

*** DRAFT - NOT YET FILED ***

TO BE RESCINDED

3745-1-34

Water quality criteria for the Ohio river drainage basin.

- (A) This rule applies in addition to the requirements contained in rule 3745-1-07 of the Administrative Code to water bodies within the Ohio river drainage basin. Except as provided in paragraph (D) of this rule, the methodologies contained in rule 3745-1-36 of the Administrative Code shall be used when adopting or revising numeric aquatic life water quality criteria and when implementing the narrative aquatic life water quality criteria contained in rule 3745-1-04 of the Administrative Code for water bodies located in the Ohio river drainage basin. Any methodologies and procedures acceptable under 40 C.F.R. 131 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 water bodies located in the Ohio river drainage basin.
- (B) The chemical specific criteria listed in this rule apply as "Outside Mixing Zone Averages". 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 3745-2-05 and 3745-2-08 of the Administrative Code.
- (C) The water quality criteria adopted in, or developed pursuant to, this rule shall apply as follows:
- (1) To protect against adverse reproductive effects on wildlife, "the Outside Mixing Zone Average" criteria for polychlorinated biphenyls is 1.0 ng/l. In addition, any whole sample of any representative aquatic organisms shall not exceed 0.64 mg/kg (wet weight). These criteria, or site-specific modifications thereof, shall apply to all water bodies of the Ohio river drainage basin.
 - (2) The water quality criteria for protection of human health, or site-specific modifications thereof, are "Outside Mixing Zone Average" water quality criteria and shall apply as follows:
 - (a) The "Drinking" water quality criteria for the protection of human health shall apply to all water bodies located in the Ohio river drainage basin within five hundred yards of drinking water intakes.
 - (b) The "Nondrinking" water quality criteria for the protection of human health shall apply to all water bodies located in the Ohio river drainage basin other than those specified in paragraph (C)(3)(i) of this rule.

(D) 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.

Table 34-1. Ohio river drainage basin water quality criteria for the protection of human health.

Chemical	Form ¹	Units ²	OMZA ³	
			Drinking	Nondrinking
Acenaphthene	T	µg/l	1,200	2,700
Acrolein	T	µg/l	320	780
Acrylonitrile ⁵	T	µg/l	0.59	6.6
Alachlor	T	µg/l	2.0 ^a	--
Aldicarb ⁶	T	µg/l	7.0 ^a	--
Aldicarb sulfone ⁶	T	µg/l	7.0 ^a	--
Aldicarb sulfoxide ⁶	T	µg/l	7.0 ^a	--
Aldrin ⁵	T	µg/l	0.0013	0.0014
Anthracene	T	µg/l	9,600	110,000
Antimony	TR	µg/l	6.0 ^a	4,300
Arsenic	TR	µg/l	10 ^a	--
Asbestos	T	Mf/l	7.0 ^a	--
Atrazine	T	µg/l	3.0 ^a	--
Barium	TR	µg/l	2,000 ^a	--
Benzene ⁵	T	µg/l	5.0 ^a	710
Benzidine ⁵	T	µg/l	0.0012	0.0054
Benzo(a)anthracene ⁵	T	µg/l	0.044	0.49
Benzo(a)pyrene ⁵	T	µg/l	0.044	0.49

Benzo(b)fluoranthene ⁵	T	µg/l	0.044	0.49
Benzo(k)fluoranthene ⁵	T	µg/l	0.044	0.49
Beryllium	TR	µg/l	4.0 ^a	280
Bromate	T	µg/l	10 ^a	--
Bromoform ⁵	T	µg/l	43	3,600
Butylbenzyl phthalate	T	µg/l	3,000	5,200
Cadmium	TR	µg/l	5.0 ^a	--
Carbofuran	T	µg/l	40 ^a	--
Carbon tetrachloride ⁵	T	µg/l	2.5	44
Chloramine	T	µg/l	4,000 ^a	--
Chlordane ⁵	T	µg/l	0.021	0.022
Chlorides	T	mg/l	250 ^a	--
Chlorine	T	µg/l	4,000 ^a	--
Chlorine dioxide	T	µg/l	800 ^a	--
Chlorite	T	µg/l	1,000 ^a	--
Chloroacetic acid ⁷	T	µg/l	60 ^a	--
Chlorobenzene	T	µg/l	100 ^a	21,000
Chlorodibromomethane ⁵	T	µg/l	4.1	340
Bis(2-Chloroethyl)ether ⁵	T	µg/l	0.31	14
Chloroform ⁵	T	µg/l	57	4,700
bis(2-Chloroisopropyl)ether	T	µg/l	1,400	170,000
bis(2-Chloromethyl)ether ⁵	T	µg/l	0.0013	0.0078
2-Chloronaphthalene	T	µg/l	1,700	4,300
2-Chlorophenol	T	µg/l	120	400
Chromium	TR	µg/l	100 ^a	--

