

Part 22 Standards List

9/13/2021

Chemical	CAS #	Synonyms	Initial Response Standard (ug/l or ppb)	Initial Response Standard Measured In?	Shall Not Exceed Standard (ug/l or ppb)		Shall Not Exceed Standard Measured In?	Part 22 Rule Reference
Acenaphthene	83329	1,2-Dihydroacenaphthene	40	effluent	40	S	groundwater	R 323.2222(5)(b)
Acenaphthylene	208968	Cyclopenta(de)naphthalene	nd	groundwater	52		effluent	R 323.2222(5)(c)
Acetaldehyde	75070	Ethanal; Ethyl aldehyde	nd	groundwater	950		effluent	R 323.2222(5)(c)
Acetate	71501		nd	groundwater	4,200	S	effluent	R 323.2222(5)(c)
Acetic acid	64197	Methanecarboxylic Acid	nd	groundwater	4,200	S	effluent	R 323.2222(5)(c)
Acetone	67641	Dimethylketone; 2-propanone	nd	groundwater	730		effluent	R 323.2222(5)(c)
Acetonitrile	75058	Methyl cyanide; Cyanomethane;	nd	groundwater	140		effluent	R 323.2222(5)(c)
Acetophenone	98862	1-phenylethanone	nd	groundwater	1,500		effluent	R 323.2222(5)(c)
Acrolein	107028	Acrylic aldehyde; 2-Propenal	15	effluent	15		groundwater	R 323.2222(5)(b)
Acrylamide	79061	2-Propenamamide	nd	groundwater	1	Sd	effluent	R 323.2222(5)(c)
Acrylic acid	79107	Acroleic acid; Propenoic acid			3,900		effluent	R 323.2222(5)(d)
Acrylonitrile	107131	2-propenenitrile; vinyl cyanide; acrylon	nd	groundwater	3	S	effluent	R 323.2222(5)(c)
Alachlor	15972608	Lasso	nd	groundwater	2		effluent	R 323.2222(5)(c)
Aldicarb	116063	Temik	nd	groundwater	3		effluent	R 323.2222(5)(c)
Aldicarb sulfoxide	1646873	Temik Sulfoxide	nd	groundwater	4		effluent	R 323.2222(5)(c)
Aldicarb sulfone	1646884	Aldoxycarb	nd	groundwater	2		effluent	R 323.2222(5)(c)
Aldrin	309002	Aldrex; (HHDN)	nd	groundwater	0	S	effluent	R 323.2222(5)(c)
Aluminum	7429905	NA; Metal			150	F	eff or gw	R 323.2222(3)(a)
Ammonia	7664417	NA			5,000	N	eff or gw	R 323.2222(2)(a)
t-Amyl methyl ether	994058	TAME	nd	groundwater	190		effluent	R 323.2222(5)(c)
Aniline	62533	Phenylamine; Aminobenzene				F,S	groundwater	R 323.2222(5)(b)
Anthracene	120127	Paranaphthaline	40	effluent	40		groundwater	R 323.2222(5)(b)
Antimony	7440360	Stibium; Sb			3	B,Sd	groundwater	R 323.2222(5)(a)
Arsenic	7440382	NA; Metal			5	B	groundwater	R 323.2222(5)(a)
Asbestos	1332214				3.5E+6 f/ml	B	groundwater	R 323.2222(5)(a)
Atrazine	1912249	Fenatrol	nd	groundwater	3		effluent	R 323.2222(5)(c)
Azobenzene	103333	Diphenyldiimide; Benzeneazobenzene			23		effluent	R 323.2222(5)(d)
Barium	7440393	NA; Metal			1,000	B,S	groundwater	R 323.2222(5)(a)
Benzene	71432	NA	nd	groundwater	5		effluent	R 323.2222(5)(c)
Benzidine	92875	Benzidine base; p-diaminodiphenyl	nd	groundwater	0		effluent	R 323.2222(5)(c)
Benzo(a)anthracene	56553	1,2-Benzanthracene	nd	groundwater	2		effluent	R 323.2222(5)(c)
Benzo(b)fluoranthene	205992	3,4-Benzfluoranthene	nd	groundwater	2		effluent	R 323.2222(5)(c)
Benzo(k)fluoranthene	207089	11,12- Benzofluoranthene	nd	groundwater	1		effluent	R 323.2222(5)(c)
Benzo(g,h,i)perylene	191242	1,12-Benzoperylene	nd	groundwater	0		effluent	R 323.2222(5)(c)
Benzo(a)pyrene	50328	BaP; Benz(a)pyrene	nd	groundwater	2		effluent	R 323.2222(5)(c)
Benzoic acid	65850	Carboxybenzene; Phenylformic acid	400	effluent	400		groundwater	R 323.2222(5)(b)
Benzyl alcohol	100516	Phenylmethanol; phenylcarbinol	nd	groundwater	10,000		effluent	R 323.2222(5)(c)
Benzyl chloride	100447	alpha-chlorotoluene	nd	groundwater	8		effluent	R 323.2222(5)(c)
o-Benzyl-p-chlorophenol	120321				220		effluent	R 323.2222(5)(d)

