Clearinghouse Rule 07-110

ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
AMENDING RULES

The State of Wisconsin Natural Resources Board proposes an order to amend NR 105 Tables 2, 2A, 5, 6, 8, and 9 relating to surface water quality criteria.

WT-35-07

Summary Prepared by the Department of Natural Resources

Statutory Authority: , ss. 227.11(2)(a) and 281.15, Stats.

Statutes Interpreted: s. 281.15, Stats.

Explanation of Agency Authority: In addition to the general authority granted by s. 227.11(2)(a), Stats., to implement and interpret its statutory authority. The Department of Natural Resources has specific authority in ch. 281, Stats., to promulgate rules setting standards of water quality to be applicable to the waters of the State and to implement those standards, as appropriate, under the Water Pollutant Discharge Elimination System.

Related statute or rule: ch. 283, Stats., and chs. NR 102, 104 and 106.

Plain Language Analysis: Chapter NR 105 is the principal rule setting water quality criteria and secondary values for toxic substances in surface waters of the State of Wisconsin. Those criteria and values are designed to protect surface waters from potentially toxic levels of chemical compounds, including the consideration of short- and/or long-term impacts on fish and other aquatic life, wildlife, and human health. These criteria and values may be used as a basis for regulating wastewater discharges to surface waters and for justifying monitoring and remedial action (cleanup) activities statewide. This chapter is reviewed and revisions proposed by staff on a regular basis.

Criteria were first developed and included in ch. NR 105 in February of 1989. The code was revised in August of 1997 to update criteria and incorporate procedures in the U.S. Environmental Protection Agency's (U.S. EPA) Great Lakes Water Quality Initiative (GLWQI or GLI), a federal law passed in 1995. Other revisions have taken place since 1989 to modify existing numerical water quality criteria or create new criteria for toxic substances.

The revisions proposed at this time are done, in part, in response to formal actions taken by the U.S. EPA in December of 2000 to object to Wisconsin's water quality criteria for four substances regulated under the GLWQI. In addition, criteria for fourteen other substances are being proposed for revision or addition in response to human health criteria developed by U.S. EPA after 1995.

No revisions are proposed to the methods of calculating numerical water quality criteria, which are also listed in ch. NR 105. Only the numerical criteria themselves are being added or revised at this time. Fifteen (15) of the 124 substances currently addressed in the code are proposed for revision, while 3 new criteria are being added.

New criteria are proposed for the following substances:

- Chronic aquatic life toxicity criteria = Selenium
- Human threshold (non-cancer) criteria = Total chromium (only in waters used for public drinking water supplies)
- Human cancer criteria = 1,3-dichloropropene

Revised criteria that are more restrictive (tighter or more stringent) than those already in ch. NR 105 are proposed for the following substances:

- Acute aquatic life toxicity criteria = Copper (only in softer water areas), and nickel
- Chronic aquatic life toxicity criteria = Copper, nickel, endrin
- Human threshold (non-cancer) criteria = Cadmium, chlorobenzene, hexavalent chromium, cyanide, 1,2-dichlorobenzene, ethylbenzene, hexachlorocyclopentadiene, toluene
- Human cancer criteria = Arsenic (only in waters not used for public drinking water supplies), 3,3'-dichlorobenzidine (only in waters used for public drinking water supplies)

Revised criteria that are less restrictive (looser or less stringent) than those already in ch. NR 105 are proposed for the following substances:

- Acute aquatic life toxicity criteria = Copper (only in harder water areas)
- Human threshold (non-cancer) criteria = Trivalent chromium
- Human cancer criteria = Arsenic (only in waters used for public drinking water supplies), 3,3'-dichlorobenzidine (only in waters not used for public drinking water supplies)

