NATIONAL RECOMMENDED WATER QUALITY CRITERIA FOR NON PRIORITY POLLUTANTS

	Non Priority Pollutant	CAS Number	Freshwater CMC (• g/L)	Freshwater CCC (• g/L)	Saltwater CMC (• g/L)	Saltwater CCC (• g/L)	Human Health For Consumption of: Water + Organism (• g/L)	Human Health For Consumption of: Organism Only (• g/L)	FR Cite/Source
1	Alkalinity	--		20000 F					Gold Book
2	Aluminum pH 6.5 - 9.0	7429905	750 G,I	87 G,I,L					53FR33178
3	Ammonia	7664417	FRESHWATER CRITERIA ARE pH, Temperature and Life-stage DEPENDENT -- SEE DOCUMENT D SALTWATER CRITERIA ARE pH AND TEMPERATURE DEPENDENT						EPA822-R-99-014 EPA440/5-88-004
4	Aesthetic Qualities	--		NARRATIVE STATEMENT-- SEE DOCUMENT					Gold Book
5	Bacteria	--		FOR PRIMARY RECREATION AND SHELLFISH USES -- SEE DOCUMENT					Gold Book
6	Barium	7440393					1,000 A		Gold Book
7	Boron	--		NARRATIVE STATEMENT-- SEE DOCUMENT					Gold Book
8	Chloride	16887006	860000 G	230000 G					53FR19028
9	Chlorine	7782505	19	11	13	7.5	C		Gold Book
10	Chlorophenoxy Herbicide (2,4,5,-TP)	93721					10 A		Gold Book
11	Chlorophenoxy Herbicide (2,4-D)	94757					100 A,C		Gold Book
12	Chloropyrifos	2921882	0.083 G	0.041 G	0.011 G	0.0056 G			Gold Book
13	Color	--		NARRATIVE STATEMENT-- SEE DOCUMENT F					Gold Book

NATIONAL RECOMMENDED WATER QUALITY CRITERIA FOR NON PRIORITY POLLUTANTS

	Non Priority Pollutant	CAS Number	Freshwater CMC (• g/L)	Freshwater CCC (• g/L)	Saltwater CMC (• g/L)	Saltwater CCC (• g/L)	Human Health For Consumption of: Water + Organism (• g/L)	Human Health For Consumption of: Organism Only (• g/L)	FR Cite/Source
14	Demeton	8065483		0.1 F		0.1 F			Gold Book
15	Ether, Bis(Chloromethyl)	542881					0.00010 E, H	0.00029 E,H	65FR66443
16	Gases, Total Dissolved	--		NARRATIVE STATEMENT -- SEE DOCUMENT F					Gold Book
17	Guthion	86500		0.01 F		0.01 F			Gold Book
18	Hardness	--		NARRATIVE STATEMENT-- SEE DOCUMENT					Gold Book
19	Hexachlorocyclo-hexane-Technical	319868					0.0123	0.0414	Gold Book
20	Iron	7439896		1000 F			300 A		Gold Book
21	Malathion	121755		0.1 F		0.1 F			Gold Book
22	Manganese	7439965					50 A,O	100 A	Gold Book
23	Methoxychlor	72435		0.03 F		0.03 F	100 A,C		Gold Book
24	Mirex	2385855		0.001 F		0.001 F			Gold Book
25	Nitrates	14797558					10,000 A		Gold Book
26	Nitrosamines	--					0.0008	1.24	Gold Book
27	Dinitrophenols	25550587					69	5300	65FR66443
28	Nonylphenol	1044051	28	6.6	7.0	1.7			71FR9337
29	Nitrosodibutylamine,N	924163					0.0063 A,H	0.22 A,H	65FR66443
30	Nitrosodiethylamine,N	55185					0.0008 A,H	1.24 A,H	Gold Book

