1	---
Coliform, fecal §§ ---	N/A	Harmful	---	---	---	(13)	Less than 1 per 100ml	1 per 100mL.	1 per 100mL
Color §§ ---	N/A	Harmful	---	---	---		(18)	---	5 UNITS
Copper §§ Cu § Allbri Natural Copper § ANAC 110 § Arwood Copper § Bronze Powder § CDA 101 § CDA 102 § CDA 110 § CDA 122 § C.I. 77400 § C.I. Pigment Metal 2 § Copper Bronze § 1721 Gold § Gold Bronze § Kafar Copper § M1 (Copper) § M2 (Copper) § OFHC C § Raney Copper	7440508 or 7440-50-8 NIOSH: GL 5325000 SAX: CNI000	Toxin	7.3 @ 50 mg/l hardness (12)	5.2 @ 50 mg/l hardness (12)	36	1,300 PP	1,300 PP	0.5	1
Cyanazine §§ Bladex §	21725-46-2	Carcinogen	---	---	---	14 HA	14 HA	N/A	---
Cyanide, total §§ --- § Cyanide § Isocyanide § RCRA Waste Number P030 § Cyanides, includes soluble salts and complexes	57125 or 57-12-5 NIOSH: GS 7175000 SAX: COI500	Toxin	22	5.2	1	200 MCL	200 MCL		5
Dacthal §§ DCPA §	1861-32-1	Toxin	---	---	---	70 HA	70 HA	0.025	---

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Dalapon §§ Revenge § Dalpon § Unipon § Dowpon § Radapon § Basinex § Ded-Weed § Dalacide § Gramevin § Crisapon § Dalpon Sodium § 2,2-Dichloropropionic Acid § SHA 28902, for sodium salt § SHA 28901, for dalapon only § Propionic Acid, 2,2-Dichloro- § Sodium 2,2-Dichloropropionate § α-Dichloropropionic Acid § α,α-Dichloropropionic Acid § alpha-alpha-Dichloropropionic Acid	75990 or 75-99-0 NIOSH: UF 0690000 SAX: DGI400	Toxin	---	---	---	200 MCL	200 MCL	1.3	3
Dalapon, sodium salt §§ Dalpon § Unipon § Dowpon § Radapon § Revenge § Basinex § Ded-Weed § Dalacide § Gramevin § Crisapon § Dalpon Sodium § Sodium Dalapon § 2,2-Dichloropropionic Acid § SHA 28902, for sodium salt § SHA 28901, for dalapon only § Propionic Acid, 2,2-Dichloro- § Sodium 2,2-Dichloropropionate § alpha-alpha-Dichloropropionic Acid	127208 or 127-20-8 NIOSH: UF 1225000 SAX: DGI600	Toxin	---	---	---	200 MCL	200 MCL	1.3	3
delta-Hexachlorocyclohexane §§ Lindane § δ-BHC § delta-BHC § HCH-delta § delta-HCH § Δ-BHC § Δ-Lindane § delta-Lindane § δ Hexachlorocyclohexane § delta-Benzenehexachloride § Hexachlorocyclohexane-delta § Hexachlorocyclohexane, delta- § Cyclohexane, delta-1,2,3,4,5,6-Hexachloro- § delta-1,2,3,4,5,6-Hexachlorocyclohexane § 1-alpha,2-alpha,3-alpha,4-beta,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, delta-1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-alpha, 4-beta, 5-alpha, 6-beta)-	319868 or 319-86-8 NIOSH: GV 4550000 SAX: BFW500	Carcinogen	---	---	130	0.14 PP	0.14 PP	N/A	0.1
Demeton §§ Systox § Bay 10756 § Bayer 8169 § Demox § Diethoxy Thiophosphoric Acid Ester of 2-Ethylmercaptoethanol § O,O-Diethyl 2-Ethylmercaptoethyl Thiophosphate § O,O-Diethyl O(and S)-2-(Ethyl-Thio)Ethyl Phosphorothioate Mixture § E 1059 § ENT 17,295 § Mercaptophos § Systemox § Systox § ULV § Demeton-O + Demeton-S	8065483 or 8065-48-3 NIOSH: TF 3150000 SAX: DAO600	Toxin	---	0.1	---	4 HA	4 HA	0.25	---
Di(2-Ethylhexyl)Phthalate (PAE) §§ Bis(2-Ethylhexyl)Phthalate § BEHP § DEHP § Octoil § Fleximel § Flexol DOP § Kodaflex DOP § Ethylhexyl Phthalate § Diethylhexyl Phthalate § 2-Ethylhexyl Phthalate § Di(Ethylhexyl)phthalate § Di(2-Ethylhexyl)phthalate § Bis (2-Ethylhexyl) Phthalate § Bis(2-Ethylhexyl)-1,2-Benzene-Dicarboxylate § 1,2-Benzenedicarboxylic Acid, Bis(2-Ethylhexyl)Ester	117817 or 117-81-7 NIOSH: TI 0350000 SAX: BJS000	Carcinogen	---	---	130	6 MCL	6 MCL		6

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Di(2-Ethylhexyl)Adipate §§ Hexanedioic Acid § DEHA § BEHA § Bisoflex DOA § Effemoll DOA § Ergoplast AdDO § Flexol A 26 § PX-238 § Reomol DOA § Vestinol OA § Wickenol 158 § Kodaflex DOA § Monoplex DOA § NCI C54386 § Octyl Adipate § Dioctyl Adipate § Di-2-Ethylhexyl Adipate § Di (2-Ethylhexyl) Adipate § Bis(2-Ethylhexyl) Adipate § Adipic Acid, Bis(2-Ethylhexyl) Ester § Hexanedioic Acid, Bis(2-Ethylhexyl) Ester	103231 or 103-23-1 NIOSH: AU 9700000 SAX: AEO000	Carcinogen	---	---	---	300 HA	300 HA	N/A	6
Diazinon §§ ---	333-41-5	Toxin	---	---	---	0.6 HA	0.6 HA	0.25	---
Dibenz[a,h]Anthracene (PAH) §§ --- § DBA § DB(a,h)A § Dibenz(a,h)Anthracene § RCRA Waste Number U063 § Dibenzo(a,h)anthracene § 1,2:5,6-Benzanthracene § Dibenzo (a,h) Anthracene § 1,2,5,6-Dibenzanthracene § 1,2:5,6-Dibenz(a)Anthracene	53703 or 53-70-3 NIOSH: HN 2625000 SAX: DCT400	Carcinogen	---	---	30	0.044 PP	0.048 I	N/A	0.5
Dibromochloromethane (THM) §§ Monochlorodibromomethane § CDBM § NCI C55254 § Chlorodibromomethane § Methane, Dibromochloro-	124481 or 124-48-1 NIOSH: PA 6360000 SAX: CFK500	Carcinogen	---	---	3.75	4.1 PP	4.1 PP	N/A	0.5
Dibromoethane, 1,2- §§ Ethylene Dibromide § DBE § EDB § Nephis § Kopfume § Celmide § E-D-Bee § Soilfume § Bromofume § Dowfume 40 § SHA 042002 § Pestmaster § Soilbrom-40 § Dibromoethane § Ethylene Bromide § Glycol Dibromide § 1,2-Dibromoethane § 1,2-Dibromoethane § 1,2-Ethylene Dibromide § RCRA Waste Number U067	106934 or 106-93-4 NIOSH: KH 9275000 SAX: EIY500	Carcinogen	---	---	---	0.05 MCL	0.05 MCL	N/A	0.5
Dibutyl Phthalate §§ --- § DPB § Celluflex DPB § Elaol § Hexaplas M/B § Palatinol C § Polycizer DBP § PX 104 § Staflex DBP § Witcizer § SHA 028001 § Butylphthalate § N-Butylphthalate § Di-n-Butylphthalate § Di-n-Butylphthalate § Dibutyl-o-Phthalate § Di-n-Butyl Phthalate § RCRA Waste Number U069 § Phthalic Acid Dibutyl Ester § Dibutyl 1,2-Benzene Dicarboxylate § 1,2-Benzenedicarboxylic Acid Dibutyl Ester § 1,2-Benzenedicarboxylic Acid, Dibutyl Ester § Benzene-o-Dicarboxylic Acid Di-n-Butyl Ester	84742 or 84-74-2 NIOSH: TI 0875000 SAX: DEH200	Toxin	---	---	89	2,700 PP	2,700 PP	0.25	0.25
Dicamba §§ Banvel §	1918-00-9	Toxin	---	---	---	210 HA	210 HA	0.28	---

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Dichlorobenzene, 1,2- §§ DCB § ODB § ODCB § Dizene § Cloroben § Chloroben § Chloroden § Termitkil § Dilatin DB § Dowtherm E § Dilantin DB § o-Dichlorobenzene § Orthodichlorobenzene § ortho-Dichlorobenzene § Special Termite Fluid § Benzene, 1,2-Dichloro- § RCRA Waste Number U070	95501 or 95-50-1 NIOSH: CZ 4500000 SAX: DEP600	Toxin	---	---	55.6	600 MCL	600 MCL	0.02	10
Dichlorobenzene, 1,3- §§ Benzene, 1,3-Dichloro § M-Dichlorobenzene § m-Dichlorobenzene § meta-Dichlorobenzene § 1,3-Dichlorobenzene-	541731 or 541-73-1 NIOSH: CZ 4499000 SAX: DEP699	Toxin	---	---	55.6	400 PP	400 PP	0.006	10
Dichlorobenzene, 1,4- §§ Benzene, 1,4-Dichloro- § 1,4- Dichlorobenzene § PDB § PDCB § NCI C54955 § Evola § Paradi § Paradow § Persia-Perazol § Paracide § Parazene § Paramoth § Santochlor § Paranuggets § di-Chloricide § Para Chrystals § p-Dichlorobenzene § Caswell Number 632 § Paradichlorobenzene § para-Dichlorobenzene- § RCRA Waste Number U070 § RCRA Waste Number U071 § RCRA Waste Number U072 § p-Chlorophenyl Chloride § EPA Pesticide Chemical Code 061501	106467 or 106-46-7 NIOSH: CZ 4550000 SAX: DEP800	Carcinogen	---	---	55.6	75 MCL	75 MCL	N/A	10
Dichlorobenzidine, 3,3'- §§ DCB § C.I. 23060 § Curithane C126 § Dichlorobenzidine § o,o'-Dichlorobenzidine § Dichlorobenzidine Base § Benzidine, 3,3'-Dichloro- § RCRA Waste Number U073 § 3,3'-Dichloro-4,4'-Diaminodiphenyl § 3,3'-Dichloro-(1,1'-Biphenyl)-4,4'-Diamine § 1,1'-Biphenyl-4,4'-Diamine, 3,3'-Dichloro-	91941 or 91-94-1 NIOSH: DD 0524000 SAX: DEQ400	Carcinogen	---	---	312	0.40 PP	0.40 PP	N/A	20
Dichlorodifluoromethane (HM) §§ Freon 12 § F 12 § R 12 § FC 12 § Halon § CFC-12 § Arcton 6 § Electro-CF 12 § Eskimon 12 § Frigen 12 § Gentron 12 § Isceon 122 § Kaiser Chemicals 12 § Ledon 12 § Ucon 12 § Propellant 12 § Refrigerant 12 § Fluorcarbon-12 § RCRA Waste Number U075 § Difluorodichloromethane § Methane, dichlorodifluoro-	75718 or 75-71-8 NIOSH: PA 8200000 SAX: DFA600	Toxin	---	---	3.75	1,400 HA	1,400 HA	0.05	0.5
Dichloroethane, 1,2- §§ Ethylene Chloride § EDC § Brocide § 1,2-DCE § NCI C00511 § Dutch Oil § Dutch Liquid § Dichloremulsion § Di-Chlor-Mulsion § 1,2-Bichlorethane § 1,2-Dichlorethane § Ethane Dichloride § 1,2-Bichloroethane § Ethylene Dichloride § 1,2-Dichloroethane § Ethane, 1,2-Dichloro- § RCRA Waste Number U077 § 1,2-Ethylene Dichloride § alpha,beta-Dichloroethane	107062 or 107-06-2 NIOSH: KI 0525000 SAX: DFF900	Carcinogen	---	---	1.2	3.8 PP	4 HA	N/A	0.5