Federal Regulatory Analysis: The formal actions taken by U.S. EPA in 2000 were done because the criteria published in ch. NR 105 in 1997 were determined to be *not as protective as* the federal criteria. To address those concerns, criteria were developed or revised for copper, nickel, selenium, and endrin. The proposed criteria for nickel, selenium, and endrin are identical to federal criteria. The copper criteria are slightly relaxed or less stringent than federal criteria, but in this case a difference is allowable because the federal criteria in the GLWQI are, in part, based on the protection of a sensitive species of fish that is not present in the Great Lakes states or Iowa. The criteria calculation approach in the GLWQI allows for less restrictive criteria based on consideration of resident organisms as long as the approach is followed. In late 2000, before the U.S. EPA actions were formally taken, a representative of that agency approved the calculated criteria that eventually became the proposed revisions to the ch. NR 105 copper criteria.

A critical component in the development of human health criteria in Wisconsin is the fish consumption rate. Because people in the Great Lakes states eat more fish on the average than nationwide as a whole, human health criteria in the Great Lakes states are typically more stringent than federal criteria. The difference in fish consumption rates was considered as part of the 1997 update to ch. NR 105 and appropriately recognizes the differences in consumption rates among the general public and especially tribal populations in Wisconsin. As a result, the proposed human health criteria are considered to be as protective as criteria developed using the GLWQI approach.

Comparison of Criteria in Adjacent States to the Proposed Wisconsin Criteria:

Substance	Illinois	Minnesota	Michigan	Iowa
Copper	MS	Acute = LS, Chronic = EQ in soft water, MS in hard water	MS	LS
Nickel	MS	LS	EQ	EQ
Selenium	EQ	EQ	EQ	EQ

Endrin	EQ	EQ	EQ	EQ
Antimony	NA	MS	NA	LS in PWS, NA in non-PWS
Arsenic	LS	LS in PWS, MS in non-PWS	NA	MS in PWS, LS in non-PWS
Cadmium	NC	LS in PWS, NC in non-PWS	NS	MS in PWS, LS in non-PWS
Chromium, triv.	NC	NC	NA	NA
Chromium, hexav.	NC	NC	NA	LS in PWS, MS in non-PWS
Chromium, total	NA	EQ in PWS	NA	EQ in PWS
Cyanide	NC	NC	NA	LS in PWS, NA in non-PWS
Chlorobenzene	MS	MS	NA	EQ
Ethylbenzene	NA	LS in PWS, MS in non-PWS	NA	LS
Toluene	LS	NC	LS	MS
Hexachlorocyclopentadiene	NC	LS in PWS, NC in non-PWS	NA	LS
3,3'-dichlorobenzidine	MS	NA	NA	MS
1,2-dichlorobenzene	NC	EQ in PWS, NA in non-PWS	NS	EQ in PWS, NA in non-PWS
1,3-dichloropropane	NA	NA	NA	NA

LS = Less stringent than proposed Wisconsin criteria
MS = More stringent than proposed Wisconsin criteria
EQ = Equal to proposed Wisconsin criteria
NC = No corresponding criteria are available because others in that state are more stringent and only the most stringent criteria are published
NA = No criteria available in state rule at this time
PWS = Waters classified as public water supplies in Wisconsin
Non-PWS = Waters not classified as public water supplies in Wisconsin

Summary of Factual Data and Analytical Methodologies: The criteria are calculated in a manner consistent with that already listed in ch. NR 105. This approach is identical to that contained in the GLWQI. No changes are proposed to the calculation approach. New toxicity information is available to supplement the existing databases, and corrections were made to errors that were made in the calculation of the criteria for copper, nickel, and endrin in the existing ch. NR 105. A technical support document can be requested from the Water Evaluation Section of the Department's Bureau of Watershed Management pursuant to Wis. Stats., s. 281.15(2)(e); these documents show how the revised criteria were calculated.

The Department did not take into account any specific economic or social considerations when developing these criteria. The revised criteria were calculated using procedures already present in the Wisconsin Administrative Code and in federal procedures to provide consistency with federal guidelines based on current toxicity information.

