

CIRCULAR DEQ-7

MONTANA NUMERIC WATER QUALITY STANDARDS



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CIRCULAR DEQ-7

Introduction

This document contains numeric water quality standards for Montana's surface and ground waters. The standards were developed in compliance with Section 75-5-301, MCA of the Montana Water Quality Act and Section 303(c) of the Federal Clean Water Act (CWA). Together, these provisions of state and federal law require the adoption of narrative and numeric standards that will protect the designated beneficial uses of state waters, such as growth and propagation of fishes and associated wildlife, waterfowl and furbearers, drinking water, culinary and food processing, recreation, or agriculture.

CIRCULAR DEQ-7 contains a great deal of information about Montana's numeric standards in a compact form. In addition to providing the numeric water quality standards for each parameter, the Circular also contains the following:

- The primary synonyms of each parameter. This section also includes any identification numbers used by the U.S. Environmental Protection Agency (EPA) and the RCRA waste number (if it exists) as the last entry in the synonyms section;
- the Chemical Abstracts Service Registry Number (CASRN) number for each chemical, as well as the National Institute of Occupational Safety and Health (NIOSH) and the SAX reference numbers (taken from *Dangerous properties of Industrial Materials*, by Irving Sax); the categorization of each parameter according to the type of pollutant;
- the bioconcentration factor, if known;
- trigger values used to determine nonsignificant changes in water quality" under Montana's nondegradation policy (ARM 17.30.701-718); and
- required reporting values (RRV). See footnote 19 for a further explanation of RRV usage.

In addition, the Circular contains ground water criteria for pesticides, developed in compliance with the Montana Agricultural Chemical Ground Water Protection Act (80-15-201, MCA).

The numeric water quality standards in this Circular have been established for parameters (i.e., "pollutants") in five categories: toxic, carcinogenic, radioactive, nutrient, or harmful. You will find an explanation of each of these categories given below.

The Department will provide hard copies of this document upon request or the document may be retrieved from the Department WEB site at, <http://www.deq.mt.gov/wqinfo/Circulars/DEQ-7.PDF>. Use of an electronic copy will enable the reader to search for synonyms or CASRN numbers. Such searches will make this document easier to use.

Parameters are listed in alphabetical order. In order to facilitate listing by alphabetical order, parameters that are normally written with the numbers first are listed with the numbers last. For example, 2,4-Dinitrophenol is listed as Dinitrophenol, 2,4-.

There are many explanatory notes following the table portion of CIRCULAR DEQ-7. Footnotes referencing the explanatory notes are found in both the table headings and in individual line items. The notes following the table explain various aspects of the standards. For example, the standards for some metals, ammonia, dissolved oxygen, and phenol, cover a range of values that are computed by using tables or formulas, with such parameters as pH, hardness or temperature.

Standards Development

Montana's numeric water quality standards were developed using guidance from the EPA which includes:

- National Recommended Water Quality Criteria (NRWQC) ¹ developed under Section 304(a) of the CWA; and
- Drinking Water Lifetime Health Advisory (HA) and Maximum Contaminant Levels (MCL) developed under the Safe Drinking Water Act.²

EPA's guidance includes the NRWQC for priority pollutants (PP), non-priority pollutants (NPP) and organoleptic pollutants (OL), developed under Section 304 of the CWA, health advisories (HA), and drinking water standards referred to as Maximum Contaminant Levels (MCL). Publications containing EPA guidance include: 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

¹ See <http://www.epa.gov/waterscience/criteria/wqctable/>.

² See <http://www.epa.gov/waterscience/criteria/drinking/>.

National Toxics Rule [NTR]) which was published in the Code of Federal Regulations, 40 CFR 131.36 (1992); Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; (62 F.R. 42159 [1997]); National Recommended Water Quality Criteria :2002 (EPA 822-R-02-047); and 2004 Edition of the Drinking Water Standards and Health Advisories (EPA 822-R-04-005). The most recent EPA NRWQC and 2009 Edition of the Drinking Water Standards and Health Advisories guidance was used to develop the standards in this Circular.

The NRWQC published by EPA include criteria recommendations for the protection of aquatic life and human health.

Aquatic life criteria take into consideration the magnitude (how much of a pollutant is allowable), duration of exposure to the pollutant (averaging period), and frequency (how often criteria can be exceeded). Acute criteria are based on a one hour exposure event and can only be exceeded once, on average, in a three year period. Chronic criteria are based on a 96 hour exposure and can only be exceeded, on average, once on a three year period. For more information, see EPA's *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*.³ The techniques used for determining Aquatic Life numeric standards are complex and take a great deal of time to develop. They require a consensus of information within the scientific community that may take 10+ years to develop. Aquatic Life Standards are added to DEQ-7 as they become available.

Human health criteria also have a magnitude, duration and frequency component. The standard assumption in calculating the magnitude of the pollutant for groundwater exposure is that a 70 kg person will consume 2 liters a day, for 70 years. Water consumption is assumed to be the only route of exposure in that time frame. For surface water criteria, two routes of exposure are considered, water consumption and fish consumption (EPA and DEQ-7 uses a fish consumption rate of 17.5 grams of fish per day).

³ Available at <http://www.epa.gov/waterscience/criteria/library/85guidelines.pdf>.

EXPLANATION OF TERMS

Toxics: A toxin is any chemical which has an immediate, deleterious effect on the metabolism of a living organism. The surface water quality standards for human health toxins are the more restrictive of either the MCL or the NRWQC. The ground water standards for human health toxins are based on the drinking water MCL or, if a MCL is not available, the NRWQC criteria.

Carcinogens: The Montana Water Quality Act requires that human health standards for carcinogens be the more restrictive of either of the following: (1) the risk-based level of one in one hundred thousand [1×10^{-5}] for all carcinogens except arsenic, which is based upon one in one thousand [1×10^{-3}]; or, (2) the MCL. For surface water the risk-based levels given in EPA's NRWQC criteria were used or, if not available, health advisory (HA) information was used. In cases where a risk based level was not available, the most recent RfD or cancer potency factor ($q1^*$) in IRIS was used to compute the standard. In cases where no risk-based levels were available for known carcinogens, the standards in this Circular are based on toxic effects. Ground water standards are based on EPA Drinking Water Health Advisories, NRWQC or IRIS information.

Bioconcentrating: Bioconcentration factors are not a separate category in DEQ-7, but are included in either the toxic or carcinogenic category. The human health standards for carcinogens and other parameters that exhibit bio-concentration properties were developed using the assumption that there are two routes of exposure: through consumption of water and fish. EPA's water quality criteria are derived using an average fish consumption rate of 17.5 grams/day. Montana has not conducted its own fish consumption survey. The standards in this Circular use EPA's recommended average daily fish consumption value.

Pesticides: The Montana Agricultural Chemical Ground Water Protection Act requires that MCLs be adopted as ground water standards for pesticides if MCLs are available. Pesticides are not a separate category in DEQ-7, but are included in either the toxic or carcinogenic categories, and the criteria derivation would follow the process described above for those categories. If no MCLs or other federal criteria are available, standards must be developed using available data on health effects reference dose, [RfD]) and standard assumptions. The standard assumptions are: 2 liters of water

are consumed per day and adults weighing seventy kilograms are exposed for 70 years (life long exposure) to a single source of water. When information was available, a relative source contribution (RSC) factor was also applied. The RSC is the percentage of a parameter's intake through drinking water versus other dietary sources. A RSC of 0.2 was used in most cases to develop ground water standards for pesticides. In some cases, no data was available to develop a water quality standard for a pesticide in surface water. In these cases, the ground water standard (developed for a pesticide according to the risk-base analysis provided above) was also adopted as a surface water standard. Other federal data sources were used when the EPA's most recent drinking water regulations and health advisories did not include data for a pesticide.

Radioactive: All elements that emit alpha, beta or gamma radiation are regulated in ground water by the EPA. As all forms of radiation are carcinogenic, the calculation of a numeric standard is derived either from MCL's set by the EPA or calculated from the Oral Cancer Slope Factor (OCSF) provided by the EPA Regional toxicologist, the use of a risk based level of 1 in one hundred thousand (1×10^{-5}) and the consumption of 2 liters of water daily for a 70 kilo man. Unlike pesticides, a relative source correction (RSC) is not applied to the calculation of numeric standards for radioactive substances.

Harmful: Pollutants typically classified as harmful include substances or measures which are controlled by both numeric and narrative standards. Examples of numeric standards would be pH, color or bacterial concentration. The numeric standards will vary dependent on the water bodies classification for beneficial use. The use of tables from the footnotes section of this Circular is pivotal to the proper selection of the appropriate standard. Narrative standards are not covered in DEQ-7, but include such parameters as alkalinity, sulfates, chloride, hardness, sediment, total dissolved solids and nutrients (for surface waters).

Nutrient: A nutrient in the aquatic environment is an essential substance (organic or inorganic) which is utilized by living organisms (such as algae or bacteria) for cellular metabolism or construction. Examples include nitrogen (typically as ammonia, nitrate or nitrite) and phosphorus. If present in excessive amounts (which depends on the ecosystem involved), nutrients can produce excessive algal and plant, which can lead to undesirable deterioration of beneficial uses of State waters.

Rules Containing Montana's Water Quality Standards

The Administrative Rules of Montana (ARM), 17.30.620 through 17.30.670, contain numeric surface water quality standards that vary with each stream classification. Examples of numeric standards that change under each stream classification include *Escherichia coli* bacteria, color, turbidity, pH, and temperature.

Both Montana's surface water and ground water rules contain narrative standards (ARM 17.30.620 through 17.30.670 and ARM 17.30.1001 through 17.30.1045). The narrative standards cover a number of parameters, such as alkalinity, chloride, hardness, sediment, sulfate, total dissolved solids and nutrients (for surface water), for which sufficient information does not yet exist to develop specific numeric standards. These narrative standards are directly translated to protect beneficial uses from adverse effects, supplementing the existing numeric standards.