NATIONAL RECOMMENDED WATER QUALITY CRITERIA FOR NON PRIORITY POLLUTANTS

	Non Priority Pollutant	CAS Number	Freshwater CMC (• g/L)	Freshwater CCC (• g/L)	Saltwater CMC (• g/L)	Saltwater CCC (• g/L)	Human Health For Consumption of: Water + Organism (• g/L)	Human Health For Consumption of: Organism Only (• g/L)	FR Cite/Source
31	Nitrosopyrrolidine,N	930552					0.016 H	34 H	65FR66443
32	Oil and Grease	--	NARRATIVE STATEMENT -- SEE DOCUMENT F						Gold Book
33	Oxygen, Dissolved Freshwater	7782447	WARMWATER AND COLDWATER MATRIX -- SEE DOCUMENT N						Gold Book
	Oxygen, Dissolved Saltwater		SALTWATER - SEE DOCUMENT						EPA-822R-00-012
34	Diazinon	333415	0.17	0.17	0.82	0.82			71FR9336
35	Parathion	56382	0.065 J	0.013 J					Gold Book
36	Pentachlorobenzene	608935					1.4 E	1.5 E	65FR66443
37	pH	--		6.5 - 9 F		6.5 - 8.5 F,K	5 - 9		Gold Book
38	Phosphorus Elemental	7723140				0.1 F,K			Gold Book
39	Nutrients	--	See EPA's Ecoregional criteria for Total Phosphorus, Total Nitrogen, Chlorophyll *a* and Water Clarity (Secchi depth for lakes, turbidity for streams and rivers) (& Level III Ecoregional criteria)						P
40	Solids Dissolved and Salinity	--					250,000 A		Gold Book
41	Solids Suspended and Turbidity	--	NARRATIVE STATEMENT -- SEE DOCUMENT F						Gold Book
42	Sulfide-Hydrogen Sulfide	7783064		2.0 F		2.0 F			Gold Book
43	Tainting Substances	--	NARRATIVE STATEMENT-- SEE DOCUMENT						Gold Book
44	Temperature	--	SPECIES DEPENDENT CRITERIA -- SEE DOCUMENT M						Gold Book

NATIONAL RECOMMENDED WATER QUALITY CRITERIA FOR NON PRIORITY POLLUTANTS

	Non Priority Pollutant	CAS Number	Freshwater CMC (• g/L)	Freshwater CCC (• g/L)	Saltwater CMC (• g/L)	Saltwater CCC (• g/L)	Human Health For Consumption of: Water + Organism (• g/L)	Human Health For Consumption of: Organism Only (• g/L)	FR Cite/Source
45	Tetrachlorobenzene,1,2,4,5-	95943					0.97 E	1.1 E	65FR66443
46	Tributyltin (TBT)	--	0.46 Q	0.072 Q	0.42 Q	0.0074 Q			EPA 822-F-00-008
47	Trichlorophenol,2,4,5-	95954					1,800 B,E	3,600 B,E	65FR66443

Footnotes:

A This human health criterion is the same as originally published in the Red Book which predates the 1980 methodology and did not utilize the fish ingestion BCF approach. This same criterion value is now published in the Gold Book.

B The organoleptic effect criterion is more stringent than the value presented in the non priority pollutants table.

C A more stringent Maximum Contaminant Level (MCL) has been issued by EPA under the Safe Drinking Water Act. Refer to drinking water regulations 40CFR141 or Safe Drinking Water Hotline (1-800-426-4791) for values.

D According to the procedures described in the *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*, except possibly where a very sensitive species is important at a site, freshwater aquatic life should be protected if both conditions specified in Appendix C to the Preamble- Calculation of Freshwater Ammonia Criterion are satisfied.

E This criterion has been revised to reflect EPA's q1* or RfD, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor (BCF) used to derive the original criterion was retained in each case.

F The derivation of this value is presented in the Red Book (EPA 440/9-76-023, July, 1976).

G This value is based on a 304(a) aquatic life criterion that was derived using the 1985 Guidelines (*Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*, PB85-227049, January 1985) and was issued in one of the following criteria documents: Aluminum (EPA 440/5-86-008); Chloride (EPA 440/5-88-001); Chloropyrifos (EPA 440/5-86-005).

H This criterion is based on carcinogenicity of 10^{-6} risk. Alternate risk levels may be obtained by moving the decimal point (e.g., for a risk level of 10^{-5}, move the decimal point in the recommended criterion one place to the right).

I This value for aluminum is expressed in terms of total recoverable metal in the water column.

J This value is based on a 304(a) aquatic life criterion that was issued in the *1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water* (EPA-820-B-96-001). This value was derived using the GLI Guidelines (60FR15393-15399, March 23, 1995; 40CFR132 Appendix A); the differences between the 1985 Guidelines and the GLI Guidelines are explained on page iv of the 1995 Updates. No decision concerning this criterion was affected by any considerations that are specific to the Great Lakes.

K According to page 181 of the Red Book:

For open ocean waters where the depth is substantially greater than the euphotic zone, the pH should not be changed more than 0.2 units from the naturally occurring variation or any case outside the range of 6.5 to 8.5. For shallow, highly productive coastal and estuarine areas where naturally occurring pH variations approach the lethal limits of some species, changes in pH should be avoided but in any case should not exceed the limits established for fresh water, i.e., 6.5-9.0.

