

3745-270-48 Universal treatment standards.

- (A) The table in this rule identifies the hazardous constituents, along with the nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited ~~hazardous~~ hazardous wastes with numerical limits. For determining compliance with treatment standards for “underlying hazardous constituents” as defined in rule 3745-270-02 of the Administrative Code, these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the table in this rule.

Table: Universal Treatment Standards			
Regulated constituent common name	CAS ¹ number	Wastewater standards concentration ² in mg/L <u>mg/L</u>	Nonwastewater standards concentration ³ in mg/kg unless noted as " mg/L <u>mg/L</u> TCLP"
Organic constituents:			
Acenaphthene	83-32-9	0.059	3.4
Acenaphthylene	208-96-8	0.059	3.4
Acetone	67-64-1	0.28	160.0
Acetonitrile	75-05-8	5.6	38.0
Acetophenone	96-86-2	0.01	9.7
2-Acetylaminofluorene	53-96-3	0.059	140.0
Acrolein	107-02-8	0.29	NA
Acrylamide	79-06-1	19.0	23.0
Acrylonitrile	107-13-1	0.24	84.0
Aldicarb sulfone ⁶	1646-88-4	0.056	0.28
Aldrin	309-00-2	0.021	0.066
4-Aminobiphenyl	92-67-1	0.13	NA
Aniline	62-53-3	0.81	14.0
o-Anisidine (2-Methoxyaniline)	90-04-0	0.010	0.66
Anthracene	120-12-7	0.059	3.4
Aramite	140-57-8	0.36	NA
Barban ⁶	101-27-9	0.056	1.4
Bendiocarb ⁶	22781-23-3	0.056	1.4
Benomyl ⁶	17804-35-2	0.056	1.4
Benz(a)anthracene	56-55-3	0.059	3.4

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Benzal chloride	98-87-3	0.055	6.0
Benzene	71-43-2	0.14	10.0
Benzo(b)fluoranthene [difficult to distinguish from benzo(k)fluoranthene]	205-99-2	0.11	6.8
Benzo(k)fluoranthene [difficult to distinguish from benzo(b)fluoranthene]	207-08-9	0.11	6.8
Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
Benzo(a)pyrene	50-32-8	0.061	3.4
alpha-BHC	319-84-6	0.00014	0.066
beta-BHC	319-85-7	0.00014	0.066
delta-BHC	319-86-8	0.023	0.066
gamma-BHC	58-89-9	0.0017	0.066
Bromodichloromethane	75-27-4	0.35	15.0
Bromomethane / Methyl bromide	74-83-9	0.11	15.0
4-Bromophenyl phenyl ether	101-55-3	0.055	15.0
n-Butyl alcohol	71-36-3	5.6	2.6
Butyl benzyl phthalate	85-68-7	0.017	28.0
Butylate⁶	2008-41-5	0.042	1.4
2-sec-Butyl-4,6-dinitrophenol / Dinoseb	88-85-7	0.066	2.5
Carbaryl⁶	63-25-2	0.006	0.14
Carbenzadim⁶	10605-21-7	0.056	1.4
Carbofuran⁶	1563-66-2	0.006	0.14
Carbofuran phenol⁶	1563-38-8	0.056	1.4
Carbon disulfide	75-15-0	3.8	4.8 <u>mg/l</u> / <u>mg/L</u> TCLP
Carbon tetrachloride	56-23-5	0.057	6.0
Carbosulfan⁶	55285-14-8	0.028	1.4
Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
p-Chloroaniline	106-47-8	0.46	16.0

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Chlorobenzene	108-90-7	0.057	6.0
Chlorobenzilate	510-15-6	0.1	NA
2-Chloro-1,3-butadiene	126-99-8	0.057	0.28
Chlorodibromomethane	124-48-1	0.057	15.0
Chloroethane	75-00-3	0.27	6.0
bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
2-Chloroethyl vinyl ether	110-75-8	0.062	NA
Chloroform	67-66-3	0.046	6.0
bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
p-Chloro-m-cresol	59-50-7	0.018	14.0
Chloromethane / Methyl chloride	74-87-3	0.19	30.0
2-Chloronaphthalene	91-58-7	0.055	5.6
2-Chlorophenol	95-57-8	0.044	5.7
3-Chloropropylene	107-05-1	0.036	30.0
Chrysene	218-01-9	0.059	3.4
p-Cresidine	120-71-8	0.010	0.66
o-Cresol	95-48-7	0.11	5.6
m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
m-Cumenyl methylcarbamate⁶	64-00-6	0.056	1.4
Cyclohexanone	108-94-1	0.36	0.75 <u>mg/L</u> TCLP
o,p'-DDD	53-19-0	0.023	0.087
p,p'-DDD	72-54-8	0.023	0.087
o,p'-DDE	3424-82-6	0.031	0.087
p,p'-DDE	72-55-9	0.031	0.087