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Pollutant Element / Chemical Compound or Condition §§ - Primary Synonym § - Other Names	CASRN numbers, NIOSH number, SAX Number (25) (26) (27)	Category (1) (2)	Aquatic Life Standards		Bio- concentration Factor (BCF) (5)	Human Health Standards (17) (16)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Acenaphthene §§--- § 3Acenaphthalene § Naphthyleneethylene § 1,8-Ethylenenaphthalene § 1,8-Ethylene Naphthalene § 1,2-Dihydroacenphthylene § Acenphthylene, 1,2-Dihydro-	83-32-9 AB 1255500 AAE750	Toxic	---	---	242	670 PP	670 PP	N/A	10
Acetochlor (excludes metabolites Acetochlor ESA and Acetochlor OA) (30) §§--- § Acenit § Azetochlor § C10925 § Erunit § Harness § MG 02 § MON 097 § Nevirex	34256-82-1	Toxic	---	---	---	140 HA	140 HA	---	---
Acifluorfen §§ Blazer § Tackle § Scepter § as sodium salt	62476-59-9	Carcinogen	---	---	---	10 HA	10 HA	N/A	---
Acrolein §§ Aqualine § Biocide § Crolean § Aqualin § Propenal § SHA 00701 § 2-propenal § Acraldehyde § Acrylaldehyde § Acrylic Aldehyde § Ethylene Aldehyde	107-02-8 AS 1050000 ADR000	Carcinogen	3	---	215	60 PP	60 PP	0.7	20
Acrylamide §§ 2-Propenamide § Propenamide § Acrylic Amide § Ethylenecarboxamide § RCRA Waste Number U007	79-06-1 AS 3325000 ADS250	Carcinogen	---	---	---	0.08 HA	0.08 HA	---	---
Acrylonitrile §§ Fumigrain § Ventox § ENT 54 § TL 314 § Carbacryl § Cyanoethylene § Vinyl cyanide § Propenenitrile § 2- Propenenitrile § Acrylonitrile monomer § RCRA Waste Number U009	107-13-1 AT 5250000 ADX500	Carcinogen	---	---	30	0.51 PP	0.51 PP	N/A	20
Alachlor (includes metabolites Alachlor ESA and Alachlor OA) (31) §§ Lasso § Lazo § Alator § Alanex § Alochlor § Pillarzo § Metachlor § Chemiclor § SHA 090501 § Methachlor § 2-Chloro-N-(2,6- Diethyl)Phenyl-N- Methoxymethylacetamide § 2-Chloro-2',6'- Diethyl-N-(Methoxymethyl)Acetanilide	15972-60-8 AE 1225000 CFX000	Carcinogen	---	---	---	2 MCL	2 MCL	N/A	0.4

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Aldicarb §§ Temik § Temic § Ambush § OMS 771 § Temik G 10 § Aldecarb § Carbamyl § SHA 098301 § Carbanolate § Sulfone Aldoxycarb § Union Carbide 21149 § § Propanal, 2-Methyl-2-(Methylthio)-, O- [(Methylamino)Carbonyl]Oxime RCRA Waste Number P070	116-06-3 UE 2275000 CBM500	Toxic	---	---	---	3	3	1	1
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	1646-88-4 UE 2080000 AFK000	Toxic	---	---	---	3	3	2	1
Aldicarb Sulfoxide §§ ---	1646-87-3	Toxic	---	---	---	4	4	2	1
Aldrin §§ --- § HHDN § Altex § Drinox § Aldrex § Aldrite § Seedrin § Octalene § SHA 045101 § 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 § RCRA Waste Number P004	309-00-2 IO 2100000 AFK250	Carcinogen	1.5	---	4,670	0.00049	0.02	N/A	0.2
Alpha Emitters (11) §§ --- § Gross Alpha § Adjusted Gross Alpha	Multiple	Carcinogen / Radioactive	---	---	---	1.5 pico- curies/liter	1.5 pico- curies/liter	N/A	---
alpha-Chlordane §§ -Chlordane § cis-Chlordan § cis-Chlordane § c (cis)- Chlordane § Chlordane, cis-Isomer	5103-71-9 PB 9705000 CDR675	Carcinogen	---	---	14,100	0.0080	1	N/A	0.4
						HA	HA		
						PP	HA		

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alpha-Hexachlorocyclohexane §§ --- § Benzene Hexachloride-§-isomer § a- BHC § alpha-BHC § HCH-alpha § alpha-HCH § alpha-Lindane § a 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)-	319-84-6 GV 3500000 BBQ000	Carcinogen	---	---	130	0.026	0.026	N/A	0.1
Aluminum, dissolved, pH 6.5 to 9.0 only (9)	7429-90-5 BD 0330000 AGX000	Toxic	750	87	---	---	---	30	30
§§ Al			NPP	NPP					
Ametryn §§ Ametrex	834-12-8	Toxic	---	---	---	60 HA	60 HA	---	---
Aminomethylphosphonic Acid (AMPA) Glyphosate metabolite §§ ---		Toxic	---	---	---	2,000 HA	2,000 HA		
Aminopyralid § 4-amino-3,6-dichloropyridine-2carboxylic acid, § 4 amino-3,6 dichloro-2- pyridinecarboxylic acid § Milestone	150114-71-9	Toxic				4,000 HA	4,000 HA		
Ammonia [total ammonia nitrogen (NH3-N plus NH4-N)] as mg/l N §§ --- § Ammonia Anhydrous § Anhydrous Ammonia § Spirit of Hartshorn	7664-41-7 BO 0875000 AMY500	Toxic	(7)(8)	(7)(8)	---	---	---	10	50
Ammonium Sulfamate §§ ---	7773-06-0	Toxic	---	---	---	2,000 HA	2,000 HA	---	---
Anthracene (PAH) §§ Paranaphthalene § Green Oil § Anthracin § Tetra Olive N2G	120-12-7 CA 9350000 APG500	Toxic	---	---	30	8,300 PP	2,100 HA	0.04	0.2
Antimony §§ Sb § Antimony Black § Antimony Regulus § C.I. 77050 § Stibium	7440-36-0 CC 4025000 AQB750	Toxic	---	---	1	5.6 PP	6 MCL	0.4	3

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Arsenic (36) §§ As § Arsenicals § Arsenic-75 § Arsenic Black § Colloidal Arsenic § Grey Arsenic § Metallic Arsenic	7440-38-2 CG 0525000 ARA750	Carcinogen	340 PP	150 PP	44	10 MCL	10 MCL	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.E+06 fibers/liter MCL	7.E+06 fibers/liter MCL	N/A	---
Atrazine (includes metabolites deethyl atrazine, deisopropyl atrazine, and deethyl deisopropyl atrazine) (32) §§ --- § Aatrex § Aktikon § Atrazine § Atred § Candex § Crisatrina § Crisazine § Cyazin § Fenamin § Fenamine § Zeaphos § Fenatrol § Gesaprim § Hungazin § Inakor § Primatol § Malermis § Radazin § Radizine § Shell Atrazine herbicide § Strazine § 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	1912-24-9 XY 5600000 PMC325	Carcinogen	---	---	---	3 MCL	3 MCL	0.1	0.6
Azinophos and degredate azinphos methyl oxon metiltriazotion § Azimil § Bay 9027 § Bay 17147 § Carfene § Cotnion-methyl § Gusathion § Gusathion-M § Guthion § Methyl-Guthion	961-22-8	Toxic				10 HA	10 HA		
Azoxystrobin §§ --- § azoxystrobin § Azoxistrobin § Azoxistrobina § Azoxystrobin (BSI, ISO) § azoxystrobine § Azoxystrolin	131860-33-8	Toxic	---	---	---	1,000 HA	1,000 HA	---	---
Barium §§ Ba	7440-39-3 CA 8370000 BAH250	Toxic	---	---	---	1000 NPP	1000 NPP	2	5
Bentazon Methyl §§ --- § Basagran	50723-80-3 25057-89-0	Toxic	---	---	---	200 HA	200 HA	---	---

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Benzene §§ --- § Phene § Benzol § Benzolene § Pyrobenzol § Carbon Oil § SHA 109301 § Coal Naphtha § Motor Benzol § Phenyl hydride § Cyclohexatriene C § Caswell Number 077 § EPA Pesticide Chemical Code 008801 § NCI C55276 § RCRA Waste Number U019	71-43-2 CY 1400000 BBL250	Carcinogen	---	---	5.2	5	5	N/A	0.5
Benzidine §§ --- § p,p'-Bianiline § 4,4'-Bianiline § 4,4'- Biphenyldiamine § p,p'-Diaminobiphenyl § 4,4'-Diaminodiphenyl § 4,4'- Biphenylenediamine § 4,4'- Diphenylenediamine § Biphenyl, 4,4'- Diamino- § 4,4'-Diamino-1,1'-Biphenyl § (1,1'-Biphenyl)-4,4'-Diamine § NCI C03361 § RCRA Waste Number U021	92-87-5 DC 9625000 BBX000	Carcinogen	---	---	87.5	0.00086	0.00086	N/A	20
Benzo(g,h,i)perylene (PAH) §§ --- § 1,12-Benzoperylene § 1,12-Benzperylene § Benzo(ghi)Perylene	191-24-2 DI 6200500 BCR000	Toxic	---	---	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	50-32-8 DJ 3675000 BCS750	Carcinogen	---	---	30	0.038	0.05	N/A	0.10
Benzo[b]Fluoranthene (PAH) §§ --- § B(b)F § Benzo(b)Fluoranthene § Benzo(e)Fluoranthene § 2,3- Benzfluoranthene § 3,4-Benzfluoranthene § 3,4-Benzofluoranthene § 2,3- Benzofluoranthene § 2,3- Benzofluoranthrene § Benz(e)Acephanthrylene § 3,4- Benz(e)Acephanthrylene	205-99-2 CU 1400000 BAW250	Carcinogen	---	---	30	0.038	0.5 (29)	N/A	0.10

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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	207-08-9 DF 6350000 BCJ750	Carcinogen	---	---	30	0.038	5 (29)	N/A	0.10
Benzo[a]anthracene (PAH) §§ --- § Tetraphene § Benzanthracene § Benzoanthracene § Naphthanthracene § 1,2-Benzanthrene § Benz(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	56-55-3 CV 9275000 BBC250	Carcinogen	---	---	30	0.038	0.5 (29)	N/A	0.10
Beryllium §§ Be § Beryllium-9 § Glucinum § RCRA Waste Number P015	7440-41-7 DS 1750000 BFO750	Carcinogen	---	---	19	4	4	N/A	1
Beta Emitters (11) §§ --- § Gross Beta	Multiple	Carcinogen/ Radioactive	---	---	---	0.4 mrem /yr HA	0.4 mrem /yr HA	N/A	---
Beta-Chloronaphthalene §§ 2-Chloronaphthalene § β-Chloronaphthalene § Naphthalene, 2- Chloro- § 2 Chlornaftalen § A13-01537 § CCRIS 5995 § HSDB 4014 § Halowax § EINECS 202-079-9 § RCRA waste number U047	91-58-7 QJ 2275000 CJA000	Toxic	---	---	202	1,000	1,000	0.94	10