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Dichloroethene, 1,1- §§ Vinylidene Chloride § VDC § 1,1-DCE § Sconatex § NCI C54262 § 1,1-Dichloroethene § Vinylidene Chloride § 1,1-Dichloroethylene § Vinylidene Dichloride § Ethene, 1,1-Dichloro- § Vinylidene Chloride II § RCRA Waste Number U078 § Dichloroethylene, 1,1- § Ethylene, 1,1-Dichloro-	75354 or 75-35-4 NIOSH: KV 9275000 SAX: DFI000	Carcinogen	---	---	5.6	0.57 PP	7 MCL	N/A	0.5
Dichloromethane (HM) §§ Methylene Chloride § R 30 § DCM § Freon 30 § Aerothene MM § NCI C50102 § Solmethine § Methylene Chloride § Methane Dichloride § Methane, Dichloro- § 1,1-Dichloromethane § Methylene Bichloride § Methylene Dichloride	75092 or 75-09-2 NIOSH: PA 8050000 SAX: MDR000	Carcinogen	---	---	0.9	5 MCL	5 MCL	N/A	0.5
Dichlorophenol, 2,4- §§ Phenol, 2,4-Dichloro § DCP § 2,4-DCP § NCI C55345 § 2,4-Dichlorophenol § RCRA Waste Number U081	120832 or 120-83-2 NIOSH: SK 8575000 SAX: DFX800	Toxin	---	---	40.7	93 PP	93 PP	10	10
Dichlorophenoxyacetic Acid, 2,4- §§ Dichlorophenoxyacetic Acid § 2,4-D § Salvo § Phenox § Farmco § Amidox § Miracle § Agrotect § Weedtrol § Herbidal § Ded-Weed § Lawn-Keep § Fernimine § Crop Rider § Aqua-Kleen § 2,4-Dichlorophenoxy Acetic Acid § Dichlorophenoxyacetic Acid, 2,4- § Acetic Acid, (2,4-Dichlorophenoxy)- § 2,4-Dichlorophenoxyacetic Acid, salts and esters	94757 or 94-75-7 NIOSH: AG 6825000 SAX: DFY600	Toxin	---	---	---	70 MCL	70 MCL	0.02	1
Dichloropropane, 1,2- §§ Propylene Chloride § 1,2-Dichloropropane § NCI C55141 § Propylene Dichloride § Caswell Number 324 § Propane, 1,2-Dichloro- § α,β-Propylene Dichloride § alpha,beta-Dichloropropane § RCRA Waste Number U083 § EPA Pesticide Chemical Code 029002	78875 or 78-87-5 NIOSH: TX 9625000 SAX: DGF600	Carcinogen	---	---	4.11	0.52 PP	5 MCL	N/A	0.5
Dichloropropene, 1,3- §§ Telone II § Telone § NCI C03985 § Vidden D § Dichloropropene § α-Chloroallyl Chloride § γ-Chloroallyl Chloride § 1,3-Dichloropropene § 1,3-Dichloropropylene § 1,3-Dichloro-2-Propene § Propene, 1,3-Dichloro- § Telone II Soil Fumigant § 3-Chloropropenyl Chloride § alpha,gamma-Dichloropropylene	542756 or 542-75-6 NIOSH: UC 8310000 SAX: CEF750	Carcinogen	---	---	1.91	2 HA	2 HA	N/A	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Dieldrin §§ --- § Alvit § Quintox § Octalox § Illoxol § Dieldrex § NCI C00124 § Dieldrite § SHA 045001 § RCRA Waste Number P037 § 1,4:5,8-Dimethanonaphthalene § Hexachloroepoxyoctahydro-endo,exo-Dimethanonaphthalene § 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-2,7:3,6-Dimethanonaphth(2,3-b)Oxirene § 2,7:3,6-Dimethanonaphth(2,3-b)Oxirene, 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro- § 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-Endo,Exo-1,4:5,8-Dimethanonaphthalene	60571 or 60-57-1 NIOSH: IO 1750000 SAX: DHB400	Carcinogen	0.24	0.056	4,670	0.0014 PP	0.02 HA	N/A	0.02
Diethyl Phthalate §§ --- § Anozol § Neantine § Solvanol § NCI C60048 § Placidole E § Ethyl Phthalate § Diethylphthalate § Diethyl-o-Phthalate § RCRA WAste Number U088 § 1,2-Benzenedicarboxylic Acid, Diethyl Ester	84662 or 84-66-2 NIOSH: TI 1050000 SAX: DJX000	Toxin	---	---	73	5,600 HA	5,600 HA	0.25	0.25
Dimethoate §§ ---	60-51-5	Toxin	---	---	---	0.0014 HA	0.0014 HA	---	---
Dimethrin §§ ---	70-38-2	Toxin	---	---	---	2,100 HA	2,100 HA	---	---
Dimethyl Phthalate §§ --- § DMP § NTM § ENT 262 § Mipax § Avolin § Fermine § Solvanom § Solvarone § Palatinol M § Methyl Phthalate § Dimethylphthalate § Phthalic Acid, Dimethyl Ester § Dimethyl Benzene-o-Dicarboxylate § Dimethyl 1,2-Benzenedicarboxylate § 1,2-Benzenedicarboxylic Acid, Dimethyl Ester	131113 or 131-11-3 NIOSH: TI 1575000 SAX: DTR200	Toxin	---	---	36	313,000 PP	313,000 PP	.04	0.25
Dimethylphenol, 2,4- §§ Phenol, 2,4-Dimethyl- § m-Xylenol § 2,4-Xylenol § 4,6-Dimethylphenol § Caswell Number 907A § 2,4-Dimethyl Phenol § RCRA Waste Number U101 § 1-Hydroxy-2,4-Dimethylbenzene § 4-Hydroxy-1,3-Dimethylbenzene § EPA Pesticide Chemical Code 086804	105679 or 105-67-9 NIOSH: ZE 5600000 SAX: XKJ500	Toxin	---	---	93.8	540 PP	540 PP	10	10
Dinitro-o-Cresol, 4,6- §§ Dinitrocresol § Detal § Sinox § DNOC § Arborol § Capsine § Dinitrol § Trifocide § Antinonin § Winterwash § Dinitro-o-Cresol § Caswell Number 390 § 2,4-Dinitro-o-Cresol § 4,6-Dinitro-o-Cresol § o-Cresol, 4,6-dinitro- § RCRA Waste Number P047 § 2-Methyl-4,6-Dinitrophenol § 4,6-Dinitro-2-Methylphenol § 2,4-Dinitro-6-Methylphenol § 3,5-Dinitro-2-Hydroxytoluene § Phenol, 2-Methyl-4,6-Dinitro-	534521 or 534-52-1 NIOSH: GO 9625000 SAX: DUT400	Toxin	---	---	5.5	13 PP	13 PP		50

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Dinitrophenol, 2,4- §§ Phenol, 2,4-Dinitro § Nitro § Kleenup § Aldifen § 2,4-Dinitrophenol § 2,4-DNP § Chemox PE § Maroxol-50 § Solfo Black B § alpha-Dinitrophenol § Dinitrophenol, 2,4- § Tertrosulphur Black PB § RCRA Waste Number P048 § 1-Hydroxy-2,4-Dinitrobenzene	51285 or 51-28-5 NIOSH: SL 2800000 SAX: DUZ000	Toxin	---	---	1.5	70 PP	70 PP	13	50
Dinitrotoluene, 2,4- §§ Toluene, 2,4-Dinitro § 2,4-DNT § NCI C01865 § 2,4-Dinitrotoluol - § RCRA Waste Number U105 § Benzene, 1-Methyl-2,4-Dinitro-	121142 or 121-14-2 NIOSH: XT 1575000 SAX: DVH000	Carcinogen	---	---	3.8	0.5 HA	0.5 HA	N/A	10
Dinitrotoluene ,2,6- §§ Toluene-dinitro § 2,6-DNT § 2-Methyl-1,3-Dinitrobenzene § RCRA Waste Number U106	606202 or 606-20-2 NIOSH: XT 1925000 SAX: DVH400	Toxin	---	---	---	7 HA	7 HA	0.01	---
Dinoseb §§ --- § DNBP § DBNF § Aretit § Basanite § Caldon § Sparic § Kiloseb § Spurge § Premerge § Dinitro § Hel-Fire § SHA 037505 § Dow General § Sinox General § RCRA Waste Number P020 § Dow General Weed Killer § Vertac General Weed Killer § 2-sec-Butyl-4,6-Dinitrophenol § Dinitro-Ortho-Sec-Butyl Phenol § 2-(1-Methylpropyl)-4,6-Dinitrophenol § 4,6-Dinitro-2-(1-Methyl-n-Propyl)Phenol § Phenol, 2-(1-Methylpropyl)-4,6-Dinitro-	88857 or 88-85-7 NIOSH: SJ 9800000 SAX: BRE500	Toxin	---	---	---	7 MCL	7 MCL	0.19	1.5
Dioxin (Chlorinated Dibenzo-p-dioxins [CDDs] and Chlorinated Dibenzofurans [CDFs]). Dioxin and furan congeners are to be expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) based on the toxicity equivalency factor (TEF) method described in "Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDDs and CDFs) and 1989 Update". EPA/625/3-89/016, March 1989 and EPA Method 1613[10]	Various	Carcinogen	---	---	5,000	0.000,000,13 PP	0.000,002 HA	N/A	---
Diphenamid §§ ---	957-51-7	Carcinogen	---	---	---	210 HA	210 HA	N/A	---
Diphenylhydrazine, 1,2- §§ Hydrazine, 1,2-Diphenyl- § Hydrazobenzene § NCI C01854 § N,N'-Bianiline § Benzene, Hydrazodi- § RCRA Waste Number U109 § (sym)-Diphenylhydrazine § 1,2-Diphenylhydrazine	122667 or 122-66-7 NIOSH: MW 2625000 SAX: HHG000	Carcinogen	---	---	24.9	0.4 PP	0.4 PP	N/A	10