Chrysene ⁵	T	µg/l	0.044	0.49
Copper	TR	µg/l	--	1,300
Cyanide	free	µg/l	200 ^a	220,000
2,4-D (2,4-Dichlorophenoxy-acetic acid)	T	µg/l	70 ^a	--
Dalapon	T	µg/l	200 ^a	--
4,4'-DDD ⁵	T	µg/l	0.0083	0.0084
4,4'-DDE ⁵	T	µg/l	0.0059	0.0059
4,4'-DDT ⁵	T	µg/l	0.0059	0.0059
Dibenzo(a,h)anthracene ⁵	T	µg/l	0.044	0.49
Dibromochloropropane	T	µg/l	0.2 ^a	--
Di-n-butyl phthalate	T	µg/l	2,700	12,000
Dichloroacetic acid ⁷	T	µg/l	60 ^a	--
1,2-Dichlorobenzene	T	µg/l	600 ^a	17,000
1,3-Dichlorobenzene	T	µg/l	400	2,600
1,4-Dichlorobenzene	T	µg/l	75 ^a	2,600
3,3'-Dichlorobenzidine ⁵	T	µg/l	0.40	0.77
Dichlorobromomethane ⁵	T	µg/l	5.6	460
1,2-Dichloroethane ⁵	T	µg/l	3.8	990
1,1-Dichloroethylene ⁵	T	µg/l	0.57	32
cis-1,2-Dichloroethylene	T	µg/l	70 ^a	--
trans-1,2-Dichloroethylene	T	µg/l	100 ^a	140,000
2,4-Dichlorophenol	T	µg/l	93	790
1,2-Dichloropropane ⁵	T	µg/l	5.0 ^a	390
1,3-Dichloropropene	T	µg/l	10	1,700
Dieldrin ⁵	T	µg/l	0.0014	0.0014

Di(2-ethylhexyl)adipate	T	µg/l	400 ^a	--
Diethyl phthalate	T	µg/l	23,000	120,000
2,4-Dimethylphenol	T	µg/l	540	2,300
Dimethyl phthalate	T	µg/l	310,000	2,900,000
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	T	µg/l	13	770
Dinitrophenols ⁴	T	µg/l	70	14,000
2,4-Dinitrotoluene ⁵	T	µg/l	1.1	91
Dinoseb	T	µg/l	7.0 ^a	--
1,2-Diphenylhydrazine ⁵	T	µg/l	0.40	5.4
Diquat	T	µg/l	20 ^a	--
Dissolved solids	T	mg/l	750/500 ^{a,t}	--
alpha-Endosulfan ⁸	T	µg/l	110	240
beta-Endosulfan ⁸	T	µg/l	110	240
Endosulfan sulfate ⁸	T	µg/l	110	240
Endothall	T	µg/l	100 ^a	--
Endrin ⁹	T	µg/l	0.76	0.81
Endrin aldehyde ⁹	T	µg/l	0.76	0.81
Ethylbenzene	T	µg/l	700 ^a	29,000
Ethylene dibromide (EDB)	T	µg/l	0.050 ^a	--
bis(2-Ethylhexyl)phthalate ⁵	T	µg/l	6.0 ^a	59
Fluoranthene	T	µg/l	300	370
Fluorene	T	µg/l	1,300	14,000
Fluoride	T	µg/l	4,000 ^a	--
Glyphosate	T	µg/l	700 ^a	--
Heptachlor ⁵	T	µg/l	0.0021	0.0021