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Pollutant Element / Chemical Compound or Condition §§ - Primary Synonym § - Other Names	CASRN numbers, NIOSH number, SAX Number (25) (26) (27)	Category (1) (2)	Aquatic Life Standards		Bio- concentration Factor (BCF) (5)	Human Health Standards (17) (16)		Trigger Value (22)	Required Reporting Value (19)
			Acute (3)	Chronic (4)		Surface Water	Ground Water		
beta-Hexachlorocyclohexane §§ --- § β-BHC § beta-BHC § HCH-beta § beta-HCH § β-Lindane § beta-Lindane § beta-Hexachlorobenzene § β Hexachlorocyclohexane § Hexachlorocyclohexane-beta § Hexachlorocyclohexane, beta- § trans- alpha-Benzenehexachloride § 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)- § Benzenehexachloride, trans-alpha- § beta- 1,2,3,4,5,6-Hexachlorocyclohexane	319-85-7 GV 4375000 BBR000	Carcinogen	---	---	130	0.091	0.091	N/A	0.1
Bis(2-Chloroisopropyl) Ether §§ --- § DCIP § NCI C50044 § 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 § RCRA Waste Number U027 Reregistration decision CAS-RN	108-60-1 KN 1750000 BII250 39638-32-9	Toxic	---	---	2.47	1,400	1,400	0.8	10
Bis(2-Chloroethoxy)Methane §§ --- § Bis(β-Chloroethyl)Formal	111-91-1 PA 3675000 BID750	Toxic	---	---	0.64	---	---	0.5	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
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	85-68-7 TH 9990000 BEC500	Toxic with BCF >300	---	---	414	1,500 PP	1,500 PP	N/A	10
Butylate §§ Sutan § ---	2008-41-5	Carcinogen	---	---	---	400 HA	400 HA	N/A	---
Cadmium §§ Cd § C.I. 77180 § Colloidal Cadmium	7440-43-9 EU 9800000 CAD000	Toxic	0.52@25 mg/l hardness (12) PP	0.097@25 mg/l hardness (12) PP	64	5 MCL	5 MCL	0.1	0.08
Carbaryl §§ Sevin § ---	63-25-2	Toxic	---	---	---	700 HA	700 HA	2	---
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	1563-66-2 FB 9450000 FPE000	Toxic	---	---	---	40 MCL	40 MCL	1	1
Carbon Tetrachloride §§ Freon 10 § R 10 § Univerm § Tetrasol § Fasciolin § Flukoids § Necatorina § Necatorine § Halon 104 § Tetraform § Carbon Tet § Benzinoform § Carbon Chloride § Perchloromethane § Tetrachloromethane § Methane Tetrachloroide § RCRA Waste Number U211	56-23-5 FG 4900000 CBY000	Carcinogen	---	---	18.75	2.3 PP	3 HA	N/A	0.5
Carboxin §§ Vitavax § ---	5234-68-4	Toxic	---	---	---	700 HA	700 HA	1	---
Chloramben §§ Vegiben § ---	133-90-4	Toxic	---	---	---	100 HA	100 HA	---	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Chlordane §§ Termex § Belt § Niran § Dowchlor § Chlortox § Chlordan § Clordano § Chlor Kil § Toxichlor § Octa-Klor § Ortho-Klor § SHA 058201 § Gold Crest C-100 § Chlordane, Technical § Octachloro-4, 7- Methanohydroindane § Octachlorodihydrocyclopentadiene § 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- § RCRA Waste Number U036	57-74-9 PB 9800000 CDR750	Carcinogen	1.2	0.0043	14,100	0.0080	1	N/A	0.4
Chlorimuron Ethyl §§ Classic § ---	90982-32-4	Toxic	---	---	---	700 HA	700 HA	0.1	---
Chlorine, total residual §§ Cl § Bertholite § Chlorine, molecular § Molecular Chlorine	7782-50-5 FO 2100000 CDV750	Toxic	19 NPP	11 NPP	---	4,000 MCL	4,000 MCL	---	---
Chlorobenzene §§ Monochlorobenzene § MCB § Chlorobenzol § Chlorobenzene § Phenyl Chloride § Benzene Chloride § Benzene, Chloro- § Monochlorbenzene § NCI C54886 § RCRA Waste Number U037	108-90-7 CZ 0175000 BBM750	Toxic	---	---	10.3	100 MCL	100 MCL	0.5	0.5
Chlorodibromomethane §§ Monochlorodibromomethane § CDBM § NCI C55254 § Methane, Dibromochloro- § Dibromochloromethane (THM)	124-48-1 PA 6360000 CFK500	Carcinogen	---	---	3.75	4.0 PP	4.0 PP	N/A	0.5
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	75-00-3 KH 7525000 EHH000	Toxic	---	---	---	---	---	0.52	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Chloroform (HM) §§ Trichloromethane § TCM § Freon 20 § Trichloroform § R-20 Refrigerant § Methenyl Chloride § Formyl Trichloride § Methyl Trichloride § Methane Trichloride § Methane, Trichloro- § Methenyl Trichloride § NCI CO2686§ RCRA Waste Number U044	67-66-3 FS 9100000 CHJ500	Carcinogen	---	---	3.75	57	70	N/A	0.5
Chlorophenol, 2- §§ Phenol, 2-Chloro § o-Chlorophenol § 2-Chlorophenol § Phenol, o-Chloro- § RCRA Waste Number U048	95-57-8 SK 2625000 CJK250	Toxic	---	---	134	81	81	0.3	10
Chlorophenyl Phenyl Ether, 4- §§ --- § 4-Chlorophenyl Phenyl Ether	7005-72-3	Toxic with BCF >300	---	---	1,200	---	---	---	---
Chlorsulfuron §§ Glean § Telar	64902-72-3	Toxic	---	---	---	1750 HA	1750 HA	---	---
Chlorothalonil §§ Bravo § ---	1897-45-6	Carcinogen	---	---	---	15 HA	15 HA	N/A	---
Chlorpyrifos §§ Dursban § Ethion § Brodan § Eradex § Lorsban § Pyninex § 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	2921-88-2 TF 6300000 DYE000	Toxic	0.083 NPP	0.041 NPP	---	20 HA	20 HA	0.25	1
Chromium, all forms §§ Cr § Chrome	7440-47-3 GB 4200000 CMI750	Toxic	---	---	---	100 MCL	100 MCL	1	1
Chromium, hexavalent §§ Chromium (VI) § ---	18540-29-9	Toxic	16 PP	11 PP	16	---	---	---	5
Chromium, trivalent §§ Chromium (III) § ---	16065-83-1	Toxic	579 @ 25mg / l hardness(12) PP	27.7 @ 25 mg/l hardness (12) PP	16	---	---	1	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Chrysene (PAH) §§ --- § Benz(a)Phenanthrene § Benzo(a)Phenanthrene § 1,2- Benzphenanthrene § 1,2- Benzophenanthrene § 1,2,5,6- Dibenzonaphthalene § RCRA Waste Number U050	218-01-9 GC0700000 CML810	Carcinogen	---	---	30	0.038	50 (29)	N/A	0.10
cis-1,2-Dichloroethylene §§ --- § 1,2-Dichloroethylene § cis- Dichloroethylene § cis-1,2-Dichloroethene § 1,2,cis-Dichloroethylene § ethylene, 1,2- Dichloro-, (z)-	156-59-2 KV 9420000 DFI200	Toxic	---	---	---	70	70	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)-	10061-01-5 UC 8325000 DGH200	Carcinogen	---	---	1.91	3.4	4	N/A	0.5
Clopyralid §§ Stinger § ---	1702-17-6	Toxic	---	---	---	3,500	3,500	1	---
Color §§ ---	N/A	Harmful	---	---	---	(18)	(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 Cu § Raney Copper	7440-50-8 GL 5325000 CNI000	Toxic	3.79@25m g/l hardness (12)	2.85@25 mg/l hard ness (12)	36	1,300	1,300	0.5	1
Cyanazine §§ Bladex § ---	21725-46-2	Toxic	---	---	---	1.0	1.0	N/A	---
Cyanide, total §§ --- § Cyanide § Isocyanide § Cyanides, includes soluble salts and complexes § RCRA Waste Number P030	57-12-5 GS 7175000 COI500	Toxic	22	5.2	1	140	200	---	5

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Dacthal §§ DCPA § ---	1861-32-1	Toxic	---	---	---	70	70	0.025	---
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 § a-Dichloropropionic Acid § a,a-Dichloropropionic Acid § alpha-alpha-Dichloropropionic Acid	75-99-0 UF 0690000 DGI400	Toxic	---	---	---	200	200	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	127-20-8 UF 1225000 DGI600	Toxic	---	---	---	200	200	1.3	3
delta-Hexachlorocyclohexane §§ --- § -BHC § delta-BHC § HCH-delta § delta-HCH § -BHC § -Lindane § delta-Lindane § 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)-	319-86-8 GV 4550000 BFW500	Carcinogen	---	---	130	0.2	0.2	N/A	0.1
						PP	PP		

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
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	8065-48-3 TF 3150000 DAO600	Toxic	---	0.1 NPP	---	1.4 HA	1.4 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	117-81-7 TI 0350000 BJS000	Carcinogen	---	---	130	6 MCL	6 MCL	---	6
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	103-23-1 AU 9700000 AEO000	Carcinogen	---	---	---	300 HA	300 HA	N/A	6
Diazinon §§ ---	333-41-5	Toxic	0.17 NPP	0.17 NPP	---	0.6 HA	0.6 HA	0.25	---
Dibenz[a,h]Anthracene (PAH) §§ --- § DBA § DB(a,h)A § Dibenz(a,h)Anthracene § Dibenzo(a,h)anthracene § 1,2:5,6- Benanthracene § Dibenzo (a,h) Anthracene § 1,2,5,6-Dibenzanthracene § 1,2:5,6-Dibenz(a)Anthracene § RCRA Waste Number U063	53-70-3 HN 2625000 DCT400	Carcinogen	---	---	30	0.038 PP	0.05 (29) HA	N/A	0.10

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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-Ethylene Dibromide § RCRA Waste Number U067	106-93-4 KH 9275000 EIY500	Carcinogen	---	---	---	0.004 HA	0.004 HA	N/A	0.5
Dibutyl Phthalate §§ --- § DPB § Celluflex DPB § Elaol § Hexaplas M/B § Palatinol C § Polycizer DBP § PX 104 § Stafflex 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	84-74-2 TI 0875000 DEH200	Toxic	---	---	89	2,000 PP	2,000 PP	0.25	10
Dicamba §§ Banvel § ---	1918-00-9	Toxic	---	---	---	200 HA	200 HA	0.28	---
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	95-50-1 CZ 4500000 DEP600	Toxic	---	---	55.6	420 PP	600 MCL	0.02	10
Dichlorobenzene, 1,3- §§ Benzene, 1,3-Dichloro § M-Dichlorobenzene § m- Dichlorobenzene § meta-Dichlorobenzene § 1,3-Dichlorobenzene-	541-73-1 CZ 4499000 DEP699	Toxic	---	---	55.6	320 PP	600 HA	0.006	10

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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- § p-Chlorophenyl Chloride § EPA Pesticide Chemical Code 061501 § RCRA Waste Number U070 § RCRA Waste Number U071 § RCRA Waste Number U072	106-46-7 CZ 4550000 DEP800	Carcinogen	---	---	55.6	75	75	N/A	10
Dichlorobenzidine, 3,3'- §§ DCB § C.I. 23060 § Curithane C126 § Dichlorobenzidine § o,o'- Dichlorobenzidine § Dichlorobenzidine Base § Benzidine, 3,3'-Dichloro- § 3,3'- Dichloro-4,4'-Diaminodiphenyl § 3,3'- Dichloro-(1,1'-Biphenyl)-4,4'-Diamine § 1,1'-Biphenyl-4,4'-Diamine, 3,3'-Dichloro- § RCRA Waste Number U073	91-94-1 DD 0524000 DEQ400	Carcinogen	---	---	312	0.21	0.21	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 § Difluorodichloromethane § Methane, dichlorodifluoro- § RCRA Waste Number U075	75-71-8 PA 8200000 DFA600	Toxic	---	---	3.75	1,000	1,000	0.05	0.5
Dichloroethane, 1,2- §§ Ethylene Chloride § EDC § Brocide § 1,2-DCE § NCI C00511 § Dutch Oil § Dutch Liquid § Dichloremlulsion § Di-Chlor-Mulsion § 1,2-Bichlorethane § 1,2-Dichlorethane § Ethane Dichloride § 1,2-Bichloroethane § Ethylene Dichloride § 1,2-Dichloroethane § Ethane, 1,2-Dichloro- § 1,2-Ethylene Dichloride § alpha,beta-Dichloroethane § RCRA Waste Number U077	107-06-2 KI 0525000 DFF900	Carcinogen	---	---	1.2	3.8	4	N/A	0.5