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Beryllium	7440417	NA			2	B,S	groundwater	R 323.2222(5)(a)
Biochemical oxygen demand	NA	BOD				BOD	effluent	R 323.2222(7)(h)
bis(2-Chloroethoxy)ethane	112265		nd	groundwater	18,900,000			R 323.2222(5)(c)
bis(2-Chloroethyl)ether	111444	dichloroethyl ether, BCEE	nd	groundwater	2	S	effluent	R 323.2222(5)(c)
bis(2-Ethylhexyl)phthalate	117817	Di(2-Ethylhexyl)phthalate(DEHP); dioctylphthalate Di-sec-octyl phthalate; ethylhexyl phthalate	nd	groundwater	6		effluent	R 323.2222(5)(c)
Boron	7440428	NA; Metal			250	B	groundwater	R 323.2222(5)(a)
Bromate	15541454				5	Sd	groundwater	R 323.2222(5)(a)
Bromobenzene	108861	Phenyl bromide	nd	groundwater	18		effluent	R 323.2222(5)(c)
Bromodichloromethane	75274	Dichlorobromomethane			20	T	eff & gw	R 323.2222(4)(d)
Bromoform	75252	Tribromomethane; Methyl tribromide			20	T	eff & gw	R 323.2222(4)(d)
Bromomethane	74839	Methyl bromide	nd	groundwater	10	S	effluent	R 323.2222(5)(c)
n-Butanol	71363	n-Butyl Alcohol	nd	groundwater	950		effluent	R 323.2222(5)(c)
2-Butanone	78933	Methyl ethyl ketone; MEK	450	effluent	450		groundwater	R 323.2222(5)(b)
n-Butyl acetate	123864	butyl acetate, butyl ethanoate	nd	groundwater	550		effluent	R 323.2222(5)(c)
t-Butyl alcohol	75650	2-Methyl-2-propanol;t-butanol;3-butanol; tertiary butanol; trimethylcarbinol	nd	groundwater	3,900		effluent	R 323.2222(5)(c)
Butyl benzyl phthalate	85687	BBP	40	effluent	40	S,Sd	groundwater	R 323.2222(5)(b)
n-Butylbenzene	104518	1-phenylbutane	nd	groundwater	80		effluent	R 323.2222(5)(c)
sec-Butylbenzene	135988	2-Phenylbutane	nd	groundwater	80		effluent	R 323.2222(5)(c)
tert-Butylbenzene	98066	2-methyl-2-phenylpropane	nd	groundwater	80		effluent	R 323.2222(5)(c)
Cadmium	7440439	NA; Metal			3	B,S,Sd	groundwater	R 323.2222(5)(a)
Camphene	79925	2,2-Dimethyl-3-methylidenebicyclo [2.2.1]heptane	nd	groundwater	440		effluent	R 323.2222(5)(c)
Caprolactam	105602	Aminocaproic lactam			5,800		effluent	R 323.2222(5)(d)
Carbaryl	63252		nd	groundwater	700		effluent	R 323.2222(5)(c)
Carbazole	86748		nd	groundwater	85	S	effluent	R 323.2222(5)(c)
Carbofuran	1563662		nd	groundwater	40		effluent	R 323.2222(5)(c)
Carbon disulfide	75150	Carbon bisulfide	nd	groundwater	800		effluent	R 323.2222(5)(c)
Carbon tetrachloride	56235	Tetrachloromethane; Perchloromethane	nd	groundwater	5	Sd	effluent	R 323.2222(5)(c)
Chlordane	57749	Velsicol 1068	nd	groundwater	2	S	effluent	R 323.2222(5)(c)
Chloride	16887006	NA			250,000	NaCl,S,Sd	groundwater	R 323.2222(3)(b)
Chlorobenzene	108907	Monochlorobenzene; Phenyl chloride	15	effluent	15		groundwater	R 323.2222(5)(b)
p-Chlorobenzene sulfonic acid	98668		nd	groundwater	7,300		effluent	R 323.2222(5)(c)
1-Chloro-1,1-difluoroethane	75683	Freon 142, HCFC-142b, hydrochlorofluorocarbon 142b	nd	groundwater	15,000		effluent	R 323.2222(5)(c)
Chloroethane	75003	Ethyl chloride	nd	groundwater	430	Sd	effluent	R 323.2222(5)(c)
Chloroform	67663	Trichloromethane			20	T	eff & gw	R 323.2222(4)(a)
Chloromethane	74873	Methyl chloride	nd	groundwater	260		effluent	R 323.2222(5)(c)