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Diquat §§ --- § Actor § Feglox § Deiquat § Reglone § Aquacide § Dextrone § Paraquat § Preeglove § SHA 032201 § Weedtrine-D § Diquat Dibromide § Ethylene Dipyridylium Dibromide § 1,1-Ethylene 2,2-Dipyridylium Dibromide § 5,6-Dihydro-Dipyrido(1,2a,1c)Pyrazinium Dibromide § 9,10-Dihydro-8a,10a-Diazoniaphenanthrene(1,1'-Ethylene-2,'-Bipyridylium)Dibromide	85007 or 85-00-7 NIOSH: JM 5690000 SAX: DWX800	Toxin	---	---	---	20 MCL	20 MCL	0.44	10
Disulfoton §§ --- § Disyston	298-04-4	Toxin	---	---	---	0.3 HA	0.3 HA	0.07	---
Diuron §§ --- § Karmex	330-54-1	Toxin	---	---	---	14 HA	14 HA	1	---
Endosulfan §§ --- § NCI C00566 § Malixv § Ensure § Beosit § Endocel § Thiodan § Cyclodan § Crisulfan § Benzoepin § Thiosulfan § SHA 079401 § Chlorthiepin § RCRA Waste Number P050 § Endosulfan (mixed isomers) § Hexachlorohexahydromethano 2,4,3-Benzodioxathiepin-3-Oxide § 1,4,5,6,7,7-Hexachloro-5-Norbornene-2,3-Dimethanol Cyclic Sulfite § 5-Norbornene-2, 3-Dimethanol, 1,4,5,6,7,7-Hexachloro Cyclic Sulfite § 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-Hexahydro-6,9-Methano-2,4,3-Benzodioxathiepin-3-Oxide § 6,9-Methano-2,4,3-Benzodioxathiepin, 6,7,8,9,10,10-Hexachloro-1,5,5a,6,9,9a-Hexahydro-, 3-Oxide	115297 or 115-29-7 NIOSH: RB 9275000 SAX: BCJ250	Toxin	0.11	0.056	270	110 PP	110 PP	0.014	see Cis and trans isomers
Endosulfan, I §§ --- § Thiodan I § Endosulfan-I § Alpha-Endosulfan § alpha-Endosulfan	959988 or 959-98-8 NIOSH: --- SAX: ---	Toxin	0.22	0.056	270	110 PP	110 PP		0.015
Endosulfan, II §§ --- § Thiodan II § Endosulfan-II § Beta-Endosulfan § beta-Endosulfan	33213659 or 33213-65-9 NIOSH: --- SAX: ---	Toxin	0.22	0.056	270	110 PP	110 PP	0.004	0.024
Endosulfan Sulfate §§ --- § 6,9-Methano-2,3,4-Benzodioxathiepin, 6,7	1031078 or 1031-07-8 NIOSH: --- SAX: ---	Toxin	0.22	0.056	270	110 PP	110 PP	0.05	0.05
Endothall §§ --- § Hydout § Hydrothal-47 § Aquathol § SHA 038901 § Accelerate § Tri-Endothal § Endothal Hydout § RCRA Waste Number P088 § 3,6-Endooxohexahydrophthalic Acid § Phthalic Acid, Hexahydro-3,6-endo-Oxy- § 7-Oxabicyclo(2,2,1)Heptane-2,3-Dicarboxylic Acid § 1,2-Cyclohexanedicarboxylic Acid, 3,6-endo-Epoxy-	145733 or 145-73-3 NIOSH: RN 7875000 SAX: EAR000	Toxin	---	---	---	100 MCL	100 MCL	1	2

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Endrin §§ --- § NCI C00157 § Endrex § Mendrin § Nendrin § Hexadrin § SHA 041601 § Compound 269 § RCRA Waste Number P051 § 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4(a)5,6,7,8,8a-Octahydro-endo § 3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-Octahydro-2,7:3,6-Dimethanonaphth[2,3-b]oxirene § 1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-Hexachloro-6,7-Epoxy-1,4,4a,5,6,7,8,8a-Octahydro-Endo,Endo-	72208 or 72-20-8 NIOSH: IO 1575000 SAX: EAT500	Toxin with BCF >300	0.086	0.0036	3,970	0.76 PP	2 MCL	N/A	0.3
Endrin Aldehyde §§ ---	7421934 or 7421-93-4 NIOSH: --- SAX: ---	Toxin with BCF >300	---	---	3,970	0.76 PP	2 MCL	N/A	0.025
Epichlorohydrin §§ --- § ECH § Epoxy Propane § α-Epichlorohydrin § Chloromethyloxirane § RCRA Waste Number U041 § y-Chloropropyleneoxide § 2-Chloropropylene Oxide § Glycerol Epichlorhydrin § 2,3-Epoxypropyl Chloride § 1-Chlor-2,3-Epoxypropane § 3-Chlor-1,2-Epoxypropane	106898 or 106-89-8 NIOSH: TX 4900000 SAX: CGN750	Carcinogen	---	---	---	40 HA	40 HA	N/A	---
Ethylbenzene §§ --- § EB § NCI C56393 § Ethylbenzol § Phenylethane § Ethyl Benzene § Benzene, Ethyl	100414 or 100-41-4 NIOSH: DA 0700000 SAX: EGP500	Toxin	---	---	37.5	700 MCL	700 MCL	0.002	0.5
Fenamiphos §§ --- § Nemacur	22224-92-6	Toxin	---	---	---	1.75 HA	1.75 HA	N/A	---
Fluometuron §§ --- § Flo-Met	2164-17-2	Carcinogen	---	---	---	91 HA	91 HA	N/A	---
Fluoranthene §§ --- § Idryl § Benzo(jk)Fluorene § Benzo(j,k)Fluorene § 1,2-Benzacenaphthene § RCRA Waste Number U120 § 1,2-(1,8-Naphthylene)Benzene § Benzene, 1,2-(1,8-Naphthalenediyl)-	206440 or 206-44-0 NIOSH: LL 4025000 SAX: FDF000	Toxin with BCF >300	---	---	1,150	300 PP	280 I	N/A	10
Fluorene (PAH) §§ --- § 9H-Fluorene § Diphenylenemethane § o-Biphenylenemethane § 2,2'-Methylenebiphenyl	86737 or 86-73-7 NIOSH: --- SAX: ---	Toxin	---	---	30	1,300 PP	280 HA	0.25	0.25
Fluoride §§ Flourine § Fluoride § Fluoride(-) § Perfluoride § Fluoride Ion § Fluorine, Ion § Soluable Fluoride § RCRA Waste Number P056 § Hydrofluoric Acid, Ion(1-)	16984488 or 16984-48-8 NIOSH: LM 6290000 SAX: FEX875	Toxin	---	---	---	4,000 MCL	4,000 MCL	5	100

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Fonofos §§ --- § Dyfonate	944-22-9	Toxin	---	---	---	14 HA	14 HA	---	---
Gamma Emitters (11) §§ ---	Multiple	Carcinogen / Radioactive	---	---	---	0.4 mrem ede/yr MCL	0.4 mrem ede/yr MCL	N/A	---
gamma-Chlordane §§ --- § Chlordane, beta-Isomer	5103742 or 5103-74-2 NIOSH: --- SAX: ---	Carcinogen	2.4	0.0043	14,100	0.0057 PP	0.3 HA	N/A	0.4
gamma-hexachlorocyclohexane §§ Lindane § ΓBHC § γ-BHC § Gamene § Lintox § Lentox § Hexcide § Aparsin § Agrocide § Afcide § BHC-gamma § gamma-BHC § HCH-gamma § gamma-HCH § Hexachlorocyclohexane § gamma-Hexachlorobenzene § gamma-Benzenehexachloride § gamma-Benzene Hexachloride § Hexachlorocyclohexane-gamma § Hexachlorocyclohexane (gamma) § Benzene Hexachloride-gamma-isomer § gamma-1,2,3,4,5,6-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, gamma-isomer § 1,2,3,4,5,6-Hexachlorocyclohexane, gamma-isomer § 1-alpha,2-alpha,3-beta,4-alpha,5-alpha,6-beta-Hexachlorocyclohexane § Cyclohexane, 1,2,3,4,5,6-Hexachloro-, (1-alpha, 2-alpha, 3-beta, 4-alpha, 5-alpha, 6-beta)	58899 or 58-89-9 NIOSH: GV 4900000 SAX: BBQ500	Carcinogen	1	0.08	130	0.19 PP	0.19 PP	N/A	0.1
Gases, dissolved, total-pressure (20) §§ ---	Multiple	Toxin	---	110% of saturation	---	---	---	---	---
Glyphosate §§ --- § Jury § Honcho § Rattler § Weedoff § Roundup § Glifonox § n-(Phosphonomethyl)-Glycine § Glycine, n-(Phosphonomrthyl)- § Glyphosate plus inert ingrediants § MON 0573	1071836 or 1071-83-6 NIOSH: MC 1075000 SAX: PHA500	Toxin	---	---	---	700 MCL	700 MCL	6	50
Glyphosate Isopropylamine Salt §§ --- § SHA 103601	38641940 or 38641-94-0 NIOSH: --- SAX: ---	Toxin	---	---	---	700 MCL	700 MCL	6	50