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
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 § Dichloroethylene, 1,1- § Ethylene, 1,1-Dichloro- § RCRA Waste Number U078	75-35-4 KV 9275000 DFI000	Carcinogen	---	---	5.6	0.57 PP	0.6 HA	N/A	0.5
Dichlorophenol, 2,4- §§ Phenol, 2,4-Dichloro § DCP § 2,4-DCP § NCI C55345 § 2,4- Dichlorophenol § RCRA Waste Number U081	120-83-2 SK 8575000 DFX800	Toxic	---	---	40.7	77 PP	77 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 § Dichlorophenoxyacetic Acid, 2,4- § Acetic Acid, (2,4-Dichlorophenoxy)- § 2,4- Dichlorophenoxyacetic Acid, salts and esters	94-75-7 AG 6825000 DFY600	Toxic	---	---	---	70 MCL	70 MCL	0.02 N/A	1
Dichloropropane, 1,2- §§ Propylene Chloride § 1,2-Dichloropropane § NCI C55141 § Propylene Dichloride § Caswell Number 324 § Propane, 1,2-Dichloro- § a,β- Propylene Dichloride § alpha,beta- Dichloropropane § EPA Pesticide Chemical Code 029002 § RCRA Waste Number U083	78-87-5 TX 9625000 DGF600	Carcinogen	---	---	4.11	5.0 PP	5 MCL		0.5
Dichloropropene, 1,3- §§ Telone II § Telone § NCI C03985 § Vidden D § Dichloropropene § a-Chloroallyl Chloride § g-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	542-75-6 UC 8310000 CEF750	Carcinogen	---	---	1.91	3.4 PP	4 HA	N/A	0.5

CIRCULAR DEQ-7, MONTANA NUMERIC WATER QUALITY STANDARDS₉

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Dieldrin §§ --- § Alvit § Quintox § Octalox § Illoxol § Dioldrex § NCI C00124 § Dieldrite § 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 § SHA 045001 § 1,4:5,8-Dimethanonaphthalene § RCRA Waste Number P037	60-57-1 IO 1750000 DHB400	Carcinogen	0.24	0.056	4,670	0.00052	0.02	N/A	0.02
Diethyl Phthalate §§ --- § Anozol § Neantine § Solvanol § NCI C60048 § Placidole E § Ethyl Phthalate § Diethylphthalate § Diethyl-o-Phthalate § 1,2-Benzenedicarboxylic Acid, Diethyl Ester § RCRA Waste Number U088	84-66-2 TI 1050000 DJX000	Toxic	---	---	73	17,000	17,000	0.25	10
Difenoconazole §§ --- § 1-[2-[2-chloro-4-(4- chlorophenoxy)phenyl]-4-methyl-1,3- dioxolan-2-ylmethyl]-1H-1,2,4-triazole § CGA169374 § Dividend § Dragon § Plover § Score § Score EC250	119446-68-3	Carcinogen				70	70		
Dimethenamid and degredate demethenamid OA § 2-Chloro-N-(2,4-dimethyl-3-thienyl)-N-(2- methoxy-1-methylethyl)acetamide § San 682H § Frontier herbicide § EPA pesticide Code 129051	87674-68-8	Carcinogen				400	400		
Dimethoate §§ ---	60-51-5	Toxic	---	---	---	7 HA	7 HA	---	---
Dimethrin §§ ---	70-38-2	Toxic	---	---	---	2,000 HA	2,000 HA	---	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
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	131-11-3 TI 1575000 DTR200	Toxic	---	---	36	270,000	270,000	0.04	10
Dimethylphenol, 2,4- §§ Phenol, 2,4-Dimethyl- § m-Xylenol § 2,4-Xylenol § 4,6- Dimethylphenol § Caswell Number 907A § 2,4-Dimethyl Phenol § 1-Hydroxy-2,4- Dimethylbenzene § 4-Hydroxy-1,3- Dimethylbenzene § EPA Pesticide Chemical Code 086804 § RCRA Waste Number U101	105-67-9 ZE 5600000 XKJ500	Toxic	---	---	93.8	380	380	10	10
Dinitro-o-Cresol, 4,6- §§ Dinitrocresol § Detal § Sinox § DNOC § Arborol § Capsine § Dinitrol § Trifocide § Antinonin § Winterwash § Dinitro-o- Cresol § 2,4-Dinitro-o-Cresol § 4,6- Dinitro-o-Cresol § o-Cresol, 4,6-dinitro- § 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- § Caswell Number 390 § RCRA Waste Number P047	534-52-1 GO 9625000 DUT400	Toxic	---	---	5.5	13	13	---	50
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 § 1-Hydroxy-2,4- Dinitrobenzene § RCRA Waste Number P048	51-28-5 SL 2800000 DUZ000	Toxic	---	---	1.5	69	69	13	50
Dinitrotoluene, 2,4- §§ Toluene, 2,4-Dinitro § 2,4-DNT § NCI C01865 § 2,4- Dinitrotoluol - § Benzene, 1-Methyl-2,4- Dinitro- § RCRA Waste Number U105	121-14-2 XT 1575000 DVH000	Carcinogen	---	---	3.8	1.1	1.1	N/A	10

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Dinitrotoluene, 2,6- §§ Toluene-dinitro § 2,4-DNT § Methyl-1,3-Dinitrobenzene § RCRA Waste Number U106	606-20-2 XT 1925000 DVH400	Carcinogen	---	---	---	0.5 HA	0.5 HA	0.01	---
Dinoseb §§ --- § DNBP § DBNF § Aretit § Basanite § Caldon § Sparic § Kiloseb § Spurge § Premerge § Dinitro § Hel-Fire § SHA 037505 § Dow General § Sinox General § 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- § RCRA Waste Number P020	88-85-7 SJ 9800000 BRE500	Toxic	---	---	---	7 MCL	7 MCL	0.19	1.5
Dioxin --Chlorinated Dibenzo-p-dioxins and Chlorinated Dibenzofurans 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 (TEF) in van den Berg, M: et al. (2006) The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Toxicological Sciences 93(2):223-241.	1746-01-6	Carcinogen	---	---	5,000	0.00000005 (10) PP	0.000002 (10) HA	N/A	footnote (10)
Diphenamid §§ ---	957-51-7	Carcinogen	---	---	---	200 HA	200 HA	N/A	---
Diphenylhydrazine, 1,2- §§ Hydrazine, 1,2-Diphenyl- § Hydrazobenzene § NCI C01854 § N,N'- Bianiline § Benzene, Hydrazodi- § (sym)- Diphenylhydrazine § 1,2- Diphenylhydrazine § RCRA Waste Number U109	122-66-7 MW 2625000 HHG000	Carcinogen	---	---	24.9	0.36 PP	0.36 PP	N/A	10

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Diquat §§ --- § Actor § Feglox § Deiquat § Reglone § Aquacide § Dextrone § Paraquat § Preeglove § SHA 032201 § Weedtrine-D § Diquat Dibromide § Ethylene Dipyridylum Dibromide § 1,1-Ethylene 2,2-Dipyridylum Dibromide § 5,6- Dihydro-Dipyrido(1,2a,1c)Pyrazinium Dibromide § 9,10-Dihydro-8a,10a- Diazoniaphenanthrene(1,1'-Ethylene-2,- Bipyridylum)Dibromide	85-00-7 JM 5690000 DWX800	Toxic	---	---	---	20	20	0.44	10
Disulfoton §§ --- § Disyston	298-04-4	Toxic	---	---	---	0.3	0.3	0.07	---
Diuron §§ --- § Karmex	330-54-1	Toxic	---	---	---	10	10	1	---
Endosulfan §§ --- § NCI C00566 § Malixv § Ensure § Beosit § Endocel § Thiodan § Cyclodan § Crisulfan § Benzoepin § Thiosulfan § SHA 079401 § Chlorthiepin § 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 § RCRA Waste Number P050	115-29-7 RB 9275000 BCJ250	Toxic	0.11	0.056	270	62	62	0.014	see Cis and trans isomers
Endosulfan, I §§ --- § Thiodan I § Endosulfan-I § Alpha- Endosulfan § alpha-Endosulfan	959-98-8	Toxic	0.11	0.056	270	62	62	---	0.015
Endosulfan, II §§ --- § Thiodan II § Endosulfan-II § Beta- Endosulfan § beta-Endosulfan	33213-65-9	Toxic	0.11	0.056	270	62	62	0.004	0.024
Endosulfan Sulfate §§ --- § 6,9-Methano-2,3,4-Benzodioxathiepin, 6,7	1031-07-8	Toxic			270	62	62	0.05	0.05

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Endothall §§ --- § Hydout § Hydrothal-47 § Aquathol § SHA 038901 § Accelerate § Tri-Endothal § Endothal Hydout § 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- § RCRA Waste Number P088	145-73-3 RN 7875000 EAR000	Toxic	---	---	---	100	100	1	8
Endrin §§ --- § NCI C00157 § Endrex § Mendrin § Nendrin § Hexadrin § SHA 041601 § Compound 269 § 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- § RCRA Waste Number P051	72-20-8 IO 1575000 EAT500	Toxic with BCF >300	0.043	0.0036	3,970	0.059	2	N/A	0.3
Endrin Aldehyde §§ ---	7421-93-4	Toxic with BCF >300	---	---	3,970	0.29 PP	0.29 PP	N/A	0.025
Epichlorohydrin §§ --- § ECH § Epoxy Propane § - 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	106-89-8 TX 4900000 CGN750	Carcinogen	---	---	---	30	30	N/A	---
Escherichia coli (Bacteria)	N/A	Harmful	---	---	---	(13)	Less than 1 (6)	1 per 100ml	1 per 100ml
Ethion §§ Phosphorodithioic acid, S,S'-methylene O,O,O',O'-tetraethyl ester § Diethion § Embathion § Ethanox § Ethiol 100 § Ethodan § Ethopaz § ethyl methylene phosphorodithioate § FMC-1240 § Fosfatox E § Fosfono P § HSDB 399 § Hylemox § KWIT § NIA 1240 § Niagara 1240 § Nialate § Phosphotox E § RP 8167 § Rhodocide § Rodocid § Vegfru fomisate	563-12-2	Toxic				4	4		
						HA	HA		