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4-Chloro-3-methylphenol	59507	p-Chloro-m-Cresol, PCMC, see RTECS	nd	groundwater	150	S	effluent	R 323.2222(5)(c)
beta-Chloronaphthalene	91587	Halowax	40	effluent	40		groundwater	R 323.2222(5)(b)
2-Chlorophenol	95578	o-Chlorophenol; 2-Chloro-1-hydroxybenzene	5	effluent	5	S	groundwater	R 323.2222(5)(b)
o-Chlorotoluene	95498	2-Chloro-1-methylbenzene; 2-chlorotoluene	nd	groundwater	150		effluent	R 323.2222(5)(c)
Chlorpyrifos	2921882	Dursban; Lorsban	nd	groundwater	22	S	effluent	R 323.2222(5)(c)
Chromium (total)	7440473	NA; Metal			50	B,S,Sd	groundwater	R 323.2222(5)(a)
Chrysene	218019	Benzo(a)phenanthrene				F	groundwater	R 323.2222(5)(b)
Cobalt	7440484				20	B	groundwater	R 323.2222(5)(a)
Copper	7440508	NA; Metal			500	B,S	groundwater	R 323.2222(5)(a)
Cyanazine	21725462	Bladex	nd	groundwater	2	Sd	effluent	R 323.2222(5)(c)
Cyanide	57125	Carbon nitride ion			100	B,S	groundwater	R 323.2222(5)(a)
Cyclohexanone	108941	Pimelic Ketone, Ketoexamethylene	nd	groundwater	33,000		effluent	R 323.2222(5)(c)
Dacthal	1861321	DCPA; Chlorothal	nd	groundwater	73		effluent	R 323.2222(5)(c)
Dalapon	75990		nd	groundwater	200		effluent	R 323.2222(5)(c)
4-4'-DDD	72548	Dichlorodipenyldichloroethane	nd	groundwater	9		effluent	R 323.2222(5)(c)
4-4'-DDE	72559	Dichlorodipenyldichloroethylene	nd	groundwater	4		effluent	R 323.2222(5)(c)
4-4'-DDT	50293	Dichlorodipenyltrichloroethane	nd	groundwater	4	S	effluent	R 323.2222(5)(c)
Decabromodiphenyl ether	1163195	Decabromodiphenyl Oxide, DBDO	nd	groundwater	30		effluent	R 323.2222(5)(c)
Di-n-butyl phthalate	84742	Dibutyl phthalate	35	effluent	35	S	groundwater	R 323.2222(5)(b)
Di(2-ethylhexyl) adipate	103231	Hexanedioic acid	nd	groundwater	400		effluent	R 323.2222(5)(c)
Di-n-octyl phthalate	117840	Diocetyl phthalate; DNOP	25	effluent	25		groundwater	R 323.2222(5)(b)
Diacetone alcohol	123422	DAA, 4-Hydroxy-4-methylpentan-2-one			1,000,000,000		effluent	R 323.2222(5)(c)
Diazinon	333415	NA	nd	groundwater	1	S	effluent	R 323.2222(5)(c)
Dibenzo(a,h)anthracene	53703	(DB(a,h)A); Dibenz(a,h)anthracene	nd	groundwater	0		effluent	R 323.2222(5)(c)
Dibenzofuran	132649		nd	groundwater	4	S	effluent	R 323.2222(5)(c)
Dibromochloromethane	124481	Chlorodibromomethane;			20	T	eff & gw	R 323.2222(4)(c)
Dibromochloropropane	96128	1,2-Dibromo-3-Chloropropane, DBCP	nd	groundwater	0		effluent	R 323.2222(5)(c)
Dibromomethane	74953	Methylene bromide; Methylene dibromide	nd	groundwater	80		effluent	R 323.2222(5)(c)
Dicamba	1918009	3,6-Dichloro-2-methoxybenzoic acid, Dianat, Banvel, Diablo, Oracle, Vanquish	nd	groundwater	220		effluent	R 323.2222(5)(c)
1,2-Dichlorobenzene	95501	o-Dichlorobenzene; 1,2-DCB	25	effluent	25	S	groundwater	R 323.2222(5)(b)
1,3-Dichlorobenzene	541731	m-Dichlorobenzene; 1,3-DCB				F	groundwater	R 323.2222(5)(b)
1,4-Dichlorobenzene	106467	p-Dichlorobenzene; PDB; 1,4-DCB	15	effluent	15		groundwater	R 323.2222(5)(b)
3,3'-Dichlorobenzidine	91941	O,O'-dichlorobenzidine; Dichlorobenzidine; DCB	nd	groundwater	1	S	effluent	R 323.2222(5)(c)
Dichlorodifluoromethane	75718	Difluorodichloromethane; Fluorocarbon-12; Freon 12; Halon; Refrigerant 12; Propellant 12;	40	effluent	40		groundwater	R 323.2222(5)(b)
1,1-Dichloroethane	75343	Ethylidene chloride; Ethylidane dichloride;	nd	groundwater	880	S	effluent	R 323.2222(5)(c)
1,2-Dichloroethane	107062	Ethylene dichloride; EDC; 1,2-Ethylene dichloride.	nd	groundwater	5	Sd	effluent	R 323.2222(5)(c)
1,1-Dichloroethylene	75354	Vinylidene chloride; VDC;	nd	groundwater	7		effluent	R 323.2222(5)(c)

