



Ohio Administrative Code

Rule 3745-1-33 Water quality criteria for water supply use designations.

Effective: January 18, 2021

[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 3745-1-03 of the Administrative Code.]

(A) Human health water quality criteria [public water supply].

(1) The chemical specific criteria listed in table 33-1 of this rule, or site-specific modifications thereof, apply as "Outside Mixing Zone Averages" and shall apply to all water bodies located within five hundred yards of drinking water intakes. For the purpose of setting water quality based effluent limits, these criteria shall be met after the effluent and the receiving water are reasonably well mixed as provided in rules 3745-1-06 and 3745-2-05 of the Administrative Code.

(2) Water bodies located within the Ohio river drainage basin. Any methodologies and procedures acceptable under 40 C.F.R. 131, effective July 1, 2019 may be used when developing or revising human health water quality criteria or implementing narrative criteria contained in rule 3745-1-04 of the Administrative Code. For any pollutant for which it is demonstrated that a methodology or procedure cited in this rule is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.

(3) Water bodies located within the lake Erie drainage basin. The methodologies contained in rules 3745-1-41 and 3745-1-42 of the Administrative Code shall be used when adopting or revising numeric human health criteria and when implementing the narrative water quality criteria contained in rule 3745-1-04 of the Administrative Code. For pollutants listed in table 33-2 of this rule, any methodologies and procedures acceptable under 40 C.F.R. 131 may be used when developing water quality criteria or implementing narrative criteria. For any pollutant other than those in table 33-2 of this rule, for which it is demonstrated that a methodology or procedure cited in this rule is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.



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			OMZA ³	Chemical
Form ¹	Units ²	Drinking		
	Ohio river	Lake Erie	Acenaphthene	T
µg/l	70		Acrolein	T
µg/l	3.0		Acrylonitrile ⁵	T
µg/l	0.51		Alachlor	T
µg/l	2.0 ^a	2.0 ^a	Aldrin ⁵	T
µg/l	7.7*10 ⁻⁶		Anthracene	T
µg/l	300		Antimony ⁵	TR
µg/l	5.6	6.0 ^a	Arsenic	TR
µg/l	10 ^a	10 ^a	Asbestos	T
Mf/l	7.0 ^a	7.0 ^a	Atrazine	T
µg/l	3.0 ^a	3.0 ^a	Barium ⁵	TR
µg/l	1,000	2,000 ^a	Benzene ⁵	T
µg/l	5.0 ^a	5.0 ^a	Benzidine ⁵	T
µg/l	0.00086		Benzo(a)anthracene ⁵	T
µg/l	0.012	0.2 ^a	Benzo(a)pyrene ⁵	T
µg/l	0.0012		Benzo(b)fluoranthene ⁵	T
µg/l	0.012		Benzo(k)fluoranthene ⁵	T
µg/l	0.038		Beryllium	TR
µg/l	4.0 ^a	4.0 ^a	Bromate	T
µg/l	10 ^a	10 ^a	Bromoform (Tribromomethane) ⁵	T
µg/l	43		Butylbenzyl phthalate	T
µg/l	0.10		Cadmium	TR
µg/l	5.0 ^a	5.0 ^a	Carbofuran	T
µg/l	40 ^a	40 ^a	Carbon tetrachloride ⁵	T
µg/l	2.3	5.0 ^a	Chloramine	T
µg/l	4,000 ^a	4,000 ^a	Chlordane ⁵	T
µg/l	0.0031	0.00025	Chlorides	T
mg/l	250 ^a	250 ^a	Chlorine	T



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µg/l	4,000 ^a	4,000 ^a	Chlorine dioxide	T
µg/l	800 ^a	800 ^a	Chlorite	T
µg/l	1,000 ^a	1,000 ^a	Chloroacetic acid ⁶	T
µg/l	60 ^a	60 ^a	Chlorobenzene	T
µg/l	100 ^a	100 ^a	Chlorodibromomethane ⁵	T
µg/l	4.0		Bis(2-Chloro-1-methylethyl) ether	T
µg/l	200		Bis(2-Chloroethyl)ether ⁵	T
µg/l	0.30		Chloroform ⁵	T
µg/l	57		bis(2-Chloroisopropyl)ether	T
µg/l	1,400		bis(2-Chloromethyl)ether ⁵	T
µg/l	0.0015		2-Chloronaphthalene	T
µg/l	800		2-Chlorophenol	T
µg/l	30		Chromium	TR
µg/l	100 ^a	100 ^a	Chrysene ⁵	T
µg/l	0.038		Cyanide	free
µg/l	4.0	4.0	2,4-D (2,4-Dichlorophenoxy-acetic acid)	T
µg/l	70 ^a	70 ^a	Dalapon	T
µg/l	200 ^a	200 ^a	4,4'-DDD ⁵	T
µg/l	0.0012		4,4'-DDE ⁵	T
µg/l	0.00018		4,4'-DDT ⁵	T
µg/l	0.0003	0.00015	Dibenzo(a,h)anthracene ⁵	T
µg/l	0.0012		Dibromochloropropane	T
µg/l	0.2 ^a	0.2 ^a	Di-n-butyl phthalate	T
µg/l	20		Dichloroacetic acid ⁶	T
µg/l	60 ^a	60 ^a	1,2-Dichlorobenzene	T
µg/l	420	600 ^a	1,3-Dichlorobenzene	T
µg/l	7.0		1,4-Dichlorobenzene	T