Effects on Small Business: The Department has determined that the changes to criteria proposed in this rule package will not have a significant impact on small businesses.

Of the 18 substances proposed for criteria revisions or additions, it is estimated that no WPDES permits will be affected for 14 of those substances. This is because the criteria are high enough and/or the

discharge levels are low enough that no effluent limitations will be needed in any WPDES permit for 14 substances.

The only substances for which changes in permit limitations may occur are arsenic, selenium, nickel and copper. For arsenic, selenium and nickel, based on current effluent data, the Department anticipates that there will be no increased ch. NR 101 fees or new permit limits for permitted facilities that are considered small businesses.

For copper, out of 580 permitted facilities that have been evaluated recently for copper discharges, approximately 39 facilities (public and private) may receive lower acute limits, and approximately 40 facilities (public and private) may receive lower chronic limits due to the proposed changes in copper criteria. Since the changes in criteria are relatively small, the Department does not expect that significant treatment plant construction or upgrading will be necessary to meet the revised limits. In addition, it is anticipated that another 6 permits will need acute limits and 15 will need chronic limits for the first time. These initial impositions of limits are not expected to require major construction or upgrading either since discharges will be barely over the level for needing permit limits. These facilities will have to pay increased ch. NR 101 fees, but the costs are not expected to be significant.

In conclusion, due to the proposed changes in criteria, the number of permits that would need new or lower permit limits for copper include 52 municipalities, 26 industries (many of which are not small businesses), and 7 publicly or privately owned facilities (such as military, health care, and golf courses). A few of the 26 industries may be considered small businesses, and the changes in the limits for municipalities may have indirect impacts on small businesses located within those communities, but overall the Department does not expect significant fiscal impacts to small businesses due to the proposed changes. For copper limits, it is estimated that the decrease in copper limits at these 85 facilities will result in approximately $9,000 in increased state revenues for environmental fees under the chapter NR 101 fee program.

These proposed rules do not include any reporting, implementation, compliance or enforcement procedures. All reporting, implementation, compliance or enforcement procedures that may apply to the proposed criteria are found in existing regulations and statutory provisions.

Agency Contact Persons:

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Written Comments:

Written comments may be submitted to:

c/o Jim Schmidt
Bureau of Watershed Management
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison WI 53707

Written comments may also be electronically submitted at the following internet site:
http://adminrules.wisconsin.gov

The deadline for written comments is February 16, 2008..

SECTION 1. NR 105 Table 2 is amended to read:

Table 2
Acute Toxicity Criteria for Substances
With Toxicity Related to Water Quality
(all in ug/L)

Water Quality Parameter: Hardness (in ppm as CaCO3)

$ATC = e^{(V[\ln(\text{hardness})] + \ln ACI)}$

Substance	V	ln ACI	ATC at Various Hardness (ppm) Levels 50	100	200
Total Recoverable Cadmium:					
Cold Water	1.147	-3.8104	1.97	4.36	9.65
Warm Water Sportfish	1.147	-2.9493	4.65	10.31	22.83
Limited Aquatic Life	1.147	-1.9435	12.73	28.18	62.41
Total Recoverable Chromium (+3):					
All Surface Waters	0.819	3.7256	1022	1803	3181
Total Recoverable Copper:					
All Surface Waters	~~0.8561~~	~~-1.1199~~	~~9.29~~	~~16.82~~	~~30.45~~
	0.9436	-1.6036	8.07	15.51	29.84
Total Recoverable Lead:					
All Surface Waters	0.9662	0.2226	54.73	106.92	208.90
Total Recoverable Nickel:					
All Surface Waters	~~1.083~~	~~2.2289~~	~~642.7~~	~~1361~~	~~2434~~
	0.846	2.255	261	469	843
Total Recoverable Zinc:					
All Surface Waters	0.8745	0.7634	65.66	120.4	220.7