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cis-1,2-Dichloroethylene	156592	cis-1,2-DCE	5	effluent	5	groundwater	R 323.2222(5)(b)
trans-1,2-Dichloroethylene	156605	trans-1,2-DCE	5	effluent	5	groundwater	R 323.2222(5)(b)
2,6-Dichloro-4-nitroaniline	99309	Dicloran, DCNA, Botran, Allisan, Ditranyl	nd	groundwater	2,200	effluent	R 323.2222(5)(c)
2,4-Dichlorophenol	120832	2,4-DCP	20	effluent	20	S groundwater	R 323.2222(5)(b)
2,4-Dichlorophenoxyacetic acid	94757	2,4-D	nd	groundwater	70	effluent	R 323.2222(5)(c)
1,2-Dichloropropane	78875	Propylene dichloride	nd	groundwater	5	effluent	R 323.2222(5)(c)
1,3-Dichloropropene	542756	1,3-Dichloropropylene; Lelone II;	nd	groundwater	9	Sd effluent	R 323.2222(5)(c)
Dichlorovos	62737	DDVP; Vapona	nd	groundwater	2	effluent	R 323.2222(5)(c)
Dicyclohexyl phthalate	84617	Ergoplast FDC, Unimoll 66	nd	groundwater			R 323.2222(5)(c)
Dieldrin	60571	HEOD; Trade names - Alvit; Dielidrix; Octalox;	nd	groundwater	0	S effluent	R 323.2222(5)(c)
Diethyl ether	60297	Ethyl ether; Sulfuric ether; Ethyl oxide; Ethoxyethane; Ether;	nd	groundwater	10	effluent	R 323.2222(5)(c)
Diethyl phthalate	84662	Ethyl phthalate; DEP	35	effluent	35	groundwater	R 323.2222(5)(b)
Diethylene glycol monobutyl ether	112345	DGBE; Butyl carbitol			88	effluent	R 323.2222(5)(d)
Diisopropyl ether	108203		nd	groundwater	30	effluent	R 323.2222(5)(c)
Diisopropylamine	108189	None			6	effluent	R 323.2222(5)(d)
Dimethyl phthalate	131113	DMP; 1,2-Benzenedicarboxylic acid	35	effluent	35	groundwater	R 323.2222(5)(b)
N,N-Dimethylacetamide	127195	None			180	effluent	R 323.2222(5)(d)
N,N-Dimethylaniline	121697	Dimethylphenylamine			16	effluent	R 323.2222(5)(d)
Dimethylformamide	68122	N,N-Dimethylformamide			700	effluent	R 323.2222(5)(d)
2,4-Dimethylphenol	105679	2,4-Xylenol	80	effluent	80	groundwater	R 323.2222(5)(b)
2,6-Dimethylphenol	576261	2,6-Xylenol	nd	groundwater	4	effluent	R 323.2222(5)(c)
3,4-Dimethylphenol	95658	3,4-Xylenol; 3,4-DMP	nd	groundwater	10	effluent	R 323.2222(5)(c)
Dimethylsulfoxide	67685	DMSO; Methyl sulfoxide; methylthiomethane			220,000	S effluent	R 323.2222(5)(d)
2,4-Dinitrotoluene	121142	2,4-DNT; 1-methyl-2,4-dinitrobenzene;	nd	groundwater	8	effluent	R 323.2222(5)(c)
Dinoseb	88857	2,4-Dinitro-6-sec-butylphenol; DNBP;	nd	groundwater	7	S effluent	R 323.2222(5)(c)
1,4-Dioxane	123911	Diethylene ether; Diethylene oxide; p-Dioxane; 1,4-Diethylenedioxiide;	nd	groundwater	7	Sd effluent	R 323.2222(5)(c)
Dipropylene glycol methyl ether	34590948	Dipropylene glycol monomethyl ether			37	effluent	R 323.2222(5)(d)
Dipropylene glycol n-propyl ether	29911271				11	effluent	R 323.2222(5)(d)
Diquat	85007		nd	groundwater	20	S effluent	R 323.2222(5)(c)
Dissolved oxygen	NA	DO				DO	R323.2222(7)(h)
Diuron	330541	3-(3,4-Dichlorophenyl)-1,1-dimethylurea; DCMU	nd	groundwater	31	effluent	R 323.2222(5)(c)
Endosulfan	115297	Thiosulfan.	nd	groundwater	44	S effluent	R 323.2222(5)(c)
Endothall	145733		nd	groundwater	100	effluent	R 323.2222(5)(c)
Endrin	72208	NA	nd	groundwater	2	effluent	R 323.2222(5)(c)
Epichlorohydrin	106898	Chloropropylene oxide; ECH; 1-chloro-2,3-epoxypropane; epichlorhydrin;	nd	groundwater	2	effluent	R 323.2222(5)(c)
Ethanol	64175	Ethyl Alcohol	nd	groundwater	1,900,000	effluent	R 323.2222(5)(c)

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Ethyl acetate	141786	Acetic ether			6,600		effluent	R 323.2222(5)(d)
Ethyl-tert-butyl ether	637923	ETBE	nd	groundwater	49		effluent	R 323.2222(5)(c)
Ethylbenzene	100414	Phenylethane	25	effluent	25	S	groundwater	R 323.2222(5)(b)
Ethylene dibromide	106934	EDB; 1,2-Dibromoethane; Ethylene bromide;	nd	groundwater	0		effluent	R 323.2222(5)(c)
Ethylene glycol	107211	Ethylene alcohol; Glycol; 1,2-Ethandiol; Monoethylene glycol (MEG);	nd	groundwater	15,000		effluent	R 323.2222(5)(c)
Ethylene glycol monobutyl ether	111762	2-butoxyethanol, butyl Cellosolve; EGME			3,700		effluent	R 323.2222(5)(d)
Fluoranthene	206440	Idryl	nd	groundwater	210	S	effluent	R 323.2222(5)(c)
Fluorene	86737	Diphenylenemethane	nd	groundwater	880	S	effluent	R 323.2222(5)(c)
Fluorine (soluble fluoride)	7782414	NA			1,000	B	groundwater	R 323.2222(5)(a)
Formaldehyde	50000	Formalin; formic aldehyde; Methylene oxide;	nd	groundwater	1,300	S	effluent	R 323.2222(5)(c)
Formic acid	64186	Hydrogen carboxylic acid; methanoic acid;	nd	groundwater	10,000		effluent	R 323.2222(5)(c)
1-Formylpiperidine	2591868	N-Formylpiperidine			80		effluent	R 323.2222(5)(d)
Gentian violet	548629	Crystal violet; Aniline violet;			15		effluent	R 323.2222(5)(d)
Glyphosate	1071836		nd	groundwater	700		effluent	R 323.2222(5)(c)
Heptachlor	76448	Velsicol 104	nd	groundwater	0	S	effluent	R 323.2222(5)(c)
Heptachlor epoxide	1024573	NA	nd	groundwater	0		effluent	R 323.2222(5)(c)
n-Heptane	142825	NA			2,700		effluent	R 323.2222(5)(d)
Hexabromobenzene	87821	Perbromobenzene; Benzene hexabromide; HBB	nd	groundwater	0		effluent	R 323.2222(5)(c)
Hexachlorobenzene	118741	Perchlorobenzene; C-66	nd	groundwater	1	S	effluent	R 323.2222(5)(c)
Hexachlorobutadiene	87683	HCBD; Perchlorobutadiene; C-46	nd	groundwater	15	S	effluent	R 323.2222(5)(c)
alpha-Hexachlorocyclohexane	319846	alpha-BHC; alpha-HCH; alpha-1,2,3,4,5,6-Hexachlorocyclohexane;	nd	groundwater	0		effluent	R 323.2222(5)(c)
beta-Hexachlorocyclohexane	319857	beta-BHC	nd	groundwater	1		effluent	R 323.2222(5)(c)
Hexachlorocyclopentadiene	77474	Perchlorocyclopentadiene; HCCPD; 1,2,3,4,5,5-Hexachloro-1,3-cyclopentadiene; C-56	nd	groundwater	50		effluent	R 323.2222(5)(c)
Hexachloroethane	67721	Perchloroethane; Carbon hexachloride; Ethane hexachloride;				F,S,Sd	groundwater	R 323.2222(5)(b)
n-Hexane	110543	Hexane			3,000		effluent	R 323.2222(5)(d)
2-Hexanone	591786	Methyl-n-butyl ketone	nd	groundwater	1,000		effluent	R 323.2222(5)(c)
Hexylene glycol	107415				2,700		effluent	R 323.2222(5)(d)
Indeno(1,2,3-cd)pyrene	193395	o-phenylenepyrene	nd	groundwater	0		effluent	R 323.2222(5)(c)
Iron	7439896	NA; Metal			300		eff or gw	R 323.2222(3)(e)
Isobutyl alcohol	78831	Isopropylcarbinol; 2-methyl-1-propanol	nd	groundwater	2,300		effluent	R 323.2222(5)(c)
Isophorone	78591	3,5,5-trimethyl-2-cyclohexen-1-one; isoacetophorone	nd	groundwater	770	S,Sd	effluent	R 323.2222(5)(c)
Isopropyl alcohol	67630	Isopropanol; 2-propanol	nd	groundwater	470		effluent	R 323.2222(5)(c)
Isopropyl benzene	98828	Cumene	nd	groundwater	800	S	effluent	R 323.2222(5)(c)
Lead	7439921	NA; Metal			2	B	groundwater	R 323.2222(5)(a)

