For Interested Party Review – August 2008 Draft

3745-1-40 **Water quality criteria for water supply use designations.**

[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.]

[Comment: For definitions of the use designations, see rule 3745-1-07 of the Administrative Code. For all other definitions, see rule 3745-1-02 of the Administrative Code.]

(A) Public water supply. Criteria associated with the public water supply use designation apply within five hundred yards of surface water intakes for public water systems. The criteria listed in this rule apply as "outside mixing zone maximums" for nitrate-N and nitrite-N and as "outside mixing zone averages" for all other chemicals. 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. The following criteria apply to the public water supply use designation:

(1) Ambient water quality criteria based on maximum contaminant levels (MCLs), developed under the Safe Drinking Water Act, in table 40-1 of this rule. The ambient criteria are the same as the MCLs, unless higher criteria would result in meeting the MCLs after conventional filtration technology and disinfection as defined in rule 3745-81-01 of the Administrative Code; and

(2) Ambient water quality criteria developed under the Clean Water Act, in table 40-2 of this rule. Additional Clean Water Act criteria are calculated pursuant to rule 3745-1-38 and are available on the Ohio EPA website http://www.epa.state.oh.us/dsw/wqs/criteria.html. For any pollutant for which it is demonstrated that the methodology in rule 3745-1-38 of the Administrative Code is not scientifically defensible, the director may apply an alternative methodology acceptable under 40 C.F.R. 131 when developing water quality criteria.

Table 40-1. Water quality criteria for the protection of the public water supply use designation – ambient water quality criteria based on MCLs. Unless otherwise noted, the criteria are the maximum contaminant levels (MCLs) developed under the Safe Drinking Water Act.

Chemical	Form[1]	Units[2]	Criteria (OMZA)[3]
Alachlor[4]	T	µg/l	2.0
Antimony	TR	µg/l	6.0
Arsenic	TR	µg/l	10
Asbestos	T	Mf/l	7.0
Atrazine	T	µg/l	3.0
Barium	T	µg/l	2000
Benzene[4]	T	µg/l	5.0
Benzo(a)pyrene (PAHs)[4]	T	µg/l	0.20
Beryllium	TR	µg/l	4.0
Bromate[4]	T	µg/l	10
Cadmium	TR	µg/l	5.0
Carbofuran	T	µg/l	40
Carbon tetrachloride[4]	T	µg/l	5.0
Chloramines (as Cl2)	T	µg/l	4000
Chlordane[4]	T	µg/l	2.0
Chlorine (as Cl2)	T	µg/l	4000
Chlorine dioxide (as ClO2)	T	µg/l	800
Chlorite	T	µg/l	1000
Chlorobenzene	T	µg/l	100
Chromium	TR	µg/l	100
Cyanide	F	µg/l	200
2,4-D	T	µg/l	70
Dalapon	T	µg/l	200
1,2-Dibromo-3-chloropropane (DBCP)[4]	T	µg/l	0.20
o-Dichlorobenzene	T	µg/l	600
p-Dichlorobenzene	T	µg/l	75
1,2-Dichloroethane[4]	T	µg/l	5.0
1,1-Dichloroethylene	T	µg/l	7.0

Chemical	Form[1]	Units[2]	Criteria (OMZA)[3]
cis-1,2-Dichloroethylene	T	µg/l	70
trans-1,2-Dichloroethylene	T	µg/l	100
Dichloromethane[4]	T	µg/l	5.0
1,2-Dichloropropane[4]	T	µg/l	5.0
Di(2-ethylhexyl)adipate	T	µg/l	400
Di(2-ethylhexyl)phthalate[4]	T	µg/l	6.0
Dinoseb	T	µg/l	7.0
Dioxin (2,3,7,8-TCDD)[4]	T	µg/l	0.000030
Diquat	T	µg/l	20
Endothall	T	µg/l	100
Endrin	T	µg/l	2.0
Ethylbenzene	T	µg/l	700
Ethylene dibromide[4]	T	µg/l	0.050
Glyphosate	T	µg/l	700
Haloacetic acids (HAA5)[4]	T	µg/l	60
Heptachlor[4]	T	µg/l	0.40
Heptachlor epoxide[4]	T	µg/l	0.20
Hexachlorobenzene[4]	T	µg/l	1.0
Hexachlorocyclopentadiene	T	µg/l	50
Lead	TR	µg/l	15
Lindane	T	µg/l	0.20
Mercury (inorganic)	TR	µg/l	2.0
Methoxychlor	T	µg/l	40
Nitrate-N	T	mg/l	10[a]
Nitrite-N	T	mg/l	1.0[a]
Oxamyl (Vydate)	T	µg/l	200
Pentachlorophenol[4]	T	µg/l	1.0
Phosphorus	T	--	b
Picloram	T	µg/l	500
Polychlorinated biphenyls (PCBs)[4]	T	µg/l	0.50
Selenium	TR	µg/l	50
Silver	TR	µg/l	100