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Ethofumesate §§ 2-Ethoxy-2,3-dihydro-3,3-dimethyl-5-benzofuranyl methanesulfonate § BRN 5759730 § CR 14658 § Caswell #427BB § HSDB 7451 § Nortron § Progress § Tramat	26225-79-6	Toxic				9000 HA	9000 HA		
Ethylbenzene §§ --- § EB § NCI C56393 § Ethylbenzol § Phenylethane § Ethyl Benzene § Benzene, Ethyl	100-41-4 DA 0700000 EGP500	Toxic	---	---	37.5	530 PP	700 MCL	0.002	0.5
Fenamiphos §§ --- § Namacur	22224-92-6	Toxic	---	---	---	2 HA	2 HA	N/A	---
Fenbuconazole §§ 1H-1,2,4-Triazole-1-propanenitrile, alpha-(2-(4-chlorophenyl)ethyl)-alpha-phenyl- § 4-(4-chlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)butyronitrile	114369-43-6	Carcinogen				100 HA	100 HA		
Flucarbazone §§ Flucarbazone § 1H-1,2,4-Triazole-1carboxamide, 4,5-dihydro-3-methoxy-4-methyl-5-oxo-N((2-(trifluoromethoxy)phenyl)sulfonyl)-	181274-17-9	Toxic				3000 HA	3000 HA		
Flucarbazone sulfonamide §§ §	37526-59-3	Toxic				3000 HA	3000 HA		
Fluometuron §§ --- § Flo-Met	2164-17-2	Carcinogen	---	---	---	90 HA	90 HA	N/A	---
Fluoranthene §§ --- § Idryl § Benzo(jk)Fluorene § Benzo(j,k)Fluorene § 1,2-Benzacenaphthene § 1,2-(1,8-Naphthylene)Benzene § Benzene, 1,2-(1,8-Naphthalenediyl)- § RCRA Waste Number U120	206-44-0 LL 4025000 FDF000	Toxic BCF >300	---	---	1,150	130 PP	130 PP	N/A	10
Fluorene (PAH) §§ --- § 9H-Fluorene § Diphenylenemethane § o-Biphenylenemethane § 2,2'-Methylenebiphenyl	86-73-7	Toxic	---	---	30	1,100 PP	1,100 PP	0.25	0.25

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			Guthion §§ --- § DBD § NCI C00066 § Carfene § Gothnion § Azinphos § Crysthion § Gusathion § Bay 17147 § Methylazinphos § Methyl Guthion § Methyl-Guthion § Azinphos-Methyl § Azinphos Methyl § Caswell Number 374 § 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 § EPA Pesticide Chemical Code 058001	86-50-0 TE 1925000 ASH500		Toxic	---		
Heptachlor §§ --- § NCI C00180 § Drinox § Heptamul § Agroceris § Heptagran § SHA 04481 § Rhodiachlor § Velsicol-104 § 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 § RCRA Waste Number P059	76-44-8 PC 0700000 HAR000	Carcinogen	0.26	0.0038	11,200	0.00079	0.08	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)	1024-57-3 PB 9450000 EBW500	Carcinogen	0.26	0.0038	11,200	0.00039	0.04	N/A	0.1

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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-	118-74-1 DA 2975000 HCC500	Carcinogen	---	---	8,690	0.0028 PP	0.2 HA	N/A	0.2
Hexachlorobutadiene §§ --- § 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- § HCBD § Dolan-Pur § Perchlorobutadiene § RCRA Waste Number U128	87-68-3 EJ 0700000 PCF000	Carcinogen	---	---	2.78	4.4 PP	5 HA	N/A	10
Hexachlorocyclopentadiene §§ --- § HEX § HCP § PCL § C-56 § HCCPD § NCI C55607 § Hexachloropentadiene § Perchlorocyclopentadiene § 1,3- Cyclopentadiene, 1,2,3,4,5,5-Hexachloro- § RCRA Waste Number U130	77-47-4 GY 1225000 HCE500	Toxic	---	---	4.34	40 PP	50 MCL	1	5
Hexachloroethane §§ --- § Avlotane § Distokal § Distopan § Distopin § Egitol § Falkitol § Fasciolin § NCI C04604 § Phenohep § Mottenhexe § Perchloroethane § Hexachloroethylene § Ethane, Hexachloro- § Carbon Hexachloride § Ethane Hexachloride § Ethylene Hexachloride § 1,1,1,2,2,2- Hexachloroethane § RCRA Waste Number U131	67-72-1 KI 4025000 HCI000	Carcinogen	---	---	86.9	14 PP	30 HA	N/A	10
Hexazinone §§ ---	51235-04-2	Toxic	---	---	---	400 HA	400 HA	1	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Hydrogen Sulfide §§ --- § Stink Damp § Sulfur Hydride § Hydrogen Sulphide § Dihydrogen Sulfide § Dihydrogen Monosulfide § Hydrogen Sulfuric Acid § Hydrosulfuric Acid § Sulfurated Hydrogen § RCRA Waste Number U135	7783-06-4 MX 1225000 HIC500	Toxic	---	2 NPP	---	---	---	NA	---
Hydroxyatrazine §§ --- § Hydroxydechloroatrazine	2163-68-0	Toxic	---	---	---	70 HA	70 HA	---	---
Imazalil (Parent name Enilconazole) §§ 1-(2-(2,4-dichlorophenyl)-2-(2- propenyloxy)ethyl)-1H-imidazole § Enilconazole § BRN 054683 § Caswell #497AB § Chloramizol § Deccoil § Secozil S 75 § Fungaflor § HSDB 6672 § R 23979 § EPA Pesticide Code 111901	35554-44-0	Carcinogen				6 HA	6 HA		
Imazamethabenz-methyl ester (includes the metabolite imazamethabenz methyl acid) (33) §§ Assert § ---	81405-85-8	Toxic	---	---	---	400 I	400 I	N/A	---
Imazamox §§ --- § Ammonium salt of imazamox	114311-32-9	Toxic	---	---	---	20,000 HA	20,000 HA	---	---
Imazapic §§ Imazapic § AC263222, Cadre, Imazameth, Imazamethapyr, Imazmethapyr	104098-48-8	Toxic				4000 HA	4000 HA		
Imazapyr §§ Arsenal § ---	81334-34-1	Toxic	---	---	---	21,000 I	21,000 I	N/A	---
Imazethapyr §§ 3-pyridinecarboxylic acid, 2-(4,5-dihydro- 4-methyl-4-(1-methylethyl)-5oxo-1H- imidazol-2-yl)-5-ethyl- § AC 263,499 § CL263499 § HSDB 6678 § Pivot § Pursuit § EPA Pesticide Code# 128922	81335-77-5	Toxic				20,000 HA	20,000 HA		
Imidacloprid §§ ---	105827-78-9 138261-41-3	Toxic	---	---	---	400 HA	400 HA	---	---
Indeno(1,2,3-cd)pyrene (PAH) §§ --- § o-Phenylene pyrene § 2,3- Phenylene pyrene § 2,3-o-Phenylene pyrene § Indeno (1,2,3-cd) Pyrene § 1,10-(o- Phenylene)Pyrene § 1,10-(1,2- Phenylene)Pyrene § RCRA Waste Number U137	193-39-5 NK 9300000 IBZ000	Carcinogen	---	---	30	0.038 PP	0.5 (29) HA	N/A	0.10

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Iron §§ Fe § Ancor EN 80/150+A622 § Armco Iron	7439-89-6 NO 4565500 IGK800	Harmful (aquatic life)	---	1,000 NPP	---	(23)	(23)	N/A	50
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	78-59-1 GW 7700000 IHO000	Carcinogen	---	---	4.38	350 PP	400 HA	N/A	10
Lead §§ Pb § C.I. 77575 § C.I. Pigment Metal 4 § Glover § Lead Flake § Lead 22 § Omaha § Omaha & Grant § SI § SO	7439-92-1 OF 7525000 LCF000	Toxic	13.98 @ 25 (12) PP	0.545 @ 25 (12) PP	49	15 PP	15 PP	0.1	0.5
m-Xylene §§ --- § m-Xylol § 1,3-Xylene § meta-Xylene § m-Dimethylbenzene § m-Methyltolulene § 1,3-Dimethylbenzene § 1,3 Dimethyl Benzene	108-38-3 ZE 2275000 XHA000	Toxic	---	---	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(Ethoxycarbonyl)Ethyl Phosphorodithioate § Succinic Acid, mercapto-, diethyl ester, S-Ester with O,O- Dimethyl Phosphorodithioate	121-75-5 WM 8400000 CBP000	Toxic	---	0.1 NPP	---	100 HA	100 HA	---	---
Manganese §§ Mn § Colloidal Manganese § Magnacat § Tronamang	7439-96-5 OO 9275000 MAP750	Harmful	---	---	---	(24)	(24)	N/A	5
MCPA §§ 4-chloro-2 methylphenoxy acetic acid	94-74-6	Toxic	---	---	---	4 HA	4 HA	N/A	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
MCPP §§ 2-(4-chloro-2-methylphenoxy)propionic acid § Mecoprop § 2M 4KhP § 2M-4CP § Anicon B § Anicon P § CMPP § Caswell #559 § Celatox CMPP § iso-Cornox § Isocarnox § Kilprop § Liranox § Mechlorprop § Mecomec § Mecopar § Mecopeop § Mecoper § Mecopex § Mecoprop § Mecoturf § Mecprop § Mepro § Methoxone § Morogal § Okultin § Proponex-pluse § RD 4593 § Rankotex § Runcatex § SYS 67 Mecmin § U 46 KV fluid § Vi-Par § Vi-Pex § EPA pesticide Code #031501	7085-19-0 93-65-2	Toxic	---	---	---	7	7	---	---
Mercury §§ Hg § Colloidal Mercury § Mercury, Metallic § NCI C60399 § Quick Silver § RCRA Waste Number U151	7439-97-6 OV 4550000 MCW250	Toxic with BCF >300	1.7 PP	0.91 PP	5,500	0.05 PP	2 MCL	N/A	0.01
Metalaxyl § Ridomil § ---	57837-19-1	Toxic	---	---	---	420 I	420 I	3.5	---
Methamidophos §§ Monitor § ---	10265-92-6	Toxic	---	---	---	0.35 I	0.35 I	---	---
Methomyl §§ Lannate § ---	16752-77-5	Toxic	---	---	---	200 HA	200 HA	1	---
Methoxychlor §§ --- § DMDT § Metox § Moxie § Methoxide § NCI C00497 § Methoxy-DDT § Dimethoxy-DDT § 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)- § RCRA Waste Number U247	72-43-5 KJ 3675000 DOB400	Toxic	---	0.03 NPP	---	40 MCL	40 MCL	---	1
Metsulfuron Methyl §§ Ally § ---	74223-64-6	Toxic	---	---	---	1,750 I	1,750 I	0.1	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Methyl Bromide §§ Bromomethane (HM) § 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 § Methane, Bromo- § Monobromomethane § RCRA Waste Number U029	74-83-9 PA 4900000 BNM500	Toxic	---	---	3.75	47	10	0.11	0.5
Methyl Chloride §§ Chloromethane § Arctic § Monochloromethane § RCRA Waste Number U045	74-87-3 PA 6300000 CHX500	Toxic	---	---	3.75	30	30	0.08	---
Methylene chloride §§ Dichloromethane (HM) § R 30 § DCM § Freon 30 § Aerothene MM § NCI C50102 § Solmethine § Methane Dichloride § Methane, Dichloro- § 1,1-Dichloromethane § Methylene Bichloride § Methylene Dichloride	75-09-2 PA 8050000 MDR000	Carcinogen	---	---	0.9	5	5	N/A	0.5
Metolachlor (includes the metabolites metolachlor ESA and metolachlor OA (34)) §§ Dual § ---	51218-45-2	Carcinogen	---	---	---	100	100	N/A	---
Metribuzin §§ Sencor § ---	21087-64-9	Toxic	---	---	---	200	200	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-	2385-85-5 PC 8225000 MQW500	Carcinogen	---	0.001	---	14	14	0.01	0.1
MTBE §§ Methyl Tertiary-Butyl Ether	1634-04-4	Harmful	---	---	---	30 (21)	30 (21)	---	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
N-Nitrosodimethylamine §§ Dimethylnitrosamine A707 § DMN § NDMA § DMNA § Nitrosodimethylamine § Dimethylnitrosoamine § N- Nitrosodimethylamine § N,N- Dimethylnitrosamine § Methylamine, N- Nitrosodi- § Dimethylamine, N-Nitroso- § N-Methyl-N-Nitrosomethanamine § Methamine, N-Methyl-N-Nitroso- § Methanamine, N-Methyl-N-Nitroso- § RCRA Waste Number P082	62-75-9 IQ 0525000 DSY400	Carcinogen	---	---	0.026	0.0069	0.0069	N/A	10
N-Nitrosodiphenylamine §§ --- § NDPA § NDPhA § Vultrol § Curetard A § NCI C02880 § Redax § TJP § Retarder J § Vulcalent A § Vulcatard § Vultrol § Nitrosodiphenylamine § Diphenylnitrosamine § N,N- Diphenylnitrosamine § N-Nitroso-N- Phenylaniline § Diphenylamine, N-Nitroso- § Benzenamine, N-Nitroso-N-Phenyl-	86-30-6 JJ 9800000 DWI000	Carcinogen	---	---	136	33	33	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 § 1,2-Benzenedicarboxylic Acid, Dioctyl Ester § RCRA Waste Number U107	117-84-0 TI 1925000 DVL600	Carcinogen	---	---	---	---	---	N/A	10
N-Nitrosodi-N-Propylamine §§ --- § DPN § DPNA § NDPA § Dipropylnitrosamine § N- Nitrosodipropylamine § Di-n- Propylnitrosamine § Dipropylamine, N- Nitroso- § N-Nitrosodi-n-propylamine § N- Nitroso-di-n-propylamine § 1- Propanamine, N-Nitroso-n-Propyl- § RCRA Waste Number U111	621-64-7 JL 9700000 DWU600	Carcinogen	---	---	1.13	0.05	0.05	N/A	10
N-Nitrosopyrrolidine §§ --- § NPYR § NO-pyr § N-N-pyr § 1- Nitrosopyrrolidene § Pyrrolidine, 1- Nitroso- § Tetrahydro-N-Nitrosopyrrole § Pyrrole, Tetrahydro-N-Nitroso- § RCRA Waste Number U180	930-55-2 UY 1575000 NLP500	Carcinogen	---	---	0.055	0.16	0.16	N/A	10