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o,p'-DDT	789-02-6	0.0039	0.087
p,p'-DDT	50-29-3	0.0039	0.087
Dibenz(a,h)anthracene	53-70-3	0.055	8.2
Dibenz(a,e)pyrene	192-65-4	0.061	NA
1,2-Dibromo-3-chloropropane	96-12-8	0.11	15.0
1,2-Dibromoethane / Ethylene dibromide	106-93-4	0.028	15.0
Dibromomethane	74-95-3	0.11	15.0
m-Dichlorobenzene	541-73-1	0.036	6.0
o-Dichlorobenzene	95-50-1	0.088	6.0
p-Dichlorobenzene	106-46-7	0.09	6.0
Dichlorodifluoromethane	75-71-8	0.23	7.2
1,1-Dichloroethane	75-34-3	0.059	6.0
1,2-Dichloroethane	107-06-2	0.21	6.0
1,1-Dichloroethylene	75-35-4	0.025	6.0
trans-1,2-Dichloroethylene	156-60-5	0.054	30.0
2,4-Dichlorophenol	120-83-2	0.044	14.0
2,6-Dichlorophenol	87-65-0	0.044	14.0
2,4-Dichlorophenoxyacetic acid / 2,4-D	94-75-7	0.72	10.0
1,2-Dichloropropane	78-87-5	0.85	18.0
cis-1,3-Dichloropropylene	10061-01-5	0.036	18.0
trans-1,3-Dichloropropylene	10061-02-6	0.036	18.0
Dieldrin	60-57-1	0.017	0.13
Diethyl phthalate	84-66-2	0.2	28.0
p-Dimethylaminoazobenzene	60-11-7	0.13	NA
2,4-Dimethylaniline (2,4-Xylidine)	95-68-1	0.010	0.66
2,4-Dimethyl phenol	105-67-9	0.036	14.0
Dimethyl phthalate	131-11-3	0.047	28.0

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Di-n-butyl phthalate	84-74-2	0.057	28.0
1,4-Dinitrobenzene	100-25-4	0.32	2.3
4,6-Dinitro-o-cresol	534-52-1	0.28	160.0
2,4-Dinitrophenol	51-28-5	0.12	160.0
2,4-Dinitrotoluene	121-14-2	0.32	140.0
2,6-Dinitrotoluene	606-20-2	0.55	28.0
Di-n-octyl phthalate	117-84-0	0.017	28.0
Di-n-propylnitrosamine	621-64-7	0.4	14.0
1,4-Dioxane	123-91-1	12.0	170.0
Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13.0
Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13.0
1,2-Diphenylhydrazine	122-66-7	0.087	NA
Disulfoton	298-04-3	0.017	6.2
Dithiocarbamates (total) ⁶	NA	0.028	28.0
Endosulfan I	959-98-8	0.023	0.066
Endosulfan II	33213-65-9	0.029	0.13
Endosulfan sulfate	1031-07-8	0.029	0.13
Endrin	72-20-8	0.0028	0.13
Endrin aldehyde	7421-93-4	0.025	0.13
EPTC	759-94-4	0.042	1.4
Ethyl acetate	141-78-6	0.34	33.0
Ethyl benzene	100-41-4	0.057	10.0
Ethyl cyanide / Propanenitrile	107-12-0	0.24	360.0
Ethyl ether	60-29-7	0.12	160.0
Ethyl methacrylate	97-63-2	0.14	160.0
Ethylene oxide	75-21-8	0.12	NA

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bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28.0
Famphur	52-85-7	0.017	15.0
Fluoranthene	206-44-0	0.068	3.4
Fluorene	86-73-7	0.059	3.4
Formetanate hydrochloride ⁶	23422-53-9	0.056	1.4
Heptachlor	76-44-8	0.0012	0.066
Heptachlor epoxide	1024-57-3	0.016	0.066
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-46-9	0.000035	0.0025
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035	0.0025
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035	0.0025
Hexachlorobenzene	118-74-1	0.055	10.0
Hexachlorobutadiene	87-68-3	0.055	5.6
Hexachlorocyclopentadiene	77-47-4	0.057	2.4
Hexachloroethane	67-72-1	0.055	30.0
Hexachloropropylene	1888-71-7	0.035	30.0
HxCDDs (all Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
HxCDFs (all Hexachlorodibenzofurans)	NA	0.000063	0.001
Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4
Iodomethane	74-88-4	0.19	65.0
Isobutyl alcohol	78-83-1	5.6	170.0
Isodrin	465-73-6	0.021	0.066
Isosafrole	120-58-1	0.081	2.6
Kepone	143-50-0	0.0011	0.13
Methacrylonitrile	126-98-7	0.24	84.0