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Lindane	58899	gamma-Benzene hexachloride; gamma-BHC; gamma-1,2,3,4,5,6-hexachlorocyclohexane	nd	groundwater	0	S	effluent	R 323.2222(5)(c)
Lithium	7439932				85	B	groundwater	R 323.2222(5)(a)
Magnesium	7439954	NA			200,000	B	groundwater	R 323.2222(5)(a)
Manganese	7439965	NA; Metal			50		eff or gw	R 323.2222(3)(f)
Mercury (Inorganic)	7439976	NA; Metal			1	B,S	groundwater	R 323.2222(5)(a)
Methane	74828		nd	groundwater	10,000		effluent	R323.2222(5)(c)
Methanol	67561	Methyl alcohol; wood alcohol	nd	groundwater	3,700	S	effluent	R 323.2222(5)(c)
Methoxychlor	72435	Methoxy DDT; DMDT; 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)ethane;	nd	groundwater	40		effluent	R 323.2222(5)(c)
2-Methoxyethanol	109864	Ethylene glycol, monomethyl ether			7		effluent	R 323.2222(5)(d)
2-Methyl-4-chlorophenoxyacetic acid	94746	MCPA; Agritox; Rhomene; Methoxone	nd	groundwater	7		effluent	R 323.2222(5)(c)
2-Methyl-4,6-dinitrophenol	534521	Dinitro-o-cresol; DNOC	nd	groundwater	3		effluent	R 323.2222(5)(c)
Methyl parathion	298000	O,O-Dimethyl O-p-nitrophenyl phosphorothiate	nd	groundwater	2		effluent	R 323.2222(5)(c)
4-Methyl-2-pentanone	108101	Methyl isobutyl ketone; MIBK	nd	groundwater	1,800		effluent	R 323.2222(5)(c)
Methyl-tert-butyl ether	1634044	MTBE; 2-methoxy-2-methylpropane	nd	groundwater	40		effluent	R 323.2222(5)(c)
N-Methyl-morpholine	109024	None			20		effluent	R 323.2222(5)(d)
Methylcyclopentane	96377		nd	groundwater	22,000		effluent	R 323.2222(5)(c)
4,4'-Methylene-bis-2-chloroaniline	101144	MBOCA	nd	groundwater	1		effluent	R 323.2222(5)(c)
Methylene chloride	75092	Dichloromethane; 1,1-dichloromethane;	nd	groundwater	5		effluent	R 323.2222(5)(c)
2-Methylnaphthalene	91576	Beta-methylnaphthalene	nd	groundwater	260	S	effluent	R 323.2222(5)(c)
2-Methylphenol	95487	o-Cresol; 2-hydroxytoluene; o-cresylic acid	20	effluent	20		groundwater	R 323.2222(5)(b)
3-Methylphenol	108394	meta-Cresol	nd	groundwater	370	S	effluent	R 323.2222(5)(c)
4-Methylphenol	106445	para-Cresol; p-cresol; p-cresylic acid;	10	effluent	10		groundwater	R 323.2222(5)(b)
Metolachlor	51218452	Dual; 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	nd	groundwater	240	S	effluent	R 323.2222(5)(c)
Metribuzin	21087649	Lexone, Sencor	nd	groundwater	180		effluent	R 323.2222(5)(c)
Mirex	2385855	Bichlorendo; Cyclopentadiene, hexachloro-, dimer	nd	groundwater	0		effluent	R 323.2222(5)(c)
Molybdenum	7439987	NA			37	B	groundwater	R 323.2222(5)(a)
Naphthalene	91203	Tar camphor; naphthene	15	effluent	15	S	groundwater	R 323.2222(5)(b)
Nickel	7440020	NA; Metal			50	B,S	groundwater	R 323.2222(5)(a)
Nitrate	14797558	NA			5,000	N	eff or gw	R 323.2222(2)(a)
Nitrite	14797650	None			500	N	eff or gw	R 323.2222(2)(a)
Nitrobenzene	98953	Oil of mirbane; nitrobenzol	nd	groundwater	3		effluent	R 323.2222(5)(c)
2-Nitrophenol	88755	o-Nitrophenol	nd	groundwater	20		effluent	R 323.2222(5)(c)
n-Nitroso-di-n-propylamine	621647	NDPA; Dipropylnitrosoamine	nd	groundwater	0		effluent	R 323.2222(5)(c)
N-Nitrosodiphenylamine	86306	Diphenylnitrosamine	nd	groundwater	270		effluent	R 323.2222(5)(c)
Oxamyl	23135220		nd	groundwater	200		effluent	R 323.2222(5)(c)
Oxo-hexyl acetate	88230357	None	nd	groundwater	73		effluent	R 323.2222(5)(d)