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Naphthalene §§ Moth Balls § Mighty 150 § NCI C52904 § Naphthene § White Tar § Naphthalin § Tar Camphor § Caswell Number 587 § EPA Pesticide Chemical Code 055801 § RCRA Waste Number U165	91-20-3 QJ 0525000 NAJ500	Carcinogen	---	---	10.5	100 HA	100 HA	0.04	10
Nickel §§ Ni § C.I. 77775 § Ni 270 § Nickel 270 § Ni 0901-S § Ni 4303T § NP 2 § Raney Alloy § Raney Nickel	7440-02-0 QR 5950000 NCW500	Toxic	145@25mg /l hardness (12) PP	16.1 @ 25 mg/l hardness (12) PP	47	100 HA	100 HA	0.5	10
Nicosulfuron §§ Accent § ---	111991-09-4	Toxic	---	---	---	8,750 I	8,750 I	0.01	---
Nitrate (as Nitrogen[N]) §§ NO ₃	14797-55-8	Toxic	(8)	(8)	---	10,000 MCL	10,000 MCL	10 surface water 5000, ground water, see ARM 7.30.715	10
Nitrate plus nitrite (as Nitrogen[N]) §§ NO ₃ + NO ₂	See nitrate and nitrite	Toxic	(8)	(8)	---	10,000 MCL	10,000 MCL	10, surface water 5000, ground water, see ARM 7.30.715	10
Nitrite (as Nitrogen[N]) §§ NO ₂	14797-65-0	Toxic	(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	98-95-3 DA 6475000 NEX000	Toxic	---	---	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

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Nitrophenol, 4- §§p-Nitropheno (DOT)l § 4-Hydroxynitrobenzene § NCI C55992) § RCRA Waste Number U170	100-02-7 SM 2275000 NIF000	Toxic	---	---	3.31	60 HA	60 HA	2.4	---
o-Nitrophenol §§ --- § 2-Nitrophenol oxynitrobenzene	88-75-5 SM 2100000 NIE500	Toxic	---	---	2.33	---	---	0.45	---
Nitrosamines §§ -Nitrosamide § -NSC223080	35576-91-1	Carcinogen				0.008 NPP	0.008 NPP		
Nitrosodibutylamine, N §§ Dibutylnitrosamine § -1-Butanamine § BRN 1760378 § CCRIS 217 § EINECS 213-101-1 § HSDB 5107 § N- butyl-N-nitroso-1-butamine § NDBA § NSC 6830 § RCRA waste number U172	924-16-3	Carcinogen				0.063 NPP	0.063 NPP		
Nitrosodiethylamine, N §§ Diethylnitrosamine § -BRN 1744991 § CCRIS 239 § DEN § EINECS 200-226-1 § Ethanamine, N-ethyl- N-nitroso § HSDB 4001 § NDEA § NSC 132 § RCRA waste number U174	55-18-5	Carcinogen				0.008 NPP	0.008 NPP		
Nonylphenol §§ --- § 2,6-Dimethyl-4-heptylphenol § Hydroxyl No. 253 § Potassium nonylphenate § Sodium nonylphenol § Strontium bis(nonylphenolate) § Strontium nonylphenolate	25154-52-3	Toxic	28 NPP	6.6 NPP	---	---	---	---	---
o-Xylene §§ --- § o-Xylol § 1,2-Xylene § ortho-Xylene § o-Methyltoluene § o-Dimethylbenzene § 1,2-Dimethylbenzene § 1,2-Dimethyl Benzene	95-47-6 ZE 2450000 XHJ000	Toxic	---	---	1.17	10,000 MCL	10,000 MCL	0.5	1.5

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
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- Thioxamimidate § N',N'-Dimethyl-N- [(Methylcarbamoyl)oxy]-1- Methylthioxamimidic Acid	23135-22-0 RP 2300000 DSP600	Toxic	---	---	---	200	200	1	1
Oxydemeton Methyl §§ Metasystox R § ---	301-12-2	Toxic	---	---	---	3.5	3.5	1.4	---
Oxygen, dissolved (20) §§ O2 § Oxygen, Compressed § Oxygen, Refrigerated Liquid	7782-44-7 RS 2060000 OQW000	Toxic	(15)	(15)	---	---	---	---	50
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'-(Dichloroethenylidene)Bis[4- Chloro-	72-55-9 KV 9450000 BIM750	Carcinogen	---	---	53,600	0.0022	0.0022	N/A	0.01
						PP	PP		

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<p>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 A623 § alpha,alpha-Bis(p- Chlorophenyl)-beta,beta,beta- Trichlorethane</p>	50-29-3 KJ 3325000 DAD200	Carcinogen	0.5	0.001	53,600	0.0022	0.0022	N/A	0.06
<p>p,p'-Dichlorodiphenyldichloroethane §§ DDD § TDE § Dilene § NCI C00475 § Rothane § Rothane § 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-</p>	72-54-8 KI 0700000 BIM500	Carcinogen	---	---	53,600	0.0031	0.0031	N/A	0.01
<p>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</p>	101-55-3 --- ---	Toxic with BCF >300	---	---	1,640	---	---	N/A	10

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p-Chloro-m-Cresol §§ --- § PCMC § Parol § Aptal § Baktol § Baktolan § Ottafact § Raschit § Rasen- Anicon § Parmetol § Candasetpic § Chlorocresol § Preventol CMK § Parachlorometra Cresol § 4-Chloro-3- methylphenol § 2-Chloro-Hydroxytoluene § Phenol, 4-Chloro-3-methyl- § Chlorophenol, 4-, methyl, 3- § RCRA Waste Number U039	59-50-7 GO 7100000 CFE250	Harmful	---	---	---	3,000	3,000	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	106-42-3 ZE 2625000 XHS000	Toxic	---	---	1.17	10,000	10,000	0.5	1.5
Paraquat Dichloride §§ ---	1910-42-5	Toxic	---	---	---	30 HA	30 HA	0.8	---
Parathion §§ --- § DNTP § Niran § Phoskil § Paradust § Stathion § Strathion § Pestox Plus § Nitrostigmine § Parathion Ethyl § Parathion-ethyl § Ethyl Parathion § Diethylparathion § 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 § Caswell Number 637 § EPA Pesticide Chemical Code 057501 § RCRA Waste Number P089	56-38-2 TF 4920000,dry- liquid PAC250,dry	Carcinogen	0.065	0.013	---	---	---	---	1
Pentachlorobenzene §§ Benzene, Pentachloro- § QCB- § RCRA Waste Number U183	608-93-5 DA 6640000 PAV500	Toxic with BCF >300	---	---	2,125	1.4	1.4	N/A	0.1
						PP	PP		

CIRCULAR DEQ-7, MONTANA NUMERIC WATER QUALITY STANDARDS₉

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Polychlorinated Biphenyls, (sum of all homolog, all isomer, all congener or all Aroclor analyses) §§ 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	0.00064	0.5	N/A	1
Primisulfuron Methyl §§ Beacon § Exceed	86209-51-0	Toxic	---	---	---	42	42	0.1	---
Prometon §§ Pramitol § ---	1610-18-0	Toxic	---	---	---	100	100	0.3	---
Pronamide §§ Kerb § ---	23950-58-5	Carcinogen	---	---	---	50	50	N/A	---
Propachlor §§ Ramrod § ---	1918-16-7	Toxic	---	---	---	90	90	0.5	---
Propane, 1,2-Dibromo-3-Chloro- §§ Dibromochloropropane § 1,2-Dibromo-3-Chloropopane § Fumagon § Fumazone § NCI C00500 § Nemabrom § Nemaforme § Nemagon § Nemagone § Nemagone Soil Fumigant § Nemanax § Nemapaz § Nemaset § Nematocide § Nematox § OS 1897 § OXY DBCP § SD 1897 § Caswell Number 287 § 1-Chloro-2,3-Dibromopropane § DBCP § EPA Pesticide Chemical Code 011301 § RCRA Waste Number U066	96-12-8 TX 8750000 DDL800	Carcinogen	---	---	---	0.2	0.2	N/A	0.05
Propazine §§ ---	139-40-2	Carcinogen	---	---	---	10	10	N/A	---
Propham §§ ---	122-42-9	Toxic	---	---	---	100	100	0.13	---
Propioconazole §§ 1-((2-(2,4-dichlorophenyl)-4propyl-1,3-dioxolan-2-yl)methyl)-1H-1,2,4-triazole § Banner § CGA-64250 § Caswell#323EE § Desmel § HSDB 6731 § Orbit § Radar § Tilt § EPA Pesticide # 122101	60207-90-1	Carcinogen				700	700		
Propoxur §§ Baygon § ---	114-26-1	Carcinogen	---	---	---	3	3	N/A	---