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Methanol	67-56-1	5.6	0.75 <u>mg/l</u> / <u>mg.L</u> TCLP
Methapyrilene	91-80-5	0.081	1.5
Methiocarb ⁶	2032-65-7	0.056	1.4
Methomyl	16752-77-5	0.028	0.14
Methoxychlor	72-43-5	0.25	0.18
Methyl ethyl ketone	78-93-3	0.28	36.0
Methyl isobutyl ketone	108-10-1	0.14	33.0
Methyl methacrylate	80-62-6	0.14	160.0
Methyl methansulfonate	66-27-3	0.018	NA
Methyl parathion	298-00-0	0.014	4.6
3-Methylcholanthrene	56-49-5	0.0055	15.0
4,4-Methylene bis(2-chloroaniline)	101-14-4	0.5	30.0
Methylene chloride	75-09-2	0.089	30.0
Metolcarb ⁶	1129-41-5	0.056	1.4
Mexacarbate ⁶	315-18-4	0.056	1.4
Molinate ⁶	2212-67-1	0.042	1.4
Naphthalene	91-20-3	0.059	5.6
2-Naphthylamine	91-59-8	0.52	NA
o-Nitroaniline	88-74-4	0.27	14.0
p-Nitroaniline	100-01-6	0.028	28.0
Nitrobenzene	98-95-3	0.068	14.0
5-Nitro-o-toluidine	99-55-8	0.32	28.0
o-Nitrophenol	88-75-5	0.028	13.0
p-Nitrophenol	100-02-7	0.12	29.0
N-Nitrosodiethylamine	55-18-5	0.4	28.0
N-Nitrosodimethylamine	62-75-9	0.4	2.3
N-Nitroso-di-n-butylamine	924-16-3	0.4	17.0

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N-Nitrosomethylethylamine	10595-95-6	0.4	2.3
N-Nitrosomorpholine	59-89-2	0.4	2.3
N-Nitrosopiperidine	100-75-4	0.013	35.0
N-Nitrosopyrrolidine	930-55-2	0.013	35.0
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	0.000063	0.005
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063	0.005
Oxamyl ⁶	23135-22-0	0.056	0.28
Parathion	56-38-2	0.014	4.6
Total PCBs (sum of all PCB isomers, or all Aroclors) ⁸	1336-36-3	0.1	10.0
Pebulate ⁶	1114-71-2	0.042	1.4
Pentachlorobenzene	608-93-5	0.055	10.0
PeCDDs (all Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
PeCDFs (all Pentachlorodibenzofurans)	NA	0.000035	0.001
Pentachloroethane	76-01-7	0.055	6.0
Pentachloronitrobenzene	82-68-8	0.055	4.8
Pentachlorophenol	87-86-5	0.089	7.4
Phenacetin	62-44-2	0.081	16.0
Phenanthrene	85-01-8	0.059	5.6
Phenol	108-95-2	0.039	6.2
1,3-Phenylenediamine	108-45-2	0.010	0.66
Phorate	298-02-2	0.021	4.6
Phthalic acid	100-21-0	0.055	28.0
Phthalic anhydride	85-44-9	0.055	28.0
Physostigmine ⁶	57-47-6	0.056	1.4

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Physostigmine salicylate ⁶	57-64-7	0.056	1.4
Promecarb ⁶	2631-37-0	0.056	1.4
Pronamide	23950-58-5	0.093	1.5
Propham ⁶	122-42-9	0.056	1.4
Propoxur ⁶	114-26-1	0.056	1.4
Prosulfocarb ⁶	52888-80-9	0.042	1.4
Pyrene	129-00-0	0.067	8.2
Pyridine	110-86-1	0.014	16.0
Safrole	94-59-7	0.081	22.0
Silvex / 2,4,5-TP	93-72-1	0.72	7.9
1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14.0
TCDDs (all Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
TCDFs (all Tetrachlorodibenzofurans)	NA	0.000063	0.001
1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
Tetrachloroethylene	127-18-4	0.056	6.0
2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
Thiodicarb ⁶	59669-26-0	0.019	1.4
Thiophanate-methyl ⁶	23564-05-8	0.056	1.4
Toluene	108-88-3	0.08	10.0
Toxaphene	8001-35-2	0.0095	2.6
Triallate ⁶	2303-17-5	0.042	1.4
Tribromomethane / Bromoform	75-25-2	0.63	15.0
1,2,4-Trichlorobenzene	120-82-1	0.055	19.0
1,1,1-Trichlorethane	71-55-6	0.054	6.0
1,1,2-Trichlorethane	79-00-5	0.054	6.0
Trichloroethylene	79-01-6	0.054	6.0