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Guthion §§ --- § DBD § NCI C00066 § Carfene § Gothnion § Azinphos § Crysthyon § Gusathion § Bay 17147 § Methylazinphos § Methyl Guthion § Methyl-Guthion § Azinphos-Methyl § Azinphos Methyl § Caswell Number 374 § EPA Pesticide Chemical Code 058001 § o,o-Dimethylphosphorodithioate S-Ester § 3-Mercaptomethyl)-1,2,3-Benzotriazin-4(3H)-One § Benzotriazinedithiophosphoric Acid Dimethoxy Ester § 3-Dimethoxyphosphinothiomethyl-1,2,3-Benzotriazin-4(3H)-One § Phosphorodithioic Acid, O,O-Dimethyl Ester, S-Ester with 3-(Mercaptomethyl)-1,2,3-Benzotriazin-4(3H)-One	86500 or 86-50-0 NIOSH: TE 1925000 SAX: ASH500	Toxin	---	0.01	---	---	---	---	---
Heptachlor §§ --- § NCI C00180 § Drinox § Heptamul § Agroceris § Heptagran § SHA 04481 § Rhodiachlor § Velsicol-104 § RCRA Waste Number P059 § 3,4,5,6,7,8,8a-heptachlorodicyclopentadiene § Dicyclopentadiene, 3,4,5,6,7,8,8a-Heptachloro- § 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro-4,7-Methanol-1H-Indene § 4,7-Methano-1H-Indene, 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-Tetrahydro- § 1(3a),4,5,6,7,8,8-Heptachloro-3a(1),4,7,7a-Tetrahydro-4,7-Methanoindene	76448 or 76-44-8 NIOSH: PC 0700000 SAX: HAR000	Carcinogen	0.52	0.0038	11,200	0.0021 PP	0.08 HA	N/A	0.2
Heptachlor Epoxide §§ --- § HCE § Velsicol 53-CS-17 § Epoxyheptachlor § 1,4,5,6,7,8,8-Heptachloro-2,3-Epoxy-2,3,3a,4,7,7a-Hexahydro-4,7-Methanoindene § 2,5-Methano-2H-Indeno[1,2b]Oxirene, 2,3,4,5,6,7,7-Heptachloro-1a,1b,5,5a,6,6a-Hexahydro- (alpha, beta, and gamma isomers)	1024573 or 1024-57-3 NIOSH: PB 9450000 SAX: EBW500	Carcinogen	0.26	0.0038	11,200	0.0001 PP	0.04 HA	N/A	0.1
Hexachlorobenzene §§ --- § HCB § Amatin § Smut-Go § Sanocide § Anticarie § Bunt-Cure § Bunt-No-More § Perchlorobenzene § Phenyl Perchloryl § No Bunt Liquid § Julin's Carbon Chloride § Co-op Hexa § Hexa C.B. § Benzene, Hexachloro-	118741 or 118-74-1 NIOSH: DA 2975000 SAX: HCC500	Carcinogen	---	---	8,690	0.0075 PP	0.2 HA	N/A	0.2
Hexachlorobutadiene §§ --- § HCBD § Dolan-Pur § Perchlorobutadiene § RCRA Waste Number U128 § 1,3-Hexachlorobutadiene § 1,3-Butadiene, Hexachloro- § 1,1,2,3,4,4-Hexachloro-1,3-Butadiene § 1,3-Butadiene, 1,1,2,3,4,4-Hexachloro-	87683 or 87-68-3 NIOSH: EJ 0700000 SAX: PCF000	Carcinogen	---	---	2.78	4.4 PP	4.4 PP	N/A	10
Hexachlorocyclohexane §§ --- § BHC § DBH § HCH § HCCH § HEXA § Hexylan § Hexachlor § Gammexane § Hexachloran § Compound 666 § Benzenehexachloride § Benzene Hexachloride	608731 or 608-73-1 NIOSH: GV 3150000 SAX: BBP750	Carcinogen	---	---	130	0.039 PP	0.039 PP	N/A	0.1

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Hexachlorocyclopentadiene §§ --- § HEX § HCP § PCL § C-56 § HCCPD § NCI C55607 § Hexachloropentadiene § RCRA Waste Number U130 § Perchlorocyclopentadiene § 1,3-Cyclopentadiene, 1,2,3,4,5,5-Hexachloro-	77474 or 77-47-4 NIOSH: GY 1225000 SAX: HCE500	Toxin	---	---	4.34	50 MCL	50 MCL	1	1
Hexachloroethane §§ --- § Aviotane § Distokal § Distopan § Distopin § Egitol § Falkitol § Fasciolin § NCI C04604 § Phenohep § Mottenhexe § Perchloroethane § Hexachloroethylene § Ethane, Hexachloro- § Carbon Hexachloride § Ethane Hexachloride § Ethylene Hexachloride § RCRA Waste Number U131 § 1,1,1,2,2,2-Hexachloroethane	67721 or 67-72-1 NIOSH: KI 4025000 SAX: HCI000	Carcinogen	---	---	86.9	19 PP	19 PP	N/A	10
Hexazinone §§ ---	51235-04-2	Toxin	---	---	---	231 HA	231 HA	1	---
Hydrogen Sulfide §§ --- § Stink Damp § Sulfur Hydride § Hydrogen Sulphide § Dihydrogen Sulfide § Hydrosulfuric Acid § Sulfurated Hydrogen § RCRA Waste Number U135 § Dihydrogen Monosulfide § Hydrogen Sulfuric Acid	7783064 or 7783-06-4 NIOSH: MX 1225000 SAX: HIC500	Toxin	---	2 (10)	---	---	---	200	200
Imazamethabenz-methy §§ Assert §	81405-85-8	Carcinogen	---	---	---	400 I	400 I	N/A	---
Imazapyr §§ Arsenal §	81334-34-1	Carcinogen	---	---	---	21,000 I	21,000 I	N/A	---
Indeno(l,2,3-cd)pyrene (PAH) §§ --- § o-Phenylenepyrene § 2,3-Phenylenepyrene § 2,3-o-Phenylenepyrene § RCRA Waste Number U137 § Indeno (l,2,3-cd) Pyrene § 1,10-io-Phenylene)Pyrene § 1,10-(1,2-Phenylene)Pyrene	193395 or 193-39-5 NIOSH: NK 9300000 SAX: IBZ000	Carcinogen	---	---	30	0.044 PP	0.48 I	N/A	0.5
Iron §§ Fe § Ancor EN 80/150 § Carbonyl Iron § Armco Iron	7439896 or 7439-89-6 NIOSH: NO 4565500 SAX: IGK800	Harmful (aquatic life) Narrative	---	1,000	---	(23)	(23)	N/A	10
Isophorone §§ --- § Isoforon § NCI C55618 § Isoacetophorone § alpha-Isophorone § 1,1,3-Trimethyl-3-Cyclohexene-5-One § 3,5,5-Trimethyl-2-Cyclohexene-1-One § 3,5,5-Trimethyl-2-Cyclohexone	78591 or 78-59-1 NIOSH: GW 7700000 SAX: IHO000	Carcinogen	---	---	4.38	8.4 PP	400 PP	N/A	10

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Lead §§ Pb § C.I. 77575 § C.I. Pigment Metal 4 § Glover § Lead Flake § Lead 22 § Omaha § Omaha & Grant § SI § SO	7439921 or 7439-92-1 NIOSH: OF 7525000 SAX: LCF000	Toxin	82 @ 100 mg/l hardness (12)	3.2 @ 100 mg/l hardness (12)	49	15 PP	15 PP	0.1	3
m-Xylene §§ --- § m-Xylol § 1,3-Xylene § meta-Xylene § m-Dimethylbenzene § m-Methyltoluene § 1,3-Dimethylbenzene § 1,3-Dimethyl Benzene	108383 or 108-38-3 NIOSH: ZE 2275000 SAX: XHA000	Toxin	---	---	1.17	10,000 MCL	10,000 MCL	0.5	1.5
Malathion §§ --- § Formal § Sumitox § Emmatos § Celthion § Forthion § Malacide § Kop-Thion § Calmathion § Carbethoxy § NCI C00215 § Carbethoxy Malathion § SHA 057701 § Phosphothion § S-1,2-Bis(Ethoxycarbonyl)Ethyl-O,O-Dimethyl Thiophosphate § O,O-Dimethyl-S-(1,2-Dicarbethoxyethyl) Dithiophosphate § O,O-Dimethyl S-1,2-Di(Ethoxycarbamyl)Ethyl Phosphorodithioate § Succinic Acid, mercapto-, diethyl ester, S-Ester with O,O-Dimethyl Phosphorodithioate	121755 or 121-75-5 NIOSH: WM 8400000 SAX: CBP000	Toxin	---	0.1	---	140 HA	140 HA	---	---
Manganese §§ Mn § Colloidal Manganese § Magnacat § Tronamang	7439965 or 7439-96-5 NIOSH: OO 9275000 SAX: MAP750	Narrative	---	---	---	(24)	(24)	N/A	5
MCPA §§ 4-chloro-2 methylphenoxy acetic acid	94-74-6	Toxin	---	---	---	10.5 HA	10.5 HA	N/A	---
MCPP §§ Mecoprop § (+)-2-(4-chloro-2-methylphenoxy)-propanoic acid	7085-19-0	Toxin	---	---	---	7 I	7 I		---
Mercury §§ Hg § Colloidal Mercury § Mercury, Metallic § NCI C60399 § Quick Silver § RCRA Waste Number U151	7439976 or 7439-97-6 NIOSH: OV 4550000 SAX: MCW250	Toxin with BCF >300	1.7	0.91	5,500	0.05 PP	2 MCL	N/A	0.6
Metalaxyl §§ Ridomil §	57837-19-1	Toxin	---	---	---	420 I	420 I	3.5	---
Methamidophos §§ Monitor §	10265-92-6	Toxin	---	---	---	0.35 I	0.35 I	---	---
Methomyl §§ Lannate §	16752-77-5	Toxin	---	---	---	175 HA	175 HA	1	---

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Methoxychlor §§ --- § DMDT § Metox § Moxie § Methoxcide § NCI C00497 § Methoxy-DDT § Dimethoxy-DDT § RCRA Waste Number U247 § 1,1,1-Trichloro-2,2-Bis(p-Methoxyphenyl)Ethane § Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxy- § 1,1'-(2,2,2-Trichloroethylidene)Bis[4-Methoxybenzene] § Ethane, 1,1,1-Trichloro-2,2-Bis(p-Methoxyphenyl)-	72435 or 72-43-5 NIOSH: KJ 3675000 SAX: DOB400	Toxin	---	0.03	---	40 MCL	40 MCL		1
Methsulfuron Methyl §§ Ally §	74223-64-6	Toxin				1,750 I	1,750 I	0.1	---
Methyl Chloride §§ Chloromethane § Arctic § Monochloromethane § RCRA Waste Number U045	74873 or 74-87-3 NIOSH: PA 6300000 SAX: CHX500	Toxin	---	---	3.75	28 HA	28 HA	0.08	---
Metolachlor §§ Dual §	51218-45-2	Carcinogen	---	---	---	700 HA	700 HA	N/A	---
Metribuzin §§ Sencor §	21087-64-9	Toxin	---	---	---	91 HA	91 HA	10	---
Mirex §§ --- § NCI C06428 § Dechlorane § Bichlorendo § Ferriamicide § Perchloropentacyclodecane § Dodecachloropentacyclodecane § Hexachlorocyclopentadiene Dimer § Cyclopentadiene, Hexachloro-, Dimer § Perchloropentacyclo(5.2.1.0[sup 2,6].0[sup 3,9].0[sup 5,8])Decane § Dodecachlorooctahydro-1,3,4-Metheno-2H-Cyclobuta (c,d)Pentalene § 1,1a,2,2,3,3a,4,5,5,5a,5b,6-Dodecachlorooctahydro-1,3,4-Metheno-1H-Cyclobuta(cd)Pentalene § 1,3,4-Metheno-1H-Cyclobuta[cd]Pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6,-Dodecachlorooctahydro-	2385855 or 2385-85-5 NIOSH: PC 8225000 SAX: MQW500	Toxin	---	0.001	---	14 I	14 I	0.01	0.1
MTBE §§ --- Methyl Tertiary-Butyl Ether	1634-04-4	Harmful				30	30		
N-Nitrosodimethylamine §§ Dimethylnitrosamine § DMN § NDMA § DMNA § Nitrosodimethylamine § Dimethylnitrosoamine § N-Nitrosodimethylamine § RCRA Waste Number P082 § N,N-Dimethylnitrosamine § Methylamine, N-Nitrosodi- § Dimethylamine, N-Nitroso- § N-Methyl-N-Nitrosomethanamine § Methamine, N-Methyl-N-Nitroso- § Methanamine, N-Methyl-N-Nitroso-	62759 or 62-75-9 NIOSH: IQ 0525000 SAX: DSY400	Carcinogen	---	---	0.026	0.0069 PP	0.0069 PP	N/A	10