Water Quality Parameter: pH

$ATC = e^{(V(pH) + \ln ACI)}$

	V	ln ACI	ATC at Various pH (s.u.) Levels 6.5	7.8	8.8
Pentachlorophenol:					
All Surface Waters	1.0054	-4.877	5.25	19.40	53.01

SECTION 2. NR 105 Table 2A is amended to read:

Table 2A
Water Quality Parameter Ranges for Substances
With Acute Toxicity Related to Water Quality

Substance	Parameter	Applicable Range
Cadmium	Hardness (ppm)	6 - 457
Chromium (+3)	Hardness (ppm)	13 - 301
Copper	Hardness (ppm)	~~14 – 427~~
		13 - 495
Lead	Hardness (ppm)	12 - 356
Nickel	Hardness (ppm)	~~19 – 157~~
		13 - 268
Zinc	Hardness (ppm)	12 - 333
Pentachlorophenol	pH (s.u.)	6.6 - 8.8

SECTION 3. NR 105 Table 5 is amended to read:

Table 5
Chronic Toxicity Criteria
Using Acute-Chronic Ratios for Substances
With Toxicity Unrelated to Water Quality
(all in ug/L)

Substance	Cold Water	Warm Water Sportfish, Warm Water Forage and Limited Forage	Limited Aquatic Life
Arsenic (+3)* [1]	148	152.2	152.2
Chromium (+6)* [1]	10.98	10.98	10.98
Mercury (+2) * [1]	0.44	0.44	0.44
Cyanide, free	5.22	11.47	11.47
Selenium [2]	5.0	5.0 (warmwater sport fish only)	
Chlorine* [1]	7.28	7.28	7.28
Dieldrin	0.055	0.077	0.077

Endrin	~~0.072~~	~~0.072~~	~~0.10~~
	0.036	0.036	0.049
Parathion	0.011	0.011	0.011

Notes: [1] - Criterion listed is applicable to the "total recoverable" form except for chlorine which is applicable to the "total residual" form.

[2] - Selenium criteria are only applicable to waters classified as cold water and warmwater sport fish communities. Discharges of selenium to waters classified as warmwater forage, limited forage, and limited aquatic life shall be evaluated using ch. NR 106 where the discharges could impact downstream cold water and/or warmwater sport fish communities.

SECTION 4. NR 105 Table 6 is amended to read:

Table 6
Chronic Toxicity Criteria
Using Acute-Chronic Ratios for Substances
With Toxicity Related to Water Quality
(all in ug/L)

Water Quality Parameter: Hardness (in ppm) as $CaCO_3$)

CTC = $e^{(V \cdot \ln (hardness) + \ln CCI)}$

Substance	V	ln CCI	CTC at Various Hardness (ppm) Levels 50	100	200
Total Recoverable Chromium (+3):					
Cold Water	0.819	0.6851	48.86	86.21	152.1
Warm Water Sportfish	0.819	1.112	74.88	132.1	233.1
All Others	0.819	1.112	74.88	132.1	233.1
Total Recoverable Copper:					
All Surface Waters	~~0.8561~~	~~-1.4647~~	~~6.58~~	~~11.91~~	~~21.57~~
	0.8557	-1.6036	5.72	10.35	18.73
Total Recoverable Lead:					
All Surface Waters	0.9662	-1.1171	14.33	28.01	54.71
Total Recoverable Nickel:					
~~All Surface Waters~~	~~1.083~~	~~0.033~~	~~71.50~~	~~151.5~~	~~270.8~~
Cold Water, Warm Water Sportfish, Warm Water Forage, and Limited Forage	0.846	0.059	29.0	52.2	93.8
Limited Aquatic Life	0.846	0.4004	40.8	73.4	132.0
Total Recoverable Zinc:					

All Surface Waters	0.8745	0.7634	65.66	120.4	220.7

Water Quality Parameter: pH

$CTC = e^{(V(pH) + \ln CCI)}$

	V	ln CCI	CTC at Various pH (s.u.) Levels 6.5	7.8	8.8
Pentachlorophenol:					
Cold Water	1.0054	-5.1468	4.43	14.81	40.48
All Other Surface Waters	1.0054	-4.9617	5.33	12.82	48.70