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Pendimethalin	40487421	Prowl; N-(1-ethylpropyl)-3,4-dimethyl-2,6-dinitro-benzenamide;	nd	groundwater	280		effluent	R 323.2222(5)(c)
Pentachlorobenzene	608935	NA	nd	groundwater	6	S	effluent	R 323.2222(5)(c)
Pentachloronitrobenzene	82688	PCNB, pentachloronitrobenzol	nd	groundwater	32		effluent	R 323.2222(5)(c)
Pentachlorophenol	87865	PCP; Chlorophen; 1-hydroxy-2,3,4,5,6-pentachlorobenzene	nd	groundwater	1		effluent	R 323.2222(5)(c)
Pentane	109660		nd	groundwater	38,000		effluent	R 323.2222(5)(c)
2-Pentene	109682		nd	groundwater	203,000		effluent	R 323.2222(5)(c)
Perfluorooctanoic acid	335671	PFOA, C8	nd	groundwater	0		effluent	R 323.2222(5)(c)
Perfluorooctane sulfonic acid	1763231	PFOS	nd	groundwater	0	S,Sd	effluent	R 323.2222(5)(c)
pH	NA					pH	eff or gw	R 323.2222(7)(h)
Phenanthrene	85018	NA	nd	groundwater	52	S	effluent	R 323.2222(5)(c)
Phenol	108952	Carbolic acid; Hydroxybenzene; Benzenol, phenyl hydrate;	35	effluent	35		groundwater	R 323.2222(5)(b)
o-Phenylphenol	90437				220		effluent	R 323.2222(5)(d)
Phenytoin	57410	Dylantin, Phenytek	nd	groundwater	17	Sd	effluent	R 323.2222(5)(c)
Phosphorus (total)	7723140	NA			1,000	P	eff or gw	R 323.2222(2)(b)
Phthalic acid	88993	1,2-benzenedicarboxylic acid; o-benzenedicarboxylic acid; o-dicarboxybenzene; Sunftal 20	nd	groundwater	14,000		effluent	R 323.2222(5)(c)
Phthalic anhydride	85449	PAN; 1,2-benzenedicarboxylic anhydride; 1,3-isobenzofurandione; phthalandione	nd	groundwater	15,000		effluent	R 323.2222(5)(c)
Picloram	1918021		nd	groundwater	500	S	effluent	R 323.2222(5)(c)
Piperidine	110894	Hexahydropyridine			3		effluent	R 323.2222(5)(d)
Polybrominated biphenyls	37324235	PBB, BP-6	nd	groundwater	0		effluent	R 323.2222(5)(c)
Polychlorinated biphenyls	1336363	PCBs; Aroclor	nd	groundwater	1	S	effluent	R 323.2222(5)(c)
Prometon	1610180	Prमितol;N,N'-diisopropyl-6-methoxy-1,3,5-triazine-2,4-diamine.	nd	groundwater	160		effluent	R 323.2222(5)(c)
Propachlor	1918167	Ramrod; 2-Chloro-N-isopropylacetanilide; n-isopropyl-2-chloroacetanilide; Bexton;	nd	groundwater	95		effluent	R 323.2222(5)(c)
Propazine	139402	2-chloro-4,6-bis(isopropylamino)-s-triaz	nd	groundwater	200		effluent	R 323.2222(5)(c)
Propionic acid	79094	Propanoic acid; Methylacetic acid	nd	groundwater	12,000		effluent	R 323.2222(5)(c)
n-Propoxypropanol	1569013				18		effluent	R 323.2222(5)(d)
Propyl alcohol	71238	1-Propanol; n-propyl alcohol			1,400		effluent	R 323.2222(5)(d)
n-Propylbenzene	103651	1-phenylpropane	nd	groundwater	80		effluent	R 323.2222(5)(c)
Propylene glycol	57556	1,2-Propylene glycol	nd	groundwater	150,000		effluent	R 323.2222(5)(c)
Propylene glycol methyl ether	107982				4,900		effluent	R 323.2222(5)(d)
Polyethylene phenyl ether phosphate	39464705				120		effluent	R 323.2222(5)(d)
Pyrene	129000	Benzo(DEF)phenanthrene; beta-pyrene	30	effluent	30		groundwater	R 323.2222(5)(b)
Pyridine	110861	Azine; Azabenzene	nd	groundwater	7		effluent	R 323.2222(5)(c)