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
N-Nitrosodiphenylamine §§ --- § NDPA § NDPhA § Vultrol § Curetard A § NCI C02880 § Redox § TJP § Retarder J § Vulcalent A § Vulcatard § Vultrol § Nitrosodiphenylamine § Diphenylnitrosamine § N,N-Diphenylnitrosamine § N-Nitroso-N-Phenylaniline § Diphenylamine, N-Nitroso- § Benzenamine, N-Nitroso-N-Phenyl-	86306 or 86-30-6 NIOSH: JJ 9800000 SAX: DWI000	Carcinogen	---	---	136	50 PP	50 PP	N/A	10
n-Dioctyl Phthalate §§ --- § DNOP § PX-138 § Vinicizer 85 § Dinopol NOP § n-Octyl Phthalate § Octyl Phthalate § Dioctyl Phthalate § Di-n-Octyl Phthalate § Di-sec-Octyl Phthalate § RCRA Waste Number U107 § 1,2-Benzenedicarboxylic Acid, Dioctyl Ester	117840 or 117-84-0 NIOSH: TI 1925000 SAX: DVL600	Carcinogen	---	---	---	---	---	N/A	6
N-Nitrosodi-N-Propylamine §§ --- § DPN § DPNA § NDPA § Dipropylnitrosamine § N-Nitrosodipropylamine § Di-n-Propylnitrosamine § RCRA WAste Number U111 § Dipropylamine, N-Nitroso- § N-Nitrosodi-n-propylamine § N-Nitroso-di-n-propylamine § 1-Propanamine, N-Nitroso-n-Propyl-	621647 or 621-64-7 NIOSH: JL 9700000 SAX: DWU600	Carcinogen	---	---	1.13	0.05 PP	0.05 PP	N/A	10
N-Nitrosopyrrolidene §§ --- § NPYR § NO-pyr § N-N-pyr § 1-Nitrosopyrrolidene § Pyrrolidine, 1-Nitroso- § RCRA Waste Number U180 § Tetrahydro-N-Nitrosopyrrole § Pyrrole, Tetrahydro-N-Nitroso-	930552 or 930-55-2 NIOSH: UY 1575000 SAX: NLP500	Carcinogen	---	---	0.055	0.17 PP	0.17 PP	N/A	10
Naphthalene §§ Moth Balls § Mighty 150 § NCI C52904 § Naphthene § White Tar § Naphthalin § Tar Camphor § Caswell Number 587 § RCRA Waste Number U165 § EPA Pesticide Chemical Code 055801	91203 or 91-20-3 NIOSH: QJ 0525000 SAX: NAJ500	Toxin	---	---	10.5	28 HA	28 HA	0.04	10
Nickel §§ Ni § C.I. 77775 § Ni 270 § Nickel 270 § Ni 0901-S § Ni 4303T § NP 2 § Raney Alloy § Raney Nickel	7440020 or 7440-02-0 NIOSH: QR 5950000 SAX: NCW500	Toxin	261 @ 50 mg/l hardness (12)	29 @ 50 mg/l hardness (12)	47	100 MCL	100 MCL	0.5	20
Nicosulfuron §§ Accent §	111991-09-4	Toxin	---	---	---	8,750 I	8,750 I	0.01	---

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Nitrate (as Nitrogen[N]) §§ NO_3	14797558 or 14797-55-8 NIOSH: --- SAX: ---	Toxin	(8)	(8)	---	10,000 MCL	10,000 MCL	10, surface water, 5,000, Ground water, see ARM 17.30. 715	10
Nitrate plus nitrite (as Nitrogen[N]) §§ $NO_3 + NO_2$	See nitrate and nitrite NIOSH: --- SAX: ---	Toxin	(8)	(8)	---	10,000 MCL	10,000 MCL	10, surface water, 5,000, Ground water, see ARM 17.30. 715	10
Nitrite (as Nitrogen[N]) §§ NO_2	14797650 or 14797-65-0 NIOSH: --- SAX: ---	Toxin	(8)	(8)	---	1,000 MCL	1,000 MCL	4	10
Nitrobenzene §§ --- § NCI C60082 § Mirbane Oil § Nitrobenzol § Oil of Mirbane § Benzene, Nitro- § Essence of Myrbane § RCRA Waste Number U169	98953 or 98-95-3 NIOSH: DA 6475000 SAX: NEX000	Toxin	---	---	2.89	17 PP	17 PP	1.9	10
Nitrogen, total inorganic (as Nitrogen[N]) §§ the sum of ammonia, nitrite, and nitrate	See ammonia, nitrate, and nitrite	Nutrient	(8)	(8)	---	---	---	10	10
Nitrophenol, 4- §§ p-Nitropheno (DOT)l § 4-Hydroxynitrobenzene § NCI C55992) § RCRA Waste Number U170	100027 or 100-02-7 NIOSH: SM 2275000 SAX: NIF000	Toxin	---	---	3.31	56 HA	56 HA	2.4	---
o-Nitrophenol §§ --- § 2-Nitrophenol § 2-Hydroxynitrobenzene	88755 or 88-75-5 NIOSH: SM 2100000 SAX: NIE500	Toxin	---	---	2.33	---	---	0.45	---
o-Xylene §§ --- § o-Xylol § 1,2-Xylene § ortho-Xylene § o-Methyltoluene § o-Dimethylbenzene § 1,2-Dimethylbenzene § 1,2-Dimethyl Benzene	95476 or 95-47-6 NIOSH: ZE 2450000 SAX: XHJ000	Toxin	---	---	1.17	10,000 MCL	10,000 MCL	0.5	1.5

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Oxamyl §§ --- § D-1410 § DPX 1410 § Insecticide-Nematicide 1410 § Vydate § Thioxamyl § Methyl 2-(Dimethylamino)-N- § Vydate L, Insecticide/Nematicide § ({[Methylamino]Carbonyl}Oxy)-2-Oxoethanimidothioate § 2-Dimethylamino-1-(Methylthio)Glyoxal O-Methylcarbamoylmonozime § S-Methyl 1-Dimethylcarbamoyl)-N ({Methylcarbamoyl}Oxy)Thioformimidate § Methyl N',N'-Dimethyl-N-({Methylcarbamoyl}Oxy)-1-Thiooxamimidate § N',N'-Dimethyl-N-[(Methylcarbamoyl)oxy]-1-Methylthiooxamimidic Acid	23135220 or 23135-22-0 NIOSH: RP 2300000 SAX: DSP600	Toxin	---	---	---	200 MCL	200 MCL	1	1
Oxydemeton Methyl §§ Metasystox R §	301-12-2	Toxin	---	---	---	3.5 1	3.5 1	1.4	---
Oxygen, dissolved (20) §§ O_2 § Oxygen, Compressed § Oxygen, Refrigerated Liquid	7782447 or 7782-44-7 NIOSH: RS 2060000 SAX: OQW000	Toxin	(15)	(15)	---	---	---	50	100
p,p'-Dichlorodiphenyldichloroethylene §§ DDE § DDE § p,p'-DDE § 4,4'-DDE § NCI C00555 § Dichlorodiphenyldichloroethylene § Dichlorodiphenyldichloroethylene, p,p'- § 2,2'-bis(4-Chlorophenyl)-1,1-Dichloroethylene § 1,1'-(Dichloroethenylidene)bis(4-Chlorobenzene) § 2,2'-bis(p-Chlorophenyl)-1,1-Dichloroethylene § Benzene, 1,1'-(DichloroethenylideneBis[4-Chloro-	72559 or 72-55-9 NIOSH: KV 9450000 SAX: BIM750	Carcinogen	---	---	53,600	0.0059 PP	0.0059 PP	N/A	0.01
p,p'-Dichlorodiphenyltrichloroethane §§ DDT § DDT § 4,4'-DDT § Agritan § Anoflex § Arkotine § Azotox § Bosan Supra § Bovidermol § Chlorophenothan § Chlorophenothane § Chlorophenotoxum § Citox § Clofenotane § Dedelo § § Chlorophenothane § Diphenyltrichloroethane § Dichlorodiphenyltrichloroethane § 4,4'-Dichlorodiphenyltrichloroethane § Dichlorodiphenyltrichloroethane, p,p'- § 1,1,1-Trichloro-2,2,-bis(p-Chlorophenyl) Ethane § 1,1,1-Trichloro-2,2,-bis(p-Chlorophenyl)Ethane § 1,1,1-Trichloro-2,2,-Di(4-Chlorophenyl)-Ethane § 1,1-Bis-(p-Chlorophenyl)-2,2,2-Trichloroethane § 2,2-Bis-(p-Chlorophenyl)-1,1,1-Trichloroethane § Benzene, 1,1'-(2,2,2-Trichloroethylidene)Bis(4-Chloro-) § alpha,alpha-Bis(p-Chlorophenyl)-beta,beta,beta-Trichlorethane	50293 or 50-29-3 NIOSH: KJ 3325000 SAX: DAD200	Carcinogen	1.1	0.001	53,600	0.0059 PP	0.0059 PP	N/A	0.06