SECTION 5. NR 105 Table 8 is amended to read:

Table 8
Human Threshold Criteria
(ug/L unless specified otherwise[1])

	Public Water Supply		Non-public Water Supply		
Substance	Warm Water Sport Fish Communities	Cold Water[4] Communities	Warm Water Forage, Lim. Forage, and Warm Water Sport Fish Communities	Cold Water Communities	Limited Aquatic Life
1. Acrolein	7.2	3.4	15	4.4	2800
2. Antimony[2]	~~10~~	~~10~~	~~2200~~	~~2200~~	~~2200~~
	5.6	5.6	373	373	1120
3. Benzene[2]	5	5	610	260	4000
4. Bis(2-chloroisopropyl)ether	1100	1100	55000	34000	220000
5. Cadmium[2]	~~10~~	~~10~~	~~1200~~	~~1200~~	~~2800~~
	4.4	4.4	370	370	880
6. *Chlordane (ng/L)	2.4	0.70	2.4	0.70	310000
7. Chlorobenzene[2]	100	100	~~4900~~	~~1600~~	~~110000~~
			1210	400	28000
8. Chromium, total[2]	100	100			
9. Chromium (+3)	~~28000~~	~~28000~~	~~2500000~~	~~2500000~~	~~5600000~~
	41750	41750	3818000	3818000	8400000

10. Chromium (+6)	~~140~~	~~140~~	~~13000~~	~~13000~~	~~28000~~
	83.5	83.5	7636	7636	16800
11. Cyanide, Total[2]	~~200~~	~~200~~	~~40000~~	~~40000~~	~~120000~~
	138.6	138.6	9300	9300	28000
12. *4,4-DDT (ng/L)	3.0	0.88	3.0	0.88	2800000
13. 1,2-Dichlorobenzene[2]	600	600	~~6400~~	~~1900~~	~~500000~~
			1509	481	126000
14. 1,3-Dichlorobenzene[2]	1400	710	3300	1000	500000
15. cis-1,2-Dichloroethene[2]	70	70	14000	9000	56000
16. trans-1,2-Dichloroethene[2]	100	100	24000	13000	110000
17. Dichloromethane[2] (methylene chloride)	5	5	95000	72000	328000
18. 2,4-Dichlorophenol	74	58	580	180	17000
19. Dichloropropenes[3] (1,3-Dichloropropene)	8.3	8.2	420	260	1700
20. *Dieldrin (ng/L)	0.59	0.17	0.59	0.17	280000
21. 2,4-Dimethylphenol	450	430	11000	4500	94000
22. Diethyl phthalate[2]	5000	5000	68000	21000	4500000
23. Dimethyl phthalate[2] (mg/L)	241	184	1680	530	56000
24. 4,6-Dinitro-o-cresol	100	96	1800	640	22000
25. Dinitrophenols[3] (2,4-Dinitrophenol)	55	55	2800	1800	11000
26. 2,4-Dinitrotoluene	0.51	0.48	13	5.3	110
27. Endosulfan	87	41	181	54	33600
28. Ethylbenzene[2]	~~700~~	~~700~~	~~12000~~	~~3700~~	~~560000~~
	567	401	2620	931	140000
29. Fluoranthene	890	610	4300	1300	220000
30. *Hexachlorobenzene	0.075	0.022	0.075	0.022	4500
31. Hexachlorocyclopentadiene	~~50~~	~~50~~	~~980~~	~~310~~	~~39000~~
	34.7	25.6	195	65.3	8400
32. Hexachloroethane	8.7	3.3	13	3.7	5600
33. *gamma-BHC (lindane)	0.20	0.20	0.84	0.25	1900
34. Isophorone	5500	5300	180000	80000	1100000
35. Lead	10	10	140	140	2240
36. *Mercury[5]	0.0015	0.0015	0.0015	0.0015	336
37. Nickel[2]	100	100	43000	43000	110000
38. *Pentachlorobenzene	0.46	0.14	0.47	0.14	4500
39. Selenium[2]	50	50	2600	2600	28000