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Prosulfuron §§ Benzenesulfonamide, N(((4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino)carbonyl)-2-(3,3,3-trifluoropropyl)-	94125-34-5	Toxic				100 HA	100 HA		
Pyrasulfotole §§ pyrasulfotole §	365400-11-9	Toxic				70 HA	70 HA		
Pyrene (PAH) §§ --- § β-Pyrine § beta-Pyrene § Benzo(def)Phenanthrene § Benzo[def]Phenanthrene	129-00-0 UR 2450000 PON250	Toxic	---	---	30	830 PP	830 PP	0.25	0.25
Radium 226 §§ ---	13982-63-6 ---	Carcinogen / Radioactive	---	---	---	5 picocuries/lit er Note: The sum of Radium 226 and 228. MCL	5 picocuries/li ter Note: The sum of Radium 226 and 228. MCL	N/A	---
Radium 228 §§ ---	15262-20-1 ---	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 §§ ---	14859-67-7 ---	Carcinogen / Radioactive	---	---	---	300 picocuries/ liter HA	300 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	7782-49-2 VS 7700000 and VS 8310000, colloidal SBO500 and SBP000,colloi dal	Toxic	20	5 HA	4.8	50 MCL	50 MCL	0.6	1

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Silver §§ Ag § Argentum § C.I. 77820 § Shell Silver § Silver Atom	7440-22-4 NIOSH: VW 3500000 SAX: SDI500	Toxic	0.374@ 25 mg/l hardness (12) PP	---	0.5	100 HA	100 HA	0.2	0.5
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	122-34-9 XY 5250000 BJP000	Carcinogen	---	---	---	4 MCL	4 MCL	N/A	0.3
Strontium §§ ---	7447-24-6 ---	Toxic	---	---	---	4,000 HA	4,000 HA	100	---
Styrene §§ --- § Styrol § Cinnamol § Cinnamene § Cinnamenol § NCI C02200 § Styrole § Strolene § Styron § Stropor § Vinylbenzol § Phenethylene § Phenylethene § Vinylbenzene § Ethenylbenzene § Phenylethylene § Benzene, Vinyl- § Styrene, Monomer	100-42-5 WL 3675000 SMQ000	Carcinogen	---	---	---	100 HA	100 HA	N/A	0.5
Sulfometuron Methyl §§ Oust § ---	74222-97-2	Toxic	---	---	---	2000 HA	2000 HA	0.01	---
Sulfosulfuron §§ imidazo(1,2-a)pyridine-3-sulfonamide,N- (((4,6-dimethoxy-2- pyrimidinyl)amino)carbonyl)-2- (ethylsulfonyl)- § Sulfosulfuron (ISO)	141776-32-1	Toxic				300 HA	300 HA		
Tebuconazole §§ 1H-1,2,4-Triazole-1-ethanol, alpha-(2-(4- chlorophenyl)ethyl)-apha-(1,1- dimethylethyl)- § BAY-HWG 1608 § Elite § Ethyltrianol § Etiltrianol § Fenetrazole § Folicur § LYNX § Preventol A 8 § Raxil § Terbutcanazole § Terbutrazole § HWG 1608 § HSDB 7448	107534-96-3	Carcinogen				200 HA	200 HA		

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Tebuthiuron §§ --- TebuconazoleSpike	34014-18-1	Toxic	---	---	---	500	500	2	---
Temperature §§ ---	N/A	Harmful	(13)	(13)	---	HA	HA	N/A	---
Terbacil §§ Sinbar § ---	5902-51-1	Toxic	---	---	---	90	90	2.2	---
Terbufos §§ Counter § ---	13071-79-9	Toxic	---	---	---	0.9	0.9	0.5	---
Tetrachlorobenzene, 1,2,4,5- §§ Benzene, 1,2,4,5-Tetrachloro- § RCRA Waste Number U207 § 1,2,4,5- Tetrachlorobenzene	95-94-3 DB 9450000 TBN750	Toxic with BCF >300	---	---	1,125	0.97	0.97	N/A	0.1
Tetrachloroethane, 1,1,2,2- §§ Tetrachloroethane § TCE § Cellon § Westron § Bonoform § sym-Tetrachloroethane § Acetylene Tetrachloride § 1,1,2,2-Tetrachloroethane § Ethane, 1,1,2,2-Tetrachloro- § 1,1- Dichloro-2,2-Dichloroethane § RCRA Waste Number U209	79-34-5 NIOSH: KI 8575000 SAX: ACK500	Carcinogen	---	---	5	1.7	2.0	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 § Ethylene Tetrachloride § Ethylene, Tetrachloro- § 1,1,2,2-Tetrachloroethylene § RCRA Waste Number U210	127-18-4 KX 3850000 TBQ250	Carcinogen	---	---	30.6	5	5	N/A	0.5
Thallium §§ TI § Ramor	7440-28-0 XG 3425000 TEI000	Toxic	---	---	119	0.24	2	0.3	0.2
Thifensulfuron Methyl §§ --- § Pinnacle	79277-27-3	Toxic	---	---	---	910	910	1	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Toluene §§ --- § Antisal 1a § NCI C07272 § Toluol § Tolu-Sol § Methacide § Methylbenzol § Methylbenzene § Phenylmethane § Phenyl-Methane § Methyl-Benzene § Benzene, Methyl § RCRA Waste Number U220	108-88-3 XS 5250000 TGK750	Toxic	---	---	10.7	1,000	1,000	0.01	0.5
Toxaphene §§ --- § Attac 4-2 § Alltox § Alltex § Attac 6 § Toxakil § Agricide § Chem-Phene § Clor Chem T-590 § Compound 3956 § Crestoxo § Estonox § Geniphene § Gy- Phene § Hercules 3956 § Melipax § Motox § PCC § Phenacide § Toxaphene mixture § Chlorinated-Camphene § Camphene, Octachloro- § RCRA Waste Number P123	8001-35-2 XW 5250000 THH750	Carcinogen	0.73	0.0002	13,100	0.0028	0.3	N/A	1
Tralkoxydim (28) §§ Achieve	87820-88-0	Carcinogen	---	---	---	20 HA	20 HA	N/A	---
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-	156-60-5 KV 9400000 DFI600	Toxic	---	---	1.58	100	100	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)-	10061-02-6 UC 8320000 DGH000	Carcinogen	---	---	1.91	2	2	N/A	0.5
trans-Nonachlor (Chlordane component) §§ --- § Chlordane, trans-Isomer	39765-80-5 ---	Carcinogen	---	---	14,100	0.0080	1	N/A	0.4
Triallate §§ --- § Avadex BW § BRN 1875853 § Dipthal § Far-Go § Triamyl	2303-17-5	Carcinogen	---	---	---	5	5	---	---
Triasulfuron §§ Amber	82097-50-5	Toxic	---	---	---	70 I	70 I	1	---

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			Acute (3)	Chronic (4)		Surface Water	Ground Water		
Tribenuron Methyl §§ Express	101200-48-0	Carcinogen	---	---	---	8 I	8 I	0.1	---
Tributyltin (TBT) §§ Tin-San § Tributyltin chloride complex § EPA Pesticide Chemical #083108	56573-85-4	Toxic	0.46 NPP	0.072 NPP	---	---	---	N/A	---
Triclopyr §§ 3,4,5-Trichloro-2pyridinyloxyacetic acid § Confront § Dowco 233 § Garlon § Garlon 2 § Garlon 250 § Grazon 250 § Redeem § Release § Turflon § Caswell# 8821 § HSDB 7060 § EPA Pesticide Chemical #116001	55335-06-3	Toxic				350 I	350 I		
Trichlorobenzene, 1,2,4- §§ Benzene, 1,2,4-Trichloro- § unsym-Trichlorobenzene § 1,2,4- Trichlorobenzene	120-82-1 DC 2100000 TIK250	Toxic	---	---	114	35 PP	70 MCL	0.02	0.5
Trichloroethane, 1,1,2- §§ Vinyl Trichloride § 1,1,2-Trichloroethane § B-T § Ethane Trichloride § beta-Trichloroethane § NCI C04579 § Ethane, 1,1,2-Trichloro- § Caswell Number 875A [NLM] § EPA Pesticide Chemical Code 081203 [NLM]§ 1,2,2-Trichloroethane § RCRA Waste Number U227	79-00-5 KJ 3150000 TIN000	Carcinogen	---	---	4.5	3 HA	3 HA	N/A	0.5
Trichloroethane, 1,1,1- §§ Methyl Chloroform § -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 § 1,1,1- Trichloroethane § Ethane, 1,1,1-Trichloro- § RCRA Waste Number U226	71-55-6 KJ 2975000 TIM750	Toxic	---	---	5.6	200 MCL	200 MCL	0.5	0.5

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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	79-01-6 KX 4550000 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 § Fluorocarbon Number 11 § NCI C04637 § Isotron 11 § Fluorotrichloromethane § Isceon 131 § Monofluorotrichloromethane § Ucon Refrigerant 11 § Trichloromonofluoromethane § RCRA Waste Number U121	75-69-4 PB 6125000 TIP500	Toxic	---	---	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 § NCI C61187 § RCRA Waste Number U230	95-95-4 SN 1400000 TIV750	Harmful	---	---	110	7 1,800 NPP	7 1,800 NPP	10	10
Trichlorophenol, 2,4,6- §§ Phenachlor § Omal § Phenol, 2,4,6-trichloro- § NCI C02904 § 2,4,6-Trichlorophenol § Dowcide 2S § RCRA Waste Number U231	88-06-2 SN 1575000 TIW000	Carcinogen	---	---	150	14 PP	30 HA	N/A	10