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
p,p'-Dichlorodiphenyldichloroethane §§ DDD § TDE § DDD § Dilene § NCI C00475 § Rothane § Rhothane § 4,4'-DDD § p,p'-DDD § p,p'-TDE § 4',4'-D-DDD § RCRA Waste Number U060 § Tetrachlorodiphenylethane § Dichlorodiphenyldichloroethane § Dichlorodiphenyl Dichloroethane § 2,2-bis (4-Chlorophenyl)-1,1-Dichloroethane § 1,1-Dichloro-2,2-bis(p-Chlorophenyl) Ethane § 1,1-bis(4-Chlorophenyl)-2,2-Dichloroethane § 2,2-bis(p-Chlorophenyl)-1,1-Dichloroethane § Benzene, 1,1'(2,2-Dichloroethylidene)Bis[4-Chloro-	72548 or 72-54-8 NIOSH: KI 0700000 SAX: BIM500	Carcinogen	---	---	53,600	0.0083 PP	0.0083 PP	N/A	0.01
p-Bromodiphenyl Ether §§ Benzene, 1-Bromo-4-Phenoxy- § p-Bromodiphenyl Ether § 4-Bromophenoxybenzene § 4-Bromodiphenyl Ether § 1-Bromo-4-Phenoxybenzene § p-Bromophenylphenyl Ether § 4-Bromophenyl Phenyl Ether	101553 or 101-55-3 NIOSH: --- SAX: ---	Toxin with BCF >300	---	---	1,640	---	---	N/A	10
p-Chloro-m-Cresol §§--- § PCMC § Parol § Aptal § Baktol § Baktolan § Ottafact § Raschit § Rasen-Anicon § Parmetol § Candasetpic § Chlorocresol § Preventol CMK § RCRA Waste Number U039 § Parachlorometra Cresol § 4-Chloro-3-methylphenol § 2-Chloro-Hydroxytoluene § Phenol, 4-Chloro-3-methyl- § Chlorophenol, 4-, methyl, 3-	59507 or 59-50-7 NIOSH: GO 7100000 SAX: CFE250	Harmful	---	---	---	3,000 PP	3,000 PP	N/A	20
p-Xylene §§ --- § p-Xylol § Chromar § Scintillar § 1,4-Xylene § para-Xylene § p-Methyltoluene § p-Dimethylbenzene § 1,4-Dimethylbenzene § 1,4-Dimethyl Benzene	106423 or 106-42-3 NIOSH: ZE 2625000 SAX: XHS000	Toxin	---	---	1.17	10,000 MCL	10,000 MCL	0.5	1.5
Paraquat Dichloride §§ ---	1910-42-5	Toxin	---	---	---	31.5 HA	31.5 HA	0.8	---
Parathion §§ --- § DNTP § Niran § Phoskil § Paradust § Stathion § Strathion § Pestox Plus § Nitrostigmine § Parathion Ethyl § Parathion-ethyl § Ethyl Parathion § Diethylparathion § Caswell Number 637 § RCRA Waste Number P089 § EPA Pesticide Chemical Code 057501 § Diethyl 4-Nitrophenylphosphorothioate § Diethyl para-Nitrophenol Thiophosphate § Diethyl-p-Nitrophenyl Monothiophosphate § O,O-Diethyl O-4-Nitrophenyl Thiophosphate § Phosphorothioic Acid, O,O-Diethyl O-(4-Nitrophenyl) Ester	56382 or 56-38-2 NIOSH: TF 4920000, dry TF 4950000, liquid SAX: PAK250, dry SAX: PAK260, liquid	Toxin	0.065	0.013	---	1.75 HA	1.75 HA		1
Pentachlorobenzene §§ Benzene, Pentachloro- § QCB- § RCRA Waste Number U183	608935 or 608-93-5 NIOSH: DA 6640000 SAX: PAV500	Toxin with BCF >300	---	---	2,125	3.5 PP	3.5 PP	N/A	0.1

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Pentachlorophenol §§ Penta § PCP § Durotox § Weedone § Chem-Tol § Lauxtol A § NCI C54933 § NCI C55378 § NCI C56655 § Permite § Dowcide 7 § Permacide § Penta-Kil § Permagard § Penchlorol § Chlorophen § Pentachlorphenol § Pentaclorofenolo § Thompson's Wood Fix § Phenol, Pentachloro- § 2,3,4,5,6-Pentachlorophenol § 1-Hydroxy- 2,3,4,5,6-Pentachlorobenzene	87865 or 87-86-5 NIOSH: SM 6300000 SAX: PAX250	Carcinogen	5.3 @ pH of 6.5 (14)	4 @ pH of 6.5 (14)	11	1 MCL	1 MCL	N/A	0.05
pH §§ ---	N/A	Harmful	(13)	(13)	---	(18)	(18)	N/A	---
Phenanthrene (PAH) §§ --- § Phenantrin	85018 or 85-01-8 NIOSH: SF 7175000 SAX: PCW250	Toxin	---	---	30	---	---	0.01	0.25
Phenol §§ --- § Baker's P and S Liquid and Ointment § NCI C50124 § Benzenol § Monophenol § Oxybenzene § Phenic Acid § Carbolic Acid § Phenylic Acid § Hydroxybenzene § Hydroxybenzene § Phenyl Alcohol § Phenyl Hydrate § Phenylic Alcohol § Phenyl Hydroxide § Benzene, Hydroxy- § Monohydroxybenzene § RCRA Waste Number U188	108952 or 108-95-2 NIOSH: SJ 3325000 SAX: PDN750	Harmful	---	---	1.4	300 PP	300 PP	100	10
Phosphorus, inorganic (20) §§ --- § Ortho-phosphorus § phosphorus, Ortho-	14265442 or 14265-44-2 NIOSH: --- SAX: ---	Nutrient	(8)	(8)	---	---	---	1	1
Picloram §§ Tordon § ATCP § K-Pin § Borolin § Amdon Grazon § NCI C00237 § Tordon 10K § Tordon 22K § Tordon 101 Mixture § 3,5,6-Trichloro-4-Aminopicolinic Acid § 4-Amino-3,5,6-Trichloropicolinic Acid	1918021 or 1918-02-1 NIOSH: TJ 7525000 SAX: AMU250	Toxin	---	---	---	500 MCL	500 MCL	0.14	1
Polychlorinated Biphenyls, individually or mixed §§ PCB's § Aroclor 1016, 1221, 1232, 1242, 1248, 1254, 1260, 1268, 2565, 4465 § Chlophen § Chlorextol § Chlorinated Biphenyl § Chlorinated Diphenyl § Chlorinated Diphenylene § Chloro Biphenyl § Chloro-1,1-Biphenyl § Clophen § Dykanol § Fenclor § Inerteen § Kanechlor 300, 400, 500 § Montar § Noflamol § PCB (DOT) § Phenochlor § Polychlorobiphenyl § Pyralene § Pyranol § Santotherm § Sovol § Therminol FR-1	Multiple	Carcinogen	---	0.014	31,200	0.0017 PP	0.5 MCL	N/A	1
Primisulfuron Methyl §§ Beacon § Exceed	86209-51-0	Toxin	---	---	---	42 1	42 1	0.1	---

CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS(9)

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Prometon §§ Pramitol §	1610-18-0	Toxin	---	---	---	105 HA	105 HA	0.3	---
Pronamide §§ Kerb §	23950-58-5	Carcinogen	---	---	---	525 HA	525 HA	N/A	---
Propachlor §§ Ramrod §	1918-16-7	Toxin	---	---	---	91 HA	91 HA	0.5	---
Propane, 1,2-Dibromo-3-Chloro- §§ Dibromochloropropane § 1,2-Dibromo-3-Chloropopane § Fumagon § Fumazone § NCI C00500 § Nemabrom § Nemafume § Nemagon § Nemagone § Nemagone Soil Fumigant § Nemanax § Nemapaz § Nemaset § Nematocide § Nematox § OS 1897 § OXY DBCP § SD 1897 § Caswell Number 287 § RCRA Waste Number U066 § 1-Chloro-2,3-Dibromopropane § DBCP § EPA Pesticide Chemical Code 011301	96128 or 96-12-8 NIOSH: TX 8750000 SAX: DDL800	Carcinogen	---	---	---	0.2 MCL	0.2 MCL	N/A	0.05
Propazine §§ ---	139-40-2	Carcinogen	---	---	---	140 HA	140 HA	N/A	---
Propham §§ ---	122-42-9	Toxin	---	---	---	140 HA	140 HA	0.13	---
Propoxur §§ Baygon §	114-26-1	Carcinogen	---	---	---	28 HA	28 HA	N/A	---
Pyrene (PAH) §§ --- § ß-Pyrine § beta-Pyrene § Benzo(def)Phenanthrene § Benzo[def]Phenanthrene	129000 or 129-00-0 NIOSH: UR 2450000 SAX: PON250	Toxin	---	---	30	210 HA	210 HA	0.25	0.25
Radium 226 §§ ---	Radium 226 13982636 or 13982-63-6 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	5 picocuries/ liter Note: The sum of Radium 226 and 228. MCL	5 picocuries/ liter Note: The sum of Radium 226 and 228. MCL	N/A	---

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Radium 228 §§ ---	Radium 228 15262201 or 15262-20-1 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	5 picocuries/ liter Note: The sum of Radium 226 and 228. MCL	5 picocuries/ liter Note: The sum of Radium 226 and 228. MCL	N/A	---
Radon 222 §§ ---	14859677 or 14859-67-7 NIOSH: --- SAX: ---	Carcinogen / Radioactive	---	---	---	15 picocuries/ liter HA	15 picocuries/ liter HA	N/A	---
Selenium §§ Se § C.I. 77805 § Colloidal Selenium § Elemental Selenium § Selenium Alloy § Selenium Base § Selenium Dust § Selenium Elemental § Selinium Homopolymer § Selenium Metal Powder, Non-Pyrophoric § Vandex	7782492 or 7782-49-2 NIOSH: VS 7700000 VS 8310000, colloidal SAX: SBO500 SAX: SBP000, colloidal	Toxin	20	5	6	50 MCL	50 MCL	0.6	1
Silver §§ Ag § Argentum § C.I. 77820 § Shell Silver § Silver Atom	7440224 or 7440-22-4 NIOSH: VW 3500000 SAX: SDI500	Toxin	4.1 @ 100 mg/l hardness (12)	---	0.5	35 HA	35 HA	0.2	3
Simazine §§ — § CDT § Herbex § Framed § Bitemol § Radokor § A 2079 § Batazina § Cat (Herbicide) § CET § G 27692 § Geigy 27,692 § Gesaran § Gesatop 50 § Simazine 80W § Symazine § Taphazine § W 6658 § Zeapur § Princep § Aquazine § Herbazin § Tafazine § 2,4-bis(Ethylamino)-6-Chloro-s-Triazine § 1-Chloro, 3,5-Bisethylamino-2,4,6-Triazine § 2-Chloro-4,6-Bis(Ethylamino)-1,3,5-Triazine § 6-Chloro-N,N'-Diethyl-1,3,5-Triazine-2,4-Diyldiamine	122349 or 122-34-9 NIOSH: XY 5250000 SAX: BJP000	Carcinogen	---	---	---	4 MCL	4 MCL	N/A	0.3
Strontium §§ ---	7447246 NIOSH: --- SAX: ---	Toxin	---	---	---	4,200 HA	4,200 HA	100	---
Styrene §§ --- § Styrol § Cinnamol § Cinnamene § Cinnamenol § NCI C02200 § Styrole § Strolene § Styron § Stropor § Vinylbenzol § Phenethylene § Phenylethene § Vinylbenzene § Ethenylbenzene § Phenylethylene § Benzene, Vinyl- § Stryene, Monomer	100425 or 100-42-5 NIOSH: WL 3675000 SAX: SMQ000	Carcinogen	---	---	---	100 HA	100 HA	N/A	0.5

CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS(9)