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Selenium	7782492	NA; Metal			25	B,S	groundwater	R 323.2222(5)(a)
Silver	7440224	NA			17	B,S	groundwater	R 323.2222(5)(a)
Silvex (2,4,5-TP)	93721	Trichlorophenoxy propionic acid 2,4,5	nd	groundwater	50	S	effluent	R 323.2222(5)(c)
Simazine	122349	Princep; 2-Chloro-4,6-bis(ethylamino)-s-triazine	nd	groundwater	4		effluent	R 323.2222(5)(c)
Sodium	7440235	NA			150,000	NaCl	groundwater	R 323.2222(3)(c)
Sodium azide	26628228	Sodium trinitride, Smite, Azium	nd	groundwater	44	S	effluent	R 323.2222(5)(a)
Strontium	7440246				2,300	B	groundwater	R 323.2222(5)(a)
Styrene	100425	Vinylbenzene; Phenylethylene; Cinnamene; Phenethylene	20	effluent	20		groundwater	R 323.2222(5)(b)
Sulfate	14808798	SO4			250,000		eff or gw	R 323.2222(3)(d)
Tebuthiuron	34014181	Spike	nd	groundwater	510		effluent	R 323.2222(5)(c)
2,3,7,8-Tetrabromodibenzo-p-dioxin	50585416	2,3,7,8-TBDD	nd	groundwater		D	effluent	R 323.2222(5)(c)
1,2,4,5-Tetrachlorobenzene	95943	NA	nd	groundwater	1,300	S,Sd	effluent	R 323.2222(5)(c)
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016	TCDD; dioxin	nd	groundwater	0	D,S	effluent	R 323.2222(5)(c)
1,1,1,2-Tetrachloroethane	630206	NA	nd	groundwater	77		effluent	R 323.2222(5)(c)
1,1,2,2-Tetrachloroethane	79345	Acetylene tetrachloride; 1,1-dichloro-2,2-dichloroethane;	nd	groundwater	9	Sd	effluent	R 323.2222(5)(c)
Tetrachloroethylene	127184	Perchloroethylene (Perc); PCE; tetrachloroethene; perchloroethene; carbon bichloride	nd	groundwater	5		effluent	R 323.2222(5)(c)
Tetrahydrofuran	109999	THF; 1,4-epoxybutane; furanidine; oxacyclopentane;	nd	groundwater	95		effluent	R 323.2222(5)(c)
Thallium	7440280	NA; Metal			1	B	groundwater	R 323.2222(5)(a)
Toluene	108883	Methylbenzene	35	effluent	35		groundwater	R 323.2222(5)(b)
p-Toluidine	106490	p-Methylaniline	nd	groundwater	15		effluent	R 323.2222(5)(c)
Total dissolved solids (TDS)	NA				5,000	TDS	groundwater	R 323.2222(7)(h)
Toxaphene	8001352	Chlorinated camphene	nd	groundwater	3	S	effluent	R 323.2222(5)(c)
TPH, C5-C8 Aliphatics	0		nd	groundwater			effluent	R 323.2222(5)(c)
TPH, C9-C16 Aliphatics	00		nd	groundwater			effluent	R 323.2222(5)(c)
TPH, C17-C34 Aliphatics	000		nd	groundwater			effluent	R 323.2222(5)(c)
TPH, C8-C16 Aromatics	0000		nd	groundwater			effluent	R 323.2222(5)(c)
TPH, C17-C35 Aromatics	00000		nd	groundwater			effluent	R 323.2222(5)(c)
Triallate	2303175	Far-Go; Avadex BW; S-(2,3,3-trichloroallyl) diisopropylthiocarbamate	nd	groundwater	95		effluent	R 323.2222(5)(c)
Tributylamine	102829	Tri-n-butylamine			10		effluent	R 323.2222(5)(d)
1,2,4-Trichlorobenzene	120821	NA	15	effluent	15		groundwater	R 323.2222(5)(b)
1,1,1-Trichloroethane	71556	Methyl chloroform; chloroethene;	15	effluent	15		groundwater	R 323.2222(5)(b)
1,1,2-Trichloroethane	79005	Vinyl trichloride; 1,2,2-Trichloroethane	nd	groundwater	5		effluent	R 323.2222(5)(c)
Trichloroethylene	79016	TCE	nd	groundwater	5		effluent	R 323.2222(5)(c)
Trichlorofluoromethane	75694	Fluorocarbon-11; FC 11	nd	groundwater	2,600		effluent	R 323.2222(5)(c)
2,4,5-Trichlorophenol	95954	2,4,5-T	nd	groundwater	730		effluent	R 323.2222(5)(c)
2,4,6-Trichlorophenol	88062	2,4,6-T; Phenachlor	15	effluent	15	S	groundwater	R 323.2222(5)(b)