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Trichlorophenoxy Propionic Acid, 2 (2,4,5-) §§ Fenoprop § 2 (2,4,5-Trichlorophenoxy) Propionic 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 § (2,4,5-Trichlorophenoxy)Propionic Acid § 2-(2,4,5-Trichlorophenoxy)-Propionic Acid § (+/-)-2-(2,4,5- Trichlorophenoxy)propanoic Acid	93-72-1 UF 8225000 TIX500	Toxic	---	---	---	10 NPP	50 MCL	0.075	0.1
Trichlorophenoxyacetic Acid §§ Brush-Rhap § 2,4,5-T (Brush-Rhap)	93-76-5	Toxic	---	---	---	70 HA	70 HA	N/A	---
Trifluralin §§ Treflan § Buckle	1582-09-8	Carcinogen	---	---	---	5 HA	5 HA	N/A	---
Trihalomethanes, total §§ --- § TTHMs	Multiple	Carcinogen	---	---	---	100 MCL	100 MCL	N/A	2
Triticonazole §§ ---	131983-72-7	Toxic	---	---	---	1,000 HA	1,000 HA	---	---
Turbidity (20) §§ ---	N/A	Harmful	(13)	(13)	---	---	---	N/A	1 NTU
Uranium, natural §§ U § Uranium Metal, Pyrophoric	7440-61-1 YR 3490000 UNS000	Carcinogen / Radioactive	---	---	---	30 MCL	30 MCL	0.03	---
Vinyl 2-Chloroethyl Ether §§ Vinyl β-Chloroethyl Ether- § 2-Chloroethyl Vinyl Ether § (2- Chloroethoxy)Ethene § RCRA Waste Number U042	110-75-8 KN 6300000 CHI250	Carcinogen	---	---	0.557	---	---	N/A	---
Vinyl Chloride §§ --- § VC § VCM § Chlorethene § Chloroethene § Chlorethylene § Chloroethylene § Ethylene, Chloro- § Monochloroethylene § Ethylene Monochloride § Vinyl Chloride Monomer § Vinyl C Monomer § Trovidur § RCRA Waste Number U043	75-01-4 KU 9625000 VNP000	Carcinogen	---	---	1.17	0.25 PP	0.2 HA	N/A	0.5

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Xylenes §§ --- § Xylol § Violet 3 § Mixed Xylenes § Methyl Toluene § Dimethylbenzene § NCI C55232 § Total equals the sum of meta, ortho, and para. § RCRA Waste Number U239	1330-20-7 ZE 2100000 XGS000	Toxic	---	---	1.17	10,000	10,000	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	7440-66-6 ZG 8600000 ZBJ000	Toxic	37 @ 25mg/l hardness (12) PP	37 @ 25 mg/l hard ness (12) PP	47	2,000	2,000	5	10

(1) Based on EPA's categories and include parameters determined to be 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) 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 pollutants list. Carcinogens include those parameters in classifications A (Human Carcinogens), B1 or B2 (Probable Human Carcinogens), and C (Possible Human Carcinogen).

(3) The one-hour average concentration of these parameters in surface waters may not exceed these values more than once in any three year period, on average, with the exception of silver, which, at present, is interpreted as a "not to exceed" value.

(4) The 96 hour average concentration of these parameters in surface waters may not exceed these values more than once in any three year period, on average.

(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. National Recommended Water Quality Criteria: 2002 Human Health Criteria Calculation Matrix (EPA-822-R-02-012).

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

(7) Freshwater Aquatic Life Standards for total ammonia nitrogen (mg/l NH₃-N plus NH₄-N).

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.

1. The one-hour average concentration of total ammonia nitrogen (in mg N/L) does not exceed the CMC (acute criterion) calculated using the following equations.

Where salmonid fish are present:

$$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

Or where salmonid fish are not present:

$$CMC = \frac{0.411}{1 + 10^{7.204 - pH}} + \frac{58.4}{1 + 10^{pH - 7.204}}$$

2. The thirty-day average concentration of total ammonia nitrogen (in mg N/L) does not exceed the CCC (chronic criterion) calculated using the following equations.

When fish early life stages¹ are present:

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \times \text{MIN} \left(2.85, 1.45 \times 10^{0.028 \times (25 - T)} \right)$$

When fish early life stages¹ are absent:

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688 - pH}} + \frac{2.487}{1 + 10^{pH - 7.688}} \right) \times 1.45 \times 10^{0.028 \times (25 - \text{MAX}(T,7))}$$

¹ Includes all embryonic and larval stages and all juvenile forms of fish to 30-days following hatching.

3. In addition, the highest four-day average within the 30-day period should not exceed 2.5 times the CCC.

Table 1. pH-Dependent Values of the CMC (Acute Criterion) Ammonia Standard.

CMC, total ammonia nitrogen (mg/l NH₃-N plus NH₄-N)		
pH	Salmonids Present	Salmonids Absent
6.5	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0	0.885	1.32

Table 2. Temperature and pH-Dependent Values of the CCC (Chronic Criterion) for Fish Early Life Stages Present and for Fish Early Life Stages Absent.

		CCC for Fish Early Life Stages Present, total ammonia nitrogen (mg/l NH ₃ -N plus NH ₄ -N)								
pH	Temperature, C									
	0	14	16	18	20	22	24	26	28	30
6.5	6.67	6.67	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.57	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.44	5.86	5.15	4.52	3.98	3.50	3.07	2.70	3.37
6.8	6.29	6.29	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	6.12	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.91	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.67	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.39	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	5.08	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.73	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.36	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.98	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.58	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.18	2.89	2.54	2.23	1.96	1.73	1.53	1.33	1.17
7.9	2.80	2.80	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	2.43	2.43	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.10	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.79	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.52	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.29	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.09	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.920	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.778	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.661	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.565	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0	0.486	0.486	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

*At 15 C and above, the criterion for fish ELS absent is the same as the criterion for fish ELS present

CCC for Fish Early Life Stages Absent, total ammonia nitrogen (mg/l NH ₃ -N plus NH ₄ -N)									
Temperature, C									
0-7	8	9	10	11	12	13	14	15*	16*
10.8	10.1	9.51	8.92	8.36	7.8	7.35	6.89	6.46	6.06
10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36	5.97
10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25	5.86
10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10	5.72
9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93	5.56
9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73	5.37
9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49	5.15
8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22	4.90
8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92	4.61
7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59	4.30
7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23	3.97
6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85	3.61
5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47	3.25
5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89
4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71	2.54
3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36	2.21
3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03	1.91
2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74	1.63
2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48	1.39
2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25	1.17
1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06	0.990
1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892	0.836
1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754	0.707
1.07	1.01	0.944	0.885	0.829	0.778	0.729	0.684	0.641	0.601
0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548	0.513
0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471	0.442

(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 DEQ-7 are found in the surface water quality standards (ARM17.30.601, et seq.) and the ground water rules (ARM 17.30.1001, et seq.).

Standards for metals (except aluminum) in surface water are based upon the analysis of samples following a "total recoverable" digestion procedure (EPA Method 200.2, Supplement I, Rev. 2.8, May, 1994

Standards for alpha emitters, beta emitters and gamma emitters in surface waters are based upon the analysis of unfiltered samples and appropriate EPA approved analysis methods.

Standards for metals in ground water 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 alpha emitters, beta emitters and gamma emitters in ground water are based upon the analysis of filtered samples and appropriate EPA approved analysis methods.

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

(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 (TEF) in van den Berg, M: et al. (2006) The 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Toxicological Sciences 93(2):223-241. The analysis method to be used is EPA Method 1613, Revision B, Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution HRGC/HRMS), EPA Method 8290, or other method approved by the department on case by case basis. The Required Reporting Value(s) (RRV) for Dioxin and congeners are to be the lowest detection level for the analysis method approved by the Department.

(11) Radionuclides consisting of alpha emitters, beta emitters and gamma emitters are classified as carcinogens. Alpha emitters means the total radioactivity due to alpha particle emission. Beta emitters means the total radioactivity due to beta particle emission. Gamma emitters means the total radioactivity due to gamma particle emission. The emitters covered under this Standard include but are not limited to: 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 25 mg/l. The hardness relationships are:

	Acute =		Chronic = exp.{mc[ln(hardness)]+bc}	
	exp.{ma[ln(hardness)]+ba}		mc	Bc
	ma	ba		
cadmium	1.0166	-3.924	0.7409	-4.719
Copper	0.9422	-1.700	0.8545	-1.702
chromium (III)	0.819	3.7256	0.819	0.6848
Lead	1.273	-1.46	1.273	-4.705
Nickel	0.846	2.255	0.846	0.0584
Silver	1.72	-6.52	-----	-----
Zinc	0.8473	0.884	0.8473	0.884

Note: If the hardness is <25mg/L as CaCO₃, the number 25 must be used in the calculation. If the hardness is greater than or equal to 400 mg/L as CaCO₃, 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 is dependent on pH. Values displayed in the chart correspond to a pH of 6.5 and are calculated as follows:

$$\text{Acute} = \exp[1.005(\text{pH}) - 4.869] \qquad \text{Chronic} = \exp[1.005(\text{pH}) - 5.134]$$

(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/A³	6.5	N/A³	5.5
7 Day Mean	9.5 (6.5)	N/A	6.0	N/A
7 Day Mean Minimum	N/A³	5.0	N/A³	4.0
1 Day Minimum⁴	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 of fish 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) Surface or groundwater concentrations may not exceed these values.

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

PP = priority pollutant criteria

NPP = non-priority pollutant criteria

OL= organoleptic 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

(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 detection level that must be achieved in reporting surface water or ground water monitoring or compliance data to the Department unless otherwise specified in a permit, approval or authorization issued by the department. The RRV is the Department's best determination of a level of analysis that can be achieved by the majority of commercial, university, or governmental laboratories using EPA approved methods or methods approved by the department.

(20) Applicable to surface waters only.

- (21) Based on taste and odor thresholds given in EPA 822-f-97-008 December 1997.
- (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-degradation rules ARM 17.30.701 et seq. The 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 ground water standards (17.30.601 et seq. and 17.30.1001 et seq.) The Secondary Maximum Contaminant 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 that interfere with the uses specified in the surface and ground water standards (17.30.601 et seq. and 17.30.1001 et seq.). The Secondary Maximum Contaminant 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.
- (28) The sum of the concentrations of tralkoxydim and its breakdown products shall not exceed the standards listed. For a list of known breakdown products, see EPA memorandum "EFED's Section 3 Review for Tralkoxydim (Chemical #121000; Case # 060780; DP Barcodes 0234682, 0234752, 0238697, 0235723 & 0239519)," and the associated "Environmental Fate Assessment for Tralkoxydim."
- (29) Ground water human health standard is based on the relative potency for selected PAH compounds listed in Table 8 of the EPA "Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons" July 1993, EPA/600/R-93/089.
- (30) The sum of the concentrations of acetochlor and the breakdown products, acetochlor ESA and acetochlor OA, shall not exceed the standards listed.
- (31) The sum of the concentrations of alachlor and the breakdown products, alochlor ESA and alochlor OA, shall not exceed the standards listed.
- (32) The sum of the concentrations of atrazine and the breakdown products, deethyl atrazine, deisopropyl atrazine, and deethyl deisopropyl atrazine, shall not exceed the standards listed
- (33) The sum of the concentrations of imazamethabenz-methyl ester and the breakdown product, imazamethabenz methyl acid, shall not exceed the standards listed.
- (34) The sum of the concentrations of metolachlor and the breakdown products, metolachlor ESA and metolachlor OA, shall not exceed the standards listed.
- (35) The sum of the concentrations of pinoxaden (NOA 407855) and the breakdown products, pinoxaden NOA 407854 and pinoxaden NOA 447204, shall not exceed the standards listed.
- (36) The human health criteria for arsenic is the more restrictive of the risk based level of 1 in 1000 [1x10⁻³], or the MCL.