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Sulfometuron Methyl §§ Oust §	74222-97-2	Toxin	---	---	---	1,750 I	1,750 I	0.01	---
Tebuthiuron §§ --- § Spike	34014-18-1	Toxin	---	---	---	490 HA	490 HA	2	---
Temperature §§ ---	N/A	Harmful	(13)	(13)	---	---	---	N/A	---
Terbacil §§ Sinbar §	34014-18-1	Toxin	---	---	---	91 HA	91 HA	2.2	---
Terbufos §§ Counter §	13071-79-9	Toxin	---	---	---	0.9 HA	0.9 HA	0.5	---
Tetrachlorobenzene, 1,2,4,5- §§ Benzene, 1,2,4,5-Tetrachloro- § RCRA Waste Number U207 § 1,2,4,5-Tetrachlorobenzene	95943 or 95-94-3 NIOSH: DB 9450000 SAX: TBN750	Toxin with BCF >300	---	---	1,125	2.3 PP	2.3 PP	N/A	0.1
Tetrachloroethane, 1,1,2,2- §§ Tetrachloroethane § TCE § Cellon § Westron § Bonoform § sym-Tetrachloroethane § RCRA Waste Number U209 § Acetylene Tetrachloride § 1,1,2,2-Tetrachloroethane § Ethane, 1,1,2,2-Tetrachloro- § 1,1-Dichloro-2,2-Dichloroethane	79345 or 79-34-5 NIOSH: KI 8575000 SAX: ACK500	Carcinogen	---	---	5	1.7 PP	1.7 PP	N/A	0.5
Tetrachloroethylene §§ Perchlorethylene § NCI C04580 § PCE § Perk § PERC § ENMA § Dow-Per § Perchlor § Perclene § Perklone § Didakene § Tetra Cap § Percosolve § Perchloroethylene § Tetrachloroethene § Carbon Bichloride § Carbon Dichloride § RCRA Waste Number U210 § Ethylene Tetrachloride § Ethylene, Tetrachloro- § 1,1,2,2-Tetrachloroethylene	127184 or 127-18-4 NIOSH: KX 3850000 SAX: TBQ250	Carcinogen	---	---	30.6	5 MCL	5 MCL	N/A	0.5
Thallium §§ Tl § Ramor	7440280 or 7440-28-0 NIOSH: XG 3425000 SAX: TEI000	Toxin	---	---	119	1.7 PP	2 MCL	0.3	3
Thifensulfuron Methyl §§ --- § Pinnacle	79277-27-3	Toxin	---	---	---	910 I	910 I	1	---

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Toluene §§ --- § Antisal 1a § NCI C07272 § Toluol § Tolu-Sol § Methacide § Methylbenzol § Methylbenzene § Phenylmethane § Phenyl-Methane § Methyl-Benzene § Benzene, Methyl § RCRA Waste Number U220	108883 or 108-88-3 NIOSH: XS 5250000 SAX: TGK750	Toxin	---	---	10.7	1,000 MCL	1,000 MCL	0.01	0.5
Toxaphene §§ --- § Attac 4-2 § Alltox § Alltex § Attac 6 § Toxal-II § Agricide § Chem-Phene § Clor Chem T-590 § Compound 3956 § Crestoxo § Estonox § Geniphene § Gy-Phene § Hercules 3956 § Melipax § Motox § PCC § Phenacide § Phenatox § Toxadust § Camphechlor § Maggot Killer (F) § Toxaphene mixture § Chlorinated-Camphene § Camphene, Octachloro- § RCRA Waste Number P123	8001352 or 8001-35-2 NIOSH: XW 5250000 SAX: THH750	Carcinogen	0.73	0.0002	13,100	0.0073 PP	0.3 HA	N/A	1
trans-1,2-Dichloroethylene §§ --- § trans-Dichloroethylene § RCRA Waste Number U079 § trans-1,2-Dichloroethane § trans-1,2-Dichloroethene § Dichloroethylene, trans- § trans-Acetylene Dichloride § 1,2-trans-Dichloroethylene § Ethene, 1,2-Dichloro-, (E)- § 1,2-Dichloroethylene, trans-	156605 or 156-60-5 NIOSH: KV 9400000 SAX: DFI600	Toxin	---	---	1.58	100 MCL	100 MCL	0.05	0.5
trans-1,3-Dichloropropene §§ Telone II § 1,3-Dichloropropene § 1,3-Dichloropropylene § (E)-1,3-Dichloropropene § trans-1,3-Dichloropropylene § 1-Propene, 1,3-Dichloro-, (E)-	10061026 or 10061-02-6 NIOSH: UC 8320000 SAX: DGH000	Carcinogen	---	---	1.91	2 HA	2 HA	N/A	0.5
trans-Nonachlor (Chlordane component) §§ --- § Chlordane, trans-Isomer	39765805 or 39765-80-5 NIOSH: --- SAX: ---	Carcinogen	2.4	0.0043	14,100	0.0057 PP	0.3 HA	N/A	0.4
Triasulfuron §§ Amber	82097-50-5	Toxin	---	---	---	70 I	70 I	1	---
Tribenuron Methyl §§ Express	101200-48-0	Toxin	---	---	---	8 I	8 I	0.1	---
Trichlorobenzene, 1,2,4- §§ Benzene, 1,2,4-Trichloro- § unsym-Trichlorobenzene § 1,2,4-Trichlorobenzene	120821 or 120-82-1 NIOSH: DC 2100000 SAX: TIK250	Toxin	---	---	114	70 MCL	70 MCL	0.02	0.5
Trichloroethane, 1,1,2- §§ Vinyl Trichloride § 1,1,2-Trichloroethane § 0-T § Ethane Trichloride § beta-Trichloroethane § 1,2,2-Trichloroethane § RCRA Waste Number U227 § NCI C04579 § Ethane, 1,1,2-Trichloro- § Caswell Number 875A [NLM] § EPA Pesticide Chemical Code 081203 [NLM]	79005 or 79-00-5 NIOSH: KJ 3150000 SAX: TIN000	Carcinogen	---	---	4.5	5 MCL	5 MCL	N/A	0.5

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Pollutant Element / Chemical Compound or Condition	CASRN, NIOSH and SAX Numbers (25) (26) (27)	Category (1) (2)	Aquatic Life Standards (16)		Bioconcentration Factor (BCF) (5)	Human Health Standards (17)(6)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Trichloroethane, 1,1,1- §§ Methyl Chloroform § α-T § Strobane § Inhibisol § 1,1,1-TCE § Tri-Ethane § Solvent 111 § Aerothene TT § Chloroethene § Chlorten § NCI C04626 § Methylchloroform § Chloroform, Methyl- § 1,1,1-Trichloroethene § alpha-Trichloroethane § Methyltrichloromethane § RCRA WAste Number U226 § 1,1,1-Trichloroethane § Ethane, 1,1,1-Trichloro-	71556 or 71-55-6 NIOSH: KJ 2975000 SAX: TIM750	Toxin	---	---	5.6	200 MCL	200 MCL	0.5	0.5
Trichloroethylene §§ --- § TCE § Triad § Vitran § Algylen § Dow-Tri § Lanadin § Vestrol § Anamenth § Benzinol § Tri-Plus § Tri-Clene § Trichlorethene § Trichloroethene § Trichloroethane § Trichlorethylene § Tetrachloroethene § Ethene, Trichloro- § Ethylene Trichloride § Ethylene, Trichloro- § Acetylene Trichloride § 1,1,2- Trichloroethylene § 1,2,2-Trichloroethylene § 1-Chloro-2,2-Dichloroethylene § 1,1-Dichloro- 2-Chloroethylene	79016 or 79-01-6 NIOSH: KX 4550000 SAX: TIO750	Carcinogen	---	---	10.6	5 MCL	5 MCL	N/A	0.5
Trichlorofluoromethane (HM) §§ Freon 11 § F 11 § FC 11 § Arcton 9 § Eskimon 11 § Halocarbon 11 § Algofrene Type 1 § RCRA Waste Number U121 § Fluorocarbon Number 11 § NCI C04637 § Isotron 11 § Fluorotrichloromethane § Isceon 131 § Monofluorotrichloromethane § Ucon Refrigerant 11 § Trichloromonofluoromethane	75694 or 75-69-4 NIOSH: PB 6125000 SAX: TIP500	Toxin	---	---	3.75	10,000 PP	10,000 PP	0.07	0.5
Trichlorophenol,2,4,5- §§ Dowcide B § 2,4,5-Trichlorophenol § Nurelle § Dowcide 2 § Collunosol § Preventol 1 § RCRA Waste Number U230 § NCI C61187	95954 or 95-95-4 NIOSH: SN 1400000 SAX: TIV750	Harmful	---	---	110	7 I	7 I	10	10
Trichlorophenol, 2,4,6- §§ Phenachlor § 2,4,6-Trichlorophenol § Dowcide 2S § RCRA Waste Number U231 § Omal§ Phenol, 2,4,6-trichloro- § NCI C02904	88062 or 88-06-2 NIOSH: SN 1575000 SAX: TIW000	Carcinogen	---	---	150	21 PP	30 HA	N/A	10
Trichlorophenoxy Proprionic Acid, 2 (2,4,5-) §§ Fenoprop § 2 (2,4,5-Trichlorophenoxy) Proprionic Acid § Kuran § Propon § Silvex § Aqua-Vex § Ded-Weed § Sta-Fast § 2,4,5-TP § Color-Set § Weed-B-Gon § Double Strength § RCRA Waste Number U233 § 2,4,5-Trichlorophenoxypropionic Acid § α(2,4,5-Trichlorophenoxy)Propionic Acid § 2-(2,4,5-Trichlorophenoxy)-Proprionic Acid § (+/-)-2-(2,4,5-Trichlorophenoxy)propanoic Acid	93721 or 93-72-1 NIOSH: UF 8225000 SAX: TIX500	Toxin	---	---	---	50 MCL	50 MCL	0.075	0.1
Trichlorophenoxyacetic Acid §§ Brush-Rhap § 2,4,5-T (Brush-Rhap)	93-76-5 (Acids & Amines) or 251168-15-4 (Eshers)	Toxin	---	---	---	70 HA	70 HA	N/A	---

CIRCULAR WQB-7, MONTANA NUMERIC WATER QUALITY STANDARDS(9)

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			Acute (3)	Chronic (4)		Surface Water	Groundwater		
Triclopyr - amine salt §§ Garlon §	55335-06-3	Toxin	---	---	---	350 I	350 I	0.25	---
Trifluralin §§ Treflan § Buckle	1582-09-8	Carcinogen	---	---	---	50 HA	50 HA	N/A	---
Trialomethanes, total §§ --- § TTHMs	Multiple	Carcinogen	---	---	---	100 MCL	100 MCL	N/A	2
Turbidity (20) §§ ---	N/A	Harmful	(13)	(13)	---	---	---	N/A	1 NTU
Uranium, natural §§ U § Uranium Metal, Pyrophoric	7440611 or 7440-61-1 NIOSH: YR 3490000 SAX: UNS000	Carcinogen / Radioactive	---	---	---	20 MCL	20 MCL	0.03	---
Vinyl 2-Chloroethyl Ether §§ Vinyl B-Chloroethyl Ether- § (2-Chloroethoxy)Ethene § RCRA Waste Number U042 § 2-Chloroethyl Vinyl Ether	110758 or 110-75-8 NIOSH: KN 6300000 SAX: CHI250	Carcinogen	---	---	0.557	---	---	N/A	---
Vinyl Chloride §§ --- § VC § VCM § Chlorethene § Chloroethene § Chlorethylene § Chloroethylene § Ethylene, Chloro- § Monochloroethylene § Ethylene Monochloride § RCRA Waste Number U043 § Vinyl Chloride Monomer § Vinyl C Monomer § Trovidur	75014 or 75-01-4 NIOSH: KU 9625000 SAX: VNP000	Carcinogen	---	---	1.17	0.15 HA	0.15 HA	N/A	0.5
Xylenes §§ --- § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § RCRA Waste Number U239 § NCI C55232 § Total equals the sum of meta, ortho, and para.	1330207 or 1330-20-7 NIOSH: ZE 2100000 SAX: XGS000	Toxin	---	---	1.17	10,000 MCL	10,000 MCL	0.5	1.5
Zinc §§ Zn § Blue Powder § C.I. 77945 § C.I. Pigment Black 16 § C.I. Pigment Metal 6 § Emanay Zinc Dust § Granular Zinc § Jasad § Merrillite § Pasco § Zinc, Powder or Dust, non-Pyrophoric § Zinc, Powder or Dust, Pyrophoric	7440666 or 7440-66-6 NIOSH: ZG 8600000 SAX: ZBJ000	Toxin	67 @ 50 mg/l hardness (12)	67 @ 50 mg/l hardness (12)	47	2,100 HA	2,100 HA	5	10

CIRCULAR WQB-7
DETAILED NOTES OF EXPLANATION

(1) Based on EPA's categories and include parameters determined to be to toxic (toxin), carcinogenic (carcinogen), or harmful. Harmful parameters include nutrients, biological agents, and those parameters which cause taste and/or odor effects or physical effects.