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1,2,3-Trichloropropane	96184	Allyl trichloride; trichlorohydrin	nd	groundwater	42		effluent	R 323.2222(5)(c)
1,1,2-Trichloro-1,2,2-trifluoroethane	76131	Freon 113; UCON 113; Fluorocarbon 113; CFC 113;			170,000	S	effluent	R 323.2222(5)(d)
Triethanolamine	102716	TEA, tri[2-hydroxyethyl]amine			3,700		effluent	R 323.2222(5)(d)
Triethylene glycol	112276		nd	groundwater	4,300		effluent	R 323.2222(5)(c)
3-Trifluoromethyl-4-nitrophenol	88302	TFM; 1,1,1-Trifluoro-4-nitro-m-cresol	nd	groundwater	4,500		effluent	R 323.2222(5)(c)
Trifluralin	1582098	Treflan	nd	groundwater	37		effluent	R 323.2222(5)(c)
2,2,4-Trimethyl pentane	540841	Isooctane	nd	groundwater	2,300		effluent	R 323.2225(5)(c)
2,4,4-Trimethyl-2-pentene	107404		nd	groundwater	11,900		effluent	R 323.2222(5)(c)
1,2,4-Trimethylbenzene	95636	Pseudocumene; 1,2,4-TMB	nd	groundwater	63	S	effluent	R 323.2222(5)(c)
1,3,5-Trimethylbenzene	108678	Mesitylene; 1,3,5-TMB	nd	groundwater	72	S	effluent	R 323.2222(5)(c)
Triphenyl phosphate	115866	phosphoric acid triphenyl ester	nd	groundwater	1,200		effluent	R 323.2222(5)(c)
tris(2,3-Dibromopropyl)phosphate	126727	NA			1		effluent	R 323.2222(5)(d)
Urea	57136				5,000	N	eff or gw	R 323.2222(2)(a)
Vanadium	7440622	NA			2	B	groundwater	R 323.2222(5)(a)
Vinyl acetate	108054	Ethenylethanoate; acetic acid vinyl ester; ethenyl acetate	nd	groundwater	640		effluent	R 323.2222(5)(c)
Vinyl chloride	75014	Chloroethylene; Chloroethene	nd	groundwater	2	Sd	effluent	R 323.2222(5)(c)
White phosphorus	12185103	NA			0	B	groundwater	R 323.2222(5)(a)
Xylenes (total o+m+p)	1330207	Dimethylbenzene	35	effluent	35		groundwater	R 323.2222(5)(b)
Zinc	7440666	NA; Metal			1,200	B,S	groundwater	R 323.2222(5)(a)

nd - below detection or reporting level. Reporting levels approved by the Department of Environment, Great Lakes, and Energy (Department) as required by R323.2220(4) based on the Department's Laboratory Reportable Detection Limits.

B - The value listed is a default value; a higher standard may be developed with site specific background data. See Guidesheet I.

D - All polychlorinated and polybrominated dibenzodioxins and dibenzofurans are considered as one substance [R323.2222(7)(h)]. The concentration of all congeners present at a facility, expressed as one equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based on their relative potency, must be added together and compared to the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin. Contact a Water Resources Division toxicologist for details.

F - Standard pursuant to R323.2222 exceeds Part 201, generic residential drinking water criteria (Gen. Res. DWC) from the Department's Remediation and Redevelopment Division (RRD) Cleanup Requirements for Response Activity R299.44 Generic Groundwater Cleanup Criteria (Table 1) dated August 3, 2020, required to satisfy R323.2204(2)(f). The following table provides the appropriate limit for these substances.

Parameter	Limit
Aluminum	50 (ug/l or ppb)
Aniline	53 (ug/l or ppb)
Chrysene	1.6 (ug/l or ppb)
1,3-Dichlorobenzene	6.6 (ug/l or ppb)
Hexachloroethane	7.3 (ug/l or ppb)

N - The total inorganic nitrogen (TIN) standard is for ammonia-nitrogen + nitrate nitrogen + nitrite nitrogen. An alternate effluent standard may be developed on a facility specific basis [R323.2222(1)(b)(ii)].

P - The value listed is a default value; a higher or lower standard may be required based on site specific conditions. For those requesting a higher standard, the eventual receiving water of groundwater impacted by the discharge must be identified regardless of distance from the discharge. It must be demonstrated that the discharge is protective of that receiving water at the point of groundwater venting.

S - The standard listed may not be protective of surface water. If groundwater associated with the discharge vents to surface water, a lower standard may be required [R323.2222(7)(g)(i)].

Sd - The standard listed may not be protective for surface water used as a drinking water source. If groundwater associated with the discharge vents to surface water used as a drinking water source, a lower standard may be required [R323.2222(7)(g)(i)].

T - The total trihalomethane (THM) standard is for chloroform + bromodichloromethane + dibromochloromethane + bromoform.

NaCl - Per Sections 324.3109e (1) and (2) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) (effective November 26, 2013), the Department shall not establish or enforce a limitation for sodium or chloride in a groundwater discharge permit that is more restrictive than (1)(a) 400,000 ug/l sodium and (1)(b) 500,000 ug/l chloride nor shall the Department establish or enforce a limitation for sodium or chloride in groundwater that is more restrictive than (2)(a) 230,000 ug/l sodium and (2)(b) 250,000 ug/l chloride.

BOD - The recommended BOD limit is not to exceed 50 lbs/acre/day for land treatment. A limit not to exceed 30 mg/l is recommended for rapid infiltration. An alternative standard may be approved by the Department based on site specific conditions.

pH - The standard for pH in effluent and groundwater ranges between 6.5-8.5 SU. The pH standard that is protective of surface water ranges between 6.5-9.0 SU.

DO - Low dissolved oxygen (DO) levels can be harmful to aquatic life. The criteria listed in the table below represent a minimum level that samples must exceed. DO criteria are not applicable if groundwater Carbonaceous Biochemical Oxygen Demand (CBOD) is less than 10,000 ug/l and the groundwater ammonia concentration is less than 2,000 ug/l

Parameter	Limit	Unit
DO - Cold receiving waters	≤ 7,000	ug/l
DO - Warm receiving waters	≤ 5,000	ug/l

TDS - The Generic Part 201 Groundwater-Surface Water Interface (GSI) criteria is 500,000 ug/l. If TDS data are not available, the TDS criterion may be used as a screening level based on the sum of the concentrations of the following substances: calcium, chloride, iron, magnesium, potassium, sodium, and sulfate.