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µg/l	63	75 ^a	3,3'-Dichlorobenzidine ⁵	T
µg/l	0.21		Dichlorobromomethane ⁵	T
µg/l	5.5		1,2-Dichloroethane ⁵	T
µg/l	3.8	5.0 ^a	1,1-Dichloroethylene ⁵	T
µg/l	0.57	7.0 ^a	cis-1,2-Dichloroethylene	T
µg/l	70 ^a	70 ^a	trans-1,2-Dichloroethylene	T
µg/l	100 ^a	100 ^a	2,4-Dichlorophenol	T
µg/l	10		1,2-Dichloropropane ⁵	T
µg/l	5.0 ^a	5.0 ^a	1,3-Dichloropropene	T
µg/l	2.7		Dieldrin ⁵	T
µg/l	1.2*10 ⁻⁵	0.0000065	Di(2-ethylhexyl)adipate	T
µg/l	400 ^a	400 ^a	Diethyl phthalate	T
µg/l	600		2,4-Dimethylphenol	T
µg/l	100	100	Dimethyl phthalate	T
µg/l	2,000		4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	T
µg/l	2.0		Dinitrophenols ⁴	T
µg/l	10		2,4-Dinitrophenol	T
µg/l	10	10	2,4-Dinitrotoluene ⁵	T
µg/l	0.49		Dinoseb	T
µg/l	7.0 ^a	7.0 ^a	1,2-Diphenylhydrazine ⁵	T
µg/l	0.30		Diquat	T
µg/l	20 ^a	20 ^a	Dissolved solids	T
mg/l	750/500 ^{a,b}	750/500 ^{a,b}	alpha-Endosulfan ⁷	T
µg/l	20		beta-Endosulfan ⁷	T
µg/l	20		Endosulfan sulfate ⁷	T
µg/l	20		Endothall	T
µg/l	100 ^a	100 ^a	Endrin ⁸	T
µg/l	0.03	2.0 ^a	Endrin aldehyde ⁸	T



µg/l	0.29		Ethylbenzene	T
µg/l	68	700 ^a	Ethylene dibromide (EDB)	T
µg/l	0.050 ^a	0.050 ^a	bis(2-Ethylhexyl)phthalate	T
µg/l	3.2	6.0 ^a	Fluoranthene	T
µg/l	20		Fluorene	T
µg/l	50		Fluoride	T
µg/l	1,000	4,000 ^a	Glyphosate	T
µg/l	700 ^a	700 ^a	Heptachlor ⁵	T
µg/l	5.9*10 ⁻⁵	0.4 ^a	Heptachlor epoxide ⁵	T
µg/l	0.00032	0.2 ^a	Hexachlorobenzene ⁵	T
µg/l	0.00079	0.00045	Hexachlorobutadiene ⁵	T
µg/l	0.10		alpha-Hexachlorocyclohexane ⁵	T
µg/l	0.0036		beta-Hexachlorocyclohexane ⁵	T
µg/l	0.08		gamma-Hexachlorocyclohexane (Lindane) ⁵	T
µg/l	0.20	0.20 ^a	Hexachlorocyclohexane - technical grade ⁵	T
µg/l	0.066		Hexachlorocyclopentadiene	T
µg/l	4.0	50 ^a	Hexachloroethane ⁵	T
µg/l	1.0	1.0	Indeno(1,2,3-c,d)pyrene ⁵	T
µg/l	0.012		Iron	S
µg/l	300 ^a	300 ^a	Isophorone ⁵	T
µg/l	340		Mercury	TR
µg/l	0.012	0.0031	Methoxychlor	T
µg/l	0.02	40 ^a	Methyl bromide	T
µg/l	47		3-Methyl-4-chlorophenol	T
µg/l	500		Methylene chloride ⁵	T
µg/l	5.0 ^a	5.0 ^a	Nickel	TR



