3745-1-34 **Water quality criteria for the protection of human health [fish consumption].**

[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) The chemical specific criteria listed in table 34-1 of this rule, or site-specific modifications thereof, apply as "Outside Mixing Zone Averages" and shall apply to all water bodies. 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.

(B) Water bodies located within 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 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.

(C) 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 34-2 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.

Table 34-1. Water quality criteria for the protection of human health [fish consumption].

			OMZA[3]	
Chemical	Form[1]	Units[2]	Ohio river	Lake Erie
Acenaphthene	T	µg/l	~~2,700~~90	--
Acrolein	T	µg/l	~~780~~400	--
Acrylonitrile[5]	T	µg/l	~~6.6~~70	--

Aldrin[5]	T	µg/l	~~0.0014~~7.7*10^{-6}	--
Anthracene	T	µg/l	~~110,000~~400	--
Antimony	TR	µg/l	~~4,300~~640	--
Benzene[5]	T	µg/l	~~710~~160	~~310~~160
Benzidine[5]	T	µg/l	~~0.0054~~0.11	--
Benzo(a)anthracene[5]	T	µg/l	~~0.49~~0.013	--
Benzo(a)pyrene[5]	T	µg/l	~~0.49~~0.0013	--
Benzo(b)fluoranthene[5]	T	µg/l	~~0.49~~0.013	--
Benzo(k)fluoranthene[5]	T	µg/l	~~0.49~~0.13	--
Beryllium	TR	µg/l	280	--
Bromoform[5]	T	µg/l	~~3,600~~1,200	--
Butylbenzyl phthalate	T	µg/l	~~5,200~~1.0	--
Carbon tetrachloride[5]	T	µg/l	~~44~~50	--
Chlordane[5]	T	µg/l	~~0.022~~0.0032	0.00025
Chlorobenzene	T	µg/l	~~21,000~~800	~~3200~~800
Chlorodibromomethane[5]	T	µg/l	~~340~~210	--
Bis(2-Chloro-1-methylethyl)ether	T	µg/l	4,000	
Bis(2-Chloroethyl)ether[5]	T	µg/l	~~14~~22	--
Chloroform[5]	T	µg/l	~~4,700~~20,000	--
~~bis(2-Chloroisopropyl)ether~~	~~T~~	~~µg/l~~	~~170,000~~	~~--~~
bis(2-Chloromethyl)ether[5]	T	µg/l	~~0.0078~~0.17	--
2-Chloronaphthalene	T	µg/l	~~4,300~~1,000	--

2-Chlorophenol	T	µg/l	~~400~~800	--
Chrysene[5]	T	µg/l	~~0.49~~1.3	--
Copper	TR	µg/l	1,300	--
Cyanide	free	µg/l	~~220,000~~400	~~48,000(T)~~400
2,4-D (2,4-Dichlorophenoxy-acetic acid)	T	µg/l	12,000	
4,4'-DDD[5]	T	µg/l	~~0.0084~~0.0012	--
4,4'-DDE[5]	T	µg/l	~~0.0059~~0.00018	--
4,4'-DDT[5]	T	µg/l	~~0.0059~~0.0003	0.00015
Dibenzo(a,h)anthracene[5]	T	µg/l	~~0.49~~0.0013	--
Di-n-butyl phthalate	T	µg/l	~~12,000~~30	--
1,2-Dichlorobenzene	T	µg/l	~~17,000~~3,000	--
1,3-Dichlorobenzene	T	µg/l	~~2,600~~10	--
1,4-Dichlorobenzene	T	µg/l	~~2,600~~900	--
3,3'-Dichlorobenzidine[5]	T	µg/l	~~0.77~~1.5	--
Dichlorobromomethane[5]	T	µg/l	~~460~~270	--
1,2-Dichloroethane[5]	T	µg/l	~~990~~6,500	--
1,1-Dichloroethylene[~~5~~]	T	µg/l	~~32~~20,000	--
trans-1,2-Dichloroethylene	T	µg/l	~~140,000~~4,000	--
2,4-Dichlorophenol	T	µg/l	~~790~~60	--
1,2-Dichloropropane[5]	T	µg/l	~~390~~310	--
1,3-Dichloropropene[~~5~~]	T	µg/l	~~1,700~~120	--
Dieldrin[5]	T	µg/l	~~0.0014~~1.2*10[~~-5~~]	0.0000065