L There are three major reasons why the use of Water-Effect Ratios might be appropriate. (1)The value of 87• micro-g/l is based on a toxicity test with the striped bass in water with pH= 6.5-6.6 and hardness <10 mg/L. Data in "Aluminum Water-Effect Ratio for the 3M Plant Effluent Discharge, Middleway, West Virginia" (May 1994) indicate that aluminum is substantially less toxic at higher pH and hardness, but the effects of pH and hardness are not well quantified at this time. (2) In tests with the brook trout at low pH and hardness, effects increased with increasing concentrations of total aluminum even though the concentration of dissolved aluminum was constant, indicating that total recoverable is a more appropriate measurement than dissolved, at least when particulate aluminum is primarily aluminum hydroxide particles. In surface waters, however, the total recoverable procedure might measure aluminum associated with clay particles, which might be less toxic than aluminum associated with aluminum hydroxide. (3) EPA is aware of field data indicating that many high quality waters in the U.S. contain more than 87 • g aluminum/L, when either total recoverable or dissolved is measured.

M U.S. EPA. 1973. Water Quality Criteria 1972. EPA-R3-73-033. National Technical Information Service, Springfield, VA.; U.S. EPA. 1977. Temperature Criteria for Freshwater Fish: Protocol and Procedures. EPA-600/3-77-061. National Technical Information Service, Springfield, VA.

N U.S. EPA. 1986. Ambient Water Quality Criteria for Dissolved Oxygen. EPA 440/5-86-003. National Technical Information Service, Springfield, VA.

O This criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.

P Lakes and Reservoirs in Nutrient Ecoregion: II EPA 822-B-00-007, III EPA 822-B-01-008, IV EPA 822-B-01-009, V EPA 822-B-01-010, VI EPA 822-B-00-008 , VII EPA 822-B-00-009, VIII EPA 822-B-01-015, IX EPA 822-B-00-011, XI EPA 822-B-00-012, XII EPA 822-B-00-013, XIII EPA 822-B-00-014, XIV EPA 822-B-01-011; Rivers and Streams in Nutrient Ecoregion: I EPA 822-B-01-012, II EPA 822-B-00-015, III EPA 822-B-00-016, IV EPA 822-B-01-013, V EPA 822-B-01-014, VI EPA 822-B-00-017, VII EPA 822-B-00-018, VIII EPA 822-B-01-015, IX EPA 822-B-00-019, X EPA 822-B-01-016, XI EPA 822-B-00-020, XII EPA 822-B-00-021, XIV EPA 822-B-00-022; and Wetlands in Nutrient Ecoregion XIII EPA 822-B-00-023.

Q EPA announced the availability of a draft updated tributyltin (TBT) document on August 7, 1997 (62FR42554). The Agency has reevaluated this document and anticipates releasing an updated document for public comment in the near future.

NATIONAL RECOMMENDED WATER QUALITY CRITERIA FOR ORGANOLEPTIC EFFECTS

	Pollutant	CAS Number	Organoleptic Effect Criteria (µg/L)	FR Cite/Source
1	Acenaphthene	83329	20	Gold Book
2	Monochlorobenzene	108907	20	Gold Book
3	3-Chlorophenol	--	0.1	Gold Book
4	4-Chlorophenol	106489	0.1	Gold Book
5	2,3-Dichlorophenol	--	0.04	Gold Book
6	2,5-Dichlorophenol	--	0.5	Gold Book
7	2,6-Dichlorophenol	--	0.2	Gold Book
8	3,4-Dichlorophenol	--	0.3	Gold Book
9	2,4,5-Trichlorophenol	95954	1	Gold Book
10	2,4,6-Trichloropehnol	88062	2	Gold Book
11	2,3,4,6-Tetrachlorophenol	--	1	Gold Book
12	2-Methyl-4-Chlorophenol	--	1800	Gold Book
13	3-Methyl-4-Chlorophenol	59507	3000	Gold Book
14	3-Methyl-6-Chlorophenol	--	20	Gold Book
15	2-Chlorophenol	95578	0.1	Gold Book
16	Copper	7440508	1000	Gold Book
17	2,4-Dichlorophenol	120832	0.3	Gold Book
18	2,4-Dimethylpehnol	105679	400	Gold Book

NATIONAL RECOMMENDED WATER QUALITY CRITERIA FOR ORGANOLEPTIC EFFECTS

	Pollutant	CAS Number	Organoleptic Effect Criteria (µg/L)		FR Cite/Source
19	Hexachlorocyclopentadiene	77474		1	Gold Book
20	Nitrobenzene	98953		30	Gold Book
21	Pentachlorophenol	87865	30		Gold Book
22	Phenol	108952	300		Gold Book
23	Zinc	7440666	5000		45 FR79341

General notes:

1. These criteria are based on organoleptic (taste and odor) effects. Because of variations in chemical nomenclature systems, this listing of pollutants does not duplicate the listing in Appendix A of 40 CFR Part 423. Also listed are the Chemical Abstracts Service (CAS) registry numbers, which provide a unique identification for each chemical.