Heptachlor epoxide ⁵	T	µg/l	0.0010	0.0011
Hexachlorobenzene ⁵	T	µg/l	0.0075	0.0077
Hexachlorobutadiene ⁵	T	µg/l	4.4	500
alpha-Hexachlorocyclohexane ⁵	T	µg/l	0.039	0.13
beta-Hexachlorocyclohexane ⁵	T	µg/l	0.14	0.46
gamma-Hexachlorocyclohexane (Lindane) ⁵	T	µg/l	0.19	0.63
Hexachlorocyclohexane - technical grade ⁵	T	µg/l	0.12	0.41
Hexachlorocyclopentadiene	T	µg/l	50 ^a	17,000
Hexachloroethane ⁵	T	µg/l	19	89
Indeno(1,2,3-c,d)pyrene ⁵	T	µg/l	0.044	0.49
Iron	S	µg/l	300 ^a	--
Isophorone ⁵	T	µg/l	360	26,000
Mercury	TR	µg/l	0.012	0.012
Methoxychlor	T	µg/l	40 ^a	--
Methyl bromide	T	µg/l	48	4,000
Methylene chloride ⁵	T	µg/l	5.0 ^a	16,000
Nickel	TR	µg/l	610	4,600
Nitrate-N + Nitrite-N	T	µg/l	10,000 ^a	--
Nitrite-N	T	µg/l	1,000 ^a	--
Nitrobenzene	T	µg/l	17	1,900
Nitrosoamines ⁵	T	µg/l	0.0080	12
N-Nitrosodibutylamine ⁵	T	µg/l	0.064	5.9
N-Nitrosodiethylamine ⁵	T	µg/l	0.0080	12
N-Nitrosodimethylamine ⁵	T	µg/l	0.0069	81
N-Nitrosodi-n-propylamine ⁵	T	µg/l	0.050	14

N-Nitrosodiphenylamine ⁵	T	µg/l	50	160
N-Nitrosodipyrrolidine ⁵	T	µg/l	0.16	920
Oxamyl (Vydate)	T	µg/l	200 ^a	--
Pentachlorobenzene	T	µg/l	3.5	4.1
Pentachlorophenol ⁵	T	mg/l	1.0 ^a	82
Phenol	T	µg/l	21,000	4,600,000
Picloram	T	µg/l	500 ^a	--
Polychlorinated biphenyls ⁵	T	µg/l	0.0017	0.0017
Pyrene	T	µg/l	960	11,000
Selenium	TR	µg/l	50 ^a	11,000
Silvex (2,4,5-TP, 2-[2,4,5-Trichlorophenoxy]propionic acid	T	µg/l	10	--
Simazine	T	µg/l	4.0 ^a	--
Styrene	T	µg/l	100 ^a	--
Sulfates	T	mg/l	250 ^a	--
1,2,4,5-Tetrachlorobenzene	T	µg/l	2.3	2.9
2,3,7,8-Tetrachlorodibenzo-p-dioxin ⁵	T	pg/l	0.13	0.14
1,1,2,2-Tetrachloroethane ⁵	T	µg/l	1.7	110
Tetrachloroethylene ⁵	T	µg/l	5.0 ^a	89
Thallium	TR	µg/l	1.7	--
Toluene	T	µg/l	1,000 ^a	200,000
Toxaphene ⁵	T	µg/l	0.0073	0.0075
Trichloroacetic acid ⁷	T	µg/l	60 ^a	--
1,2,4-Trichlorobenzene	T	µg/l	70 ^a	940
1,1,1-Trichloroethane	T	µg/l	200 ^a	--
1,1,2-Trichloroethane ⁵	T	µg/l	5.0 ^a	420

Trichloroethylene ⁵	T	µg/l	5.0 ^a	810
2,4,5-Trichlorophenol	T	µg/l	2,600	9,800
2,4,6-Trichlorophenol ⁵	T	µg/l	21	65
Vinyl chloride ⁵	T	µg/l	2.0 ^a	5,300
Xylenes	T	µg/l	10,000 ^a	--
Zinc	T	µg/l	9,100	69,000

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); ng/l = nanograms per liter (parts per trillion); pg/l = picograms per liter (parts per quadrillion); 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 aldicarb, aldicarb sulfone and aldicarb sulfoxide.

⁷ The criterion for this chemical applies to the sum of chloroacetic acid, dichloroacetic acid and trichloroacetic acid.

⁸ The criteria for this chemical apply to the sum of alpha-endosulfan, beta-endosulfan and endosulfan sulfate.

⁹ 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.

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