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Trichloromonofluoromethane	75-69-4	0.02	30.0
2,4,5-Trichlorophenol	95-95-4	0.18	7.4
2,4,6-Trichlorophenol	88-06-2	0.035	7.4
2,4,5-Trichlorophenoxyacetic acid / 2,4,5-T	93-76-5	0.72	7.9
1,2,3-Trichloropropane	96-18-4	0.85	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30.0
Triethylamine ⁶	101-44-8	0.081	1.5
tris-(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.1
Vernolate ⁶	1929-77-7	0.042	1.4
Vinyl chloride	75-01-4	0.27	6.0
Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30.0
Inorganic constituents:			
Antimony	7440-36-0	1.9	1.15 <u>mg/l</u> / <u>mg/L</u> TCLP
Arsenic	7440-38-2	1.4	5.0 <u>mg/l</u> / <u>mg/L</u> TCLP
Barium	7440-39-3	1.2	21.0 <u>mg/l</u> / <u>mg/L</u> TCLP
Beryllium	7440-41-7	0.82	1.22 <u>mg/l</u> / <u>mg/L</u> TCLP
Cadmium	7440-43-9	0.69	0.11 <u>mg/l</u> / <u>mg/L</u> TCLP
Chromium (Total)	7440-47-3	2.77	0.60 <u>mg/l</u> / <u>mg/L</u> TCLP
Cyanides (Total) ⁴	57-12-5	1.2	590.0
Cyanides (Amenable) ⁴	57-12-5	0.86	30.0
Fluoride ⁵	16984-48-8	35.0	NA
Lead	7439-92-1	0.69	0.75 <u>mg/l</u> / <u>mg/L</u> TCLP
Mercury- nonwastewater from retort	7439-97-6	NA	0.2 <u>mg/l</u> / <u>mg/L</u> TCLP
Mercury- all others	7439-97-6	0.15	0.025 <u>mg/l</u> / <u>mg/L</u> TCLP
Nickel	7440-02-0	3.98	11.0 <u>mg/l</u> / <u>mg/L</u> TCLP
Selenium ⁷	7782-49-2	0.82	5.7 <u>mg/l</u> / <u>mg/L</u> TCLP

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Silver	7440-22-4	0.43	0.14 <u>mg/l</u> / <u>mg/L</u> TCLP
Sulfide ⁵	18496-25-8	14.0	NA
Thallium	7440-28-0	1.4	0.2 <u>mg/l</u> / <u>mg/L</u> TCLP
Vanadium ⁵	7440-62-2	4.3	1.6 <u>mg/l</u> / <u>mg/L</u> TCLP
Zinc ⁵	7440-66-6	2.61	4.3 <u>mg/l</u> / <u>mg/L</u> TCLP

Footnotes:

NA Not applicable.

TCLP Toxicity Characteristic Leaching Procedure

TC Toxicity Characteristic

EP Extraction Procedure

1 CAS means chemical abstract services. When the EPA hazardous waste number ~~and/or~~ regulated constituents are described as a combination of a chemical with ~~its~~ salts ~~and/or~~ esters, the CAS number is given for the parent compound only.

2 Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.

3 Except for "Metals (EP or TCLP)" and "Cyanides (Total and Amenable)" the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of rules 3745-57-40 to 3745-57-51 or 3745-68-40 to 3745-68-52 of the Administrative Code, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to ~~provisions in~~ paragraph (D) of rule 3745-270-40 of the Administrative Code. All concentration standards for nonwastewaters are based on analysis of grab samples.

4 Both "Cyanides (Total)" and "Cyanides (Amenable)" for nonwastewaters are to be analyzed using method 9010C or method 9012B, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", U.S. EPA publication SW-846, with a sample size of ten grams and a distillation time of one hour and fifteen minutes.

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5	These constituents are not "underlying hazardous constituents" in characteristic wastes, according to the definition in rule 3745-270-02 of the Administrative Code.		
6	Between August 26, 1998 and March 4, 1999, these constituents are not "underlying hazardous constituents" as defined in rule 3745-270-02 of the Administrative Code <u>Reserved.</u>		
7	This constituent is not an "underlying hazardous constituent" as defined in rule 3745-270-02 of the Administrative Code because its universal treatment standards (UTS) level is greater than its TC level, thus a treated selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level.		
8	This standard is temporarily deferred for soil exhibiting a hazardous characteristic due to EPA hazardous waste <u>waste</u> numbers D004-D011 only.		

(B) Reserved.

[Comment: For dates of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see rule 3745-50-11 of the Administrative Code titled "Incorporated by reference."]

Effective: 10/31/2015
Five Year Review (FYR) Dates: 07/01/2015 and Exempt

CERTIFIED ELECTRONICALLY

Certification

10/07/2015

Date

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