Diethyl phthalate	T	µg/l	~~120,000~~600	--
2,4-Dimethylphenol	T	µg/l	~~2,300~~3,000	~~8,700~~3,000
Dimethyl phthalate	T	µg/l	~~2,900,000~~2,000	--
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)	T	µg/l	~~770~~30	--
Dinitrophenols[4]	T	µg/l	~~14,000~~1,000	
2,4-Dinitrophenol	T	µg/l	~~--~~300	~~2,800~~300
2,4-Dinitrotoluene[5]	T	µg/l	~~91~~17	--
1,2-Diphenylhydrazine[5]	T	µg/l	~~5.4~~2.0	--
alpha-Endosulfan[6]	T	µg/l	~~240~~30	--
beta-Endosulfan[6]	T	µg/l	~~240~~40	--
Endosulfan sulfate[6]	T	µg/l	~~240~~40	--
Endrin[6]	T	µg/l	~~0.81~~0.03	--
Endrin aldehyde[6]	T	µg/l	~~0.81~~1.0	--
Ethylbenzene	T	µg/l	~~29,000~~130	--
bis(2-Ethylhexyl)phthalate[5]	T	µg/l	~~59~~3.7	--
Fluoranthene	T	µg/l	~~370~~20	--
Fluorene	T	µg/l	~~14,000~~70	--
Heptachlor[5]	T	µg/l	~~0.0021~~$5.9*10^{-5}$	--
Heptachlor epoxide[5]	T	µg/l	~~0.0011~~0.00032	--
Hexachlorobenzene[5]	T	µg/l	~~0.0077~~0.00079	0.00045
Hexachlorobutadiene[5]	T	µg/l	~~500~~0.1	--
alpha-Hexachlorocyclohexane[5]	T	µg/l	~~0.13~~0.0039	--

beta-Hexachlorocyclohexane[5]	T	µg/l	~~0.46~~0.14	--
gamma-Hexachlorocyclohexane (Lindane)[5]	T	µg/l	~~0.63~~44	0.50
Hexachlorocyclohexane - technical grade[5]	T	µg/l	~~0.41~~0.1	--
Hexachlorocyclopentadiene	T	µg/l	~~17,000~~4.0	--
Hexachloroethane[5]	T	µg/l	~~89~~1.0	~~6.7~~1.0
Indeno(1,2,3-c,d)pyrene[5]	T	µg/l	~~0.49~~0.013	--
Isophorone[5]	T	µg/l	~~26,000~~18,000	--
Methoxychlor	T	µg/l	0.02	
Mercury	TR	µg/l	0.012	0.0031
3-Methyl-4-Chlorophenol	TR	µg/l	2,000	
Methyl bromide	T	µg/l	~~4,000~~10,000	--
Methylene chloride[5]	T	µg/l	~~16,000~~10,000	2,600
Nickel	TR	µg/l	4,600	--
Nitrobenzene	T	µg/l	~~1,900~~600	--
Nitrosoamines[5]	T	µg/l	~~12~~12.4	--
N-Nitrosodibutylamine[5]	T	µg/l	~~5.9~~2.2	--
N-Nitrosodiethylamine[5]	T	µg/l	~~12~~12.4	--
N-Nitrosodimethylamine[5]	T	µg/l	~~81~~30	--
N-Nitrosodi-n-propylamine[5]	T	µg/l	~~14~~5.1	--
N-Nitrosodiphenylamine[5]	T	µg/l	~~160~~60	--
N-Nitrosodipyrrolidine[5]	T	µg/l	~~920~~340	--

Pentachlorobenzene	T	µg/l	~~4.1~~0.1	--
Pentachlorophenol[5]	T	mg/l	~~82~~0.4	--
Phenol	T	µg/l	~~4,600,000~~300,000	--
Polychlorinated biphenyls[5]	T	µg/l	~~0.0017~~0.00064	0.000026
Pyrene	T	µg/l	~~11,000~~30	--
Selenium	TR	µg/l	~~11,000~~4,200	--
Silvex (2,4,5-Trichlorophenoxypropionic acid)	T	µg/l	400	
1,2,4,5-Tetrachlorobenzene	T	µg/l	~~2.9~~0.03	--
2,3,7,8-Tetrachlorodibenzo-p-dioxin[5]	T	pg/l	~~0.14~~0.051	0.0086
1,1,2,2-Tetrachloroethane[5]	T	µg/l	~~110~~30	--
Tetrachloroethylene[5]	T	µg/l	~~89~~290	--
Toluene	T	µg/l	~~200,000~~520	~~51,000~~520
Toxaphene[5]	T	µg/l	~~0.0075~~0.0071	0.000068
1,2,4-Trichlorobenzene[5]	T	µg/l	~~940~~0.76	--
1,1,1-Trichloroethane	T	µg/l	200,000	
1,1,2-Trichloroethane[5]	T	µg/l	~~420~~89	--
Trichloroethylene[5]	T	µg/l	~~810~~70	~~370~~70
2,4,5-Trichlorophenol	T	µg/l	~~9,800~~600	--
2,4,6-Trichlorophenol[5]	T	µg/l	~~65~~28	--
Vinyl chloride[5]	T	µg/l	~~5,300~~16	--
Zinc	T	µg/l	~~69,000~~26,000	--

[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); pg/l = picograms per liter (parts per quadrillion).

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

[7] The criteria for this chemical apply to the sum of endrin and endrin aldehyde.

Table 34-2. Pollutants subject to any methodologies and procedures acceptable under 40 C.F.R. 131 for water bodies located in the lake Erie drainage basin.

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

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Five Year Review (FYR) Dates: 10/30/2019

Certification

Date

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