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µg/l	610		Nitrate-N + Nitrite-N	T
µg/l	10,000 ^a	10,000 ^a	Nitrite-N	T
µg/l	1,000 ^a	1,000 ^a	Nitrobenzene	T
µg/l	10		Nitrosoamines ⁵	T
µg/l	0.0080		N-Nitrosodibutylamine ⁵	T
µg/l	0.063		N-Nitrosodiethylamine ⁵	T
µg/l	0.0080		N-Nitrosodimethylamine ⁵	T
µg/l	0.0069		N-Nitrosodi-n-propylamine ⁵	T
µg/l	0.050		N-Nitrosodiphenylamine ⁵	T
µg/l	33		N-Nitrosodipyrrolidine ⁵	T
µg/l	0.16		Oxamyl (Vydate)	T
µg/l	200 ^a	200 ^a	Pentachlorobenzene	T
µg/l	0.1		Pentachlorophenol ⁵	T
µg/l	0.3	1.0 ^a	Phenol	T
µg/l	4,000		Picloram	T
µg/l	500 ^a	500 ^a	Polychlorinated biphenyls ⁵	T
µg/l	0.00064	0.000026	Pyrene	T
µg/l	20		Selenium	TR
µg/l	50 ^a	50 ^a	Silvex (2,4,5-TP, 2-[2,4,5-Trichlorophenoxy]propionic acid)	T
µg/l	10	50 ^a	Simazine	T
µg/l	4.0 ^a	4.0 ^a	Styrene	T
µg/l	100 ^a	100 ^a	Sulfates	T
mg/l	250 ^a	250 ^a	1,2,4,5-Tetrachlorobenzene	T
µg/l	0.03		2,3,7,8-Tetrachlorodibenzo-p-dioxin ⁵	T



µg/l	5.0*10 ⁻⁸	5.0*10 ⁻⁸	1,1,2,2-Tetrachloroethane ⁵	T
µg/l	1.7		Tetrachloroethylene ⁵	T
µg/l	5.0 ^a	5.0 ^a	Thallium	TR
µg/l	1.7		Toluene	T
µg/l	57	57	Toxaphene ⁵	T
µg/l	0.0028	0.000068	Trichloroacetic acid ⁶	T
µg/l	60 ^a	60 ^a	1,2,4-Trichlorobenzene ⁵	T
µg/l	0.71	70 ^a	1,1,1-Trichloroethane	T
µg/l	200 ^a	200 ^a	1,1,2-Trichloroethane ⁵	T
µg/l	5.0 ^a	5.0 ^a	Trichloroethylene ⁵	T
µg/l	5.0 ^a	5.0 ^a	2,4,5-Trichlorophenol	T
µg/l	300		2,4,6-Trichlorophenol ⁵	T
µg/l	14		Vinyl chloride ⁵	T
µg/l	0.22	2.0 ^a	Xylenes	T
µg/l	10,000 ^a	10,000 ^a	Zinc	T

¹ S = soluble; T = total; TR = total recoverable. ² mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); Mf/l = million fibers per liter. ³ OMZA = outside mixing zone average. ⁴ The criteria for this chemical apply to the sum of all dinitrophenols. ⁵ Criteria for this chemical are based on a carcinogenic endpoint. ⁶ The criterion for this chemical applies to the sum of chloroacetic acid, dichloroacetic acid and trichloroacetic acid. ⁷ The criteria for this chemical apply to the sum of alpha-endosulfan, beta-endosulfan and endosulfan sulfate. ⁸ The criteria for this chemical apply to the sum of endrin and endrin aldehyde. ^a This criterion is the maximum contaminant level (MCL) developed under the "Safe Drinking Water Act". ^b Equivalent 25°C specific conductance values are 1200 micromhos/cm as a maximum and 800 micromhos/cm as a thirty day average.

Alkalinity
Ammonia
Bacteria



Biochemical oxygen demand (BOD)
Chlorine
Color
Dissolved oxygen
Dissolved solids
pH
Phosphorus
Salinity
Temperature
Total and suspended solids
Turbidity

(B) Agricultural water supply criteria.

(1) The chemical-specific criteria listed in table 33-3 of this rule apply as "Outside Mixing Zone Averages." For the purpose of setting water quality based effluent limits, the criteria shall be met after the effluent and the receiving water are reasonably well mixed as provided in rules 3745-1-06 and 3745-2-05 of the Administrative Code.

(2) The water quality criteria for the protection of agricultural uses, or site-specific modifications thereof, adopted in, or developed pursuant to, this rule shall apply outside the mixing zone to all water bodies assigned the agricultural water supply use designation.

(3) For any pollutant in table 33-3 of this rule for which it is demonstrated that a methodology or procedure cited in this chapter is not scientifically defensible, the director may apply an alternative methodology or procedure acceptable under 40 C.F.R. 131 when developing water quality criteria.

Chemical	Form ¹	Units ²	OMZA ³
Arsenic	TR	µg/l	100
Beryllium	TR	µg/l	100
Cadmium	TR	µg/l	50
Total chromium	TR	µg/l	100
Copper	TR	µg/l	500



Fluoride	T	µg/l	2,000
Iron	TR	µg/l	5,000
Lead	TR	µg/l	100
Mercury	TR	µg/l	10
Nickel	TR	µg/l	200
Nitrates+nitrites	T	mg/l	100
Selenium	TR	µg/l	50
Zinc	TR	µg/l	25,000

¹ T = total; TR = total recoverable. ² mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion). ³ OMZA = outside mixing zone average.