Chemical	Form[1]	Units[2]	Criteria (OMZA)[3]
Simazine	T	µg/l	4.0
Styrene	T	µg/l	100
Tetrachloroethylene[4]	T	µg/l	5.0
Thallium	TR	µg/l	2.0
Toluene	T	µg/l	1000
Total Trihalomethanes (TTHMs)[4]	T	µg/l	80
Toxaphene[4]	T	µg/l	0.30
2,4,5-TP (Silvex)	T	µg/l	50
1,2,4-Trichlorobenzene	T	µg/l	70
1,1,1-Trichloroethane	T	µg/l	200
1,1,2-Trichloroethane	T	µg/l	5.0
Trichloroethylene[4]	T	µg/l	5.0
Uranium[4]	TR	µg/l	30
Vinyl chloride[4]	T	µg/l	2.0
Xylenes	T	mg/l	10

[1] F = free; T = total; TR = total recoverable.

[2] Mf/l = million fibers per liter; mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion).

[3] OMZA = outside mixing zone average.

[4] Carcinogen.

[a] This criterion applies as an outside mixing zone maximum.

[b] Total phosphorus as P shall be limited to the extent necessary to prevent nuisance growths of algae, weeds, and slimes that result in taste or odor problems. In areas where such nuisance growths exist, phosphorus discharges from point sources determined significant by the director shall not exceed a daily average of one milligram per liter as total P, or such stricter requirements as may be imposed by the director.

Table 40-2. Water quality criteria for the protection of the public water supply use designation – ambient water quality criteria developed under the Clean Water Act. In general, the criteria in this table were developed using U.S. EPA national guidance. However, if criteria developed using the procedures in 40 C.F.R. 132, "Water Quality Guidance for the Great Lakes System" were more stringent, those more stringent criteria are listed for the Lake Erie basin. Additional Clean Water Act criteria are calculated pursuant to rule 3745-1-38 of the Administrative Code and are available on the Ohio EPA website http://www.epa.state.oh.us/dsw/wqs/criteria.html.

Chemical	Form[1]	Units[2]	Criteria (OMZA)[3]	
			ORB	LEB
Benzene[4]	T	µg/l	6.2	
Chlordane[4]	T	µg/l	0.00089	0.00025
Chlorobenzene	T	µg/l	110	
Cyanides	T	µg/l	150	
DDT[4]	T	µg/l	0.00019	0.00015
Dieldrin[4]	T	µg/l	0.000011	0.0000065
2,4-Dimethylphenol	T	µg/l	110	
2,4-Dinitrophenol	T	µg/l	14	
Hexachlorobenzene[4]	T	µg/l	0.00047	0.00045
Hexachloroethane	T	µg/l	1.5	
Lindane	T	µg/l	0.11	
Mercury	TR	µg/l	0.012	0.0031
Methylene chloride[4]	T	µg/l	46	
Polychlorinated biphenyls (PCBs)[5]	T	µg/l	0.000017	0.000015
2,3,7,8-TCDD (Dioxin)[4]	T	µg/l	6.8E-10[a]	6.5E-10[a]
Toluene	T	µg/l	500	
Toxaphene[4]	T	µg/l	0.000066	
Trichloroethylene[5]	T	µg/l	40	29

[1] T = total; TR = total recoverable.
[2] µg/l = micrograms per liter (parts per billion).
[3] OMZA = outside mixing zone average; ORB = Ohio river drainage basin; LEB = lake Erie drainage basin.
[4] Criteria for this chemical are based on a carcinogenic endpoint.
[5] The LEB criterion for this chemical is based on a carcinogenic endpoint.
[a] This criterion applies to all 2,3,7,8-TCDD equivalents as specified in rule 3745-2-07 of the Administrative Code.

(B) Agricultural water supply. Criteria associated with the agricultural water supply use designation 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. Criteria associated with the agricultural water supply use designation are in table 40-3 of this rule.

Table 40-3. Water quality criteria for the protection of the agricultural water supply use designation.

Chemical	Form[1]	Units[2]	Criterion (OMZA)[3]
Arsenic	TR	µg/l	100
Beryllium	TR	µg/l	100
Cadmium	TR	µg/l	50
Chromium	TR	µg/l	100
Copper	TR	µg/l	500
Fluoride	T	µg/l	2000
Iron	TR	µg/l	5000
Lead	TR	µg/l	100
Mercury	TR	µg/l	10
Nickel	TR	µg/l	200
Nitrate-N + Nitrite-N	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.

(C) Industrial water supply. Criteria for the support of this use designation will vary with the type of industry involved. No criteria are currently in effect.

Replaces Part of 3745-1-07

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