(2) Carcinogens are chemicals classified by EPA as carcinogens for an oral route of exposure in the drinking water regulations and health advisories (EPA 822-B-96-002) and those listed as carcinogens in the EPA priority pollutant lists. Carcinogens include those parameters in classifications A (Human Carcinogen), B1 or B2 (Probable Human Carcinogens), and C (Possible Human Carcinogen).

(3) No sample shall exceed these concentrations.

(4) No four-day (96-hour) or longer period average concentration shall exceed these values.

(5) All bioconcentration factors (BCF's) were developed by the EPA as part of the Standards development as mandated by Section 304(a) of the Federal Clean Water Act. Values shown are current as of 07/01/1993.

(6) The 24 hour geometric mean value must not exceed these values.

Standards for metals (except aluminum) in surface water are based upon the analysis of samples following a "total recoverable" digestion procedure (Section 9.4, "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

Standards for metals in groundwater are based upon the dissolved portion of the sample (after filtration through a 0.45 µm membrane filter, as specified in "Methods for Analysis of Water and Wastes" 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

Standards for organic parameters in surface and ground water are based on unfiltered samples.

(7) Freshwater Aquatic Life Standards for total ammonia nitrogen (mg/l NH_3-N plus NH_4-N) are expressed as a function of pH and temperature. The Acute equation and the Chronic equation are as follows:

$$\text{Acute}^{a,c} = 0.822 \times (0.52/FT/FPH/2) \quad \text{where } FT = 10^{0.03(20-TCAP)} \quad \text{if } TCAP < T < 30$$

$$= 10^{0.03(20-T)} \quad \text{if } 0 < T < TCAP$$

$$FPH = 1 \quad \text{if } 8 < pH < 9$$

$$= (1 + 10^{7.4-pH})/1.25 \quad \text{if } 6.5 < pH < 8$$

TCAP	= 20° C	if Salmonids or other sensitive cold-water species present.
	= 25° C	if Salmonids and other sensitive cold-water species absent.

a The usual Acute averaging period of one hour is not appropriate if excursions of concentrations to greater than 1.5 times the average occur during the hour; in such cases, a shorter averaging period will be required.

Chronic[b,c] = 0.822 x (0.80/FT/FPH/RATIO) where FT and FPH are as above and:

RATIO	= 13.5	if 7.7 < pH < 9
	$= 20(10^{7.7-pH}/1 + 10^{7.4-pH})$	if 6.5 < pH < 7.7
TCAP	= 15° C	if Salmonids/other sensitive cold-water species present.
	= 20° C	if Salmonids/other sensitive cold-water species absent.

b Because these formulas are non-linear in pH and temperature, the Standard is the average of separate evaluations of the formulas reflective of the fluctuations of flow, pH, and temperature within the averaging period; it is not appropriate to apply the formula to average pH, temperature and flow.

c These formulas yield the allowable concentration of NH_3-N. To convert these values to the total ammonia as nitrogen (mg/l NH_3-N plus NH_4-N) which is the usual way that analytical results are expressed the following formula must be used.

Total ammonia as nitrogen = $NH_3\text{-}N \times (1+10^{PKA-pH})$

Where PKA = 0.09018 + 2729.92/T

and T = degrees centigrade + 273.2

(8) A plant nutrient, excessive amounts of which may cause violations of Administrative Rules of Montana (ARM) 17.30.637(1)(e).

(9) Approved methods of sample preservation, collection, and analysis for determining compliance with the standards set forth in WQB-7 are found in the surface water quality standards (ARM 17.30.601, et seq.) and the ground water rules (ARM 17.30.1001, et seq.).

(10) Calculation of an equivalent concentration of 2,3,7,8-TCDD is to be based on congeners of CDDs/CDFs and the toxicity equivalency factors (I-TEFs/89) in Table 2, Part II, "Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and -Debenzofurans (CDDs and CDFs) and 1989 Update". EPA/625/3-89/016, March 1989. The analysis method to be used is EPA Method 1613, Revision B, Tetra-through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS, 40 CFR 136.3 (1 July 1998 Edition).

7 Day Mean	9.5 (6.5)	N/A	6.0	N/A
7 Day Mean Minimum	N/A[3]	5.0	N/A[3]	4.0
1 Day Minimum[4]	8.0 (5.0)	4.0	5.0	3.0

[1] These are water column concentrations recommended to achieve the required inter-gravel dissolved oxygen concentrations shown in parentheses. For species that have early life stages exposed directly to the water column, the figures in parentheses apply.

[2] Includes all embryonic and larval stages and all juvenile forms to 30-days following hatching.

[3] N/A (Not Applicable).

[4] All minima should be considered as instantaneous concentrations to be achieved at all times.

(16) Aquatic Life Standards apply to surface waters only and are based upon the analysis of samples following a "total recoverable" digestion procedure (Section 9.4, "Methods for Analysis of Water and Wastes", 1983, Environmental Monitoring and Support Laboratory, U.S. Environmental Protection Agency, EPA-600/4-79-020, or equivalent).

(17) Source of the criteria used to derive the standard:

PP = priority pollutant criteria
MCL = Maximum contaminate level from the drinking water regulations
SMCL =secondary maximum contaminate level
HA = health advisory all from EPA's "Drinking Water Standards and Health Advisories" (October 1996)
I = standard derived from data obtained from federal data sources available on the Internet as of June 1998.

For surface waters the Standard is the more restrictive of either the Aquatic Life Standard or the Human Health Standard.

(18) The Narrative Standards are located in the Administrative Rules of Montana (ARM) 17.30.601 et seq and ARM 17.30.1001 et seq.

(19) The Required Reporting Value (RRV) is the Department's best determination of a level of analysis that can be achieved in routine sampling. It is based on levels actually achieved at both commercial and government laboratories in Montana using accepted methods. The (RRV) is the detection level that must be achieved in reporting ambient or compliance monitoring results to the Department. Higher detection levels may be used if it has been demonstrated that the higher detection levels will be less than 10% of the expected level of the sample.

(20) Applicable to surface waters only.

(21) Based on taste and odor thresholds given in *EPA 822-f-97-008 December 1997.*

(11) **Radionuclides consisting of alpha partides, and beta and gamma emitters are classified as carcinogenic. Their associated Standards are based upon a drinking water MCLs. This exposure is based upon daily ingestion of 2 liters of water. The emitters covered under this Standard are:**

- **Cesium, radioactive**
- **Iodine, radioactive**
- **Strontium -89 and -90, radioactive**
- **Tritium**
- **Gamma photon emitters**

(12) **Freshwater Aquatic Life Standards for these metals are expressed as a function of total hardness (mg/l, CaCO3). The values displayed in the chart correspond to a total hardness of 100 mg/l. The hardness relationships are:**

Acute = exp{ma[ln(hardness)]+ba} **Chronic = exp{mc[ln(hardness)]+bc}**

	ma	ba	mc	bc
cadmium	1.128	-3.687	0.7852	-2.715
copper	0.9422 -1.700		0.8545 -1.702	
chromium (III)	0.8190	3.726	0.8190	0.685
lead	1.273	-1.460	1.273	-4.705
nickel	0.8460	2.256	0.8460	0.0584
silver	1.72	-6.52	------	------
zinc	0.8473	0.884	0.8473	0.884

Note: If the hardness is <25mg/L as $CaCO_3$, the number 25 must be used in the calculation. If the hardness is greater than or equal to 400 mg/L as $CaCO_3$ 400 mg/L must be used in the calculation.

(13) **This standard is based upon Water-Use Classifications. See Administrative Rules of Montana (ARM), Title 17, Chapter 30- Water Quality, Sub-Chapter 6 - Surface Water Quality Standards.**

(14) **Freshwater Aquatic Life Standard for pentachlorophenol with pH. Values displayed in the chart correspond to a pH of 6.5 and are calculated as follows:**

Acute = exp[1.005(pH) - 4.869] **Chronic = exp[1.005(pH) - 5.134]**

(15) **Freshwater Aquatic Life Standard for dissolved oxygen in milligrams per liter are as follows:**

	Standards for Waters Classified A-1, B-1, B-2, C-1, and C-2		Standards for Waters Classified B-3, C-3, and I	
	Early Life Stages[1,2]	Other Life Stages	Early Life Stages[2]	Other Life Stages
30 Day Mean	N/A[3]	6.5	N/A[3]	5.5

(22) Trigger Values are used to determine if a given increase in the concentration of toxic parameters is significant or non-significant as per the non-degredation rulesThe acronym "N/A" means "not applicable".

(23) The concentration of iron must not reach values that interfere with the uses specified in the surface and groundwater standards (17.30.601 et seq. and 17.30.1001et seq.) The Secondary Maximum Contaminate Level of 300 micrograms per liter which is based on aesthetic properties such as taste, odor, and staining may be considered as guidance to determine the levels that will interfere with the specified uses.

(24) The concentration of manganese must not reach values thatinterfere with the uses specified in the surface and groundwater standards (17.30.601 et seq. and 17.30.1001 et seq.). The Secondary Maximm Contaminate Level of 50 micrograms per liter which is based on aesthetic properties such as taste, odor, and staining may be considered as guidance to determine the levels that will interfere with the specified uses.

(25) CASRN is an acronym for the American Chemical Society's Chemical Abstracts Service Registry Number.

(26) The NIOSH RTECS number is a unique number used for identification in the National Institute For Occupational Safety and Health (NIOSH) Registry of Toxic Effects of Chemical Substances.

(27) SAX number in the format AAA123 is a unique number for identification of materials in the Dangerous Properties of Industrial Materials, authors N. Irving Sax and Richard J. Lewis, publisher Van Nostrand Reinhold.