40. Silver	140	140	28000	28000	28000
41. *2,3,7,8-TCDD (pg/L)	0.11	0.032	0.11	0.032	7300
42. *1,2,4,5-Tetrachlorobenzene	0.54	0.17	0.58	0.17	1700
43. Tetrachloroethene	5.8	4.6	46	15	1300
44. Toluene[2]	1000	1000	~~760100~~ 15359	~~26000~~ 5201	~~1200000~~ 280000
45. 1,1,1-Trichloroethane[2]	200	200	270000	110000	2000000
46. 2,4,5-Trichlorophenol	1600	830	3900	1200	560000

* Indicates substances that are BCCs.

1 A human threshold criterion expressed in micrograms per liter (ug/L) can be converted to milligrams per liter (mg/L) by dividing the criterion by 1000.

2 For this substance the human threshold criteria for public water supply receiving water classifications equal the maximum contaminant level pursuant to s. NR 105.08 (3) (b).

3 The human threshold criteria for this chemical class are applicable to each isomer.

4 For BCCs, these criteria apply to all waters of the Great Lakes System.

5 The mercury criteria were calculated using 20 g/day fish consumption and the human non-cancer criteria derivation procedure in 40 CFR Part 132, Appendix C. For these criteria, 40 CFR Part 132, Appendix C as stated on {effective date of this rule} is incorporated by reference.

SECTION 6. NR 105 Table 9 is amended to read:

Table 9
Human Cancer Criteria
(ug/L unless specified otherwise[1])

	Public Water Supply		Non-public Water Supply		
Substance	Warm Water Sport Fish Communities	Cold Water[4] Communities	Warm Water Forage, Lim. Forage, and Warm Water Sport Fish Communities	Cold Water Communities	Limited Aquatic Life
1. Acrylonitrile	0.57	0.45	4.6	1.5	130
2. Arsenic[2]	~~0.185~~ 0.2	~~0.185~~ 0.2	~~50~~ 13.3	~~50~~ 13.3	~~50~~ 40
3. *alpha-BHC	0.012	0.0037	0.013	0.0039	11
4. *gamma-BHC (lindane)	0.052	0.018	0.064	0.019	54
5. *BHC, technical grade	0.038	0.013	0.047	0.014	39
6. Benzene[2]	5	5	140	45	1300
7. Benzidine (ng/L)	1.5	1.5	81	55	300
8. Beryllium	0.054	0.054	0.33	0.33	16
9. Bis(2-chloroethyl)ether	0.31	0.29	7.6	3.0	64
10. Bis(chloromethyl)ether (ng/L)	1.6	1.6	96	79	320
11. Carbon tetrachloride	2.5	2.1	29	9.5	540

12. *Chlordane (ng/L)	0.41	0.12	0.41	0.12	54000
13. Chloroethene (vinyl chloride)	0.18	0.18	10	6.8	37
14. Chloroform (trichloromethane)	55	53	1960	922	11200
15. *4,4'-DDT (ng/L)	0.22	0.065	0.22	0.065	206000
16. 1,4-Dichlorobenzene	14	12	163	54	2940
17. 3,3'-Dichlorobenzidine	~~0.51~~ 0.5	~~0.29~~ 0.3	~~1.5~~ 1.3	~~0.46~~ 0.4	~~154~~ 140
18. 1,3-Dichloropropene	3.4	3.4	173	108	700
19. 1,2-Dichloroethane	3.8	3.8	217	159	770
20. Dichloromethane[2] (methylene chloride)	5	5	2700	2100	9600
21. *Dieldrin (ng/L)	0.0091	0.0027	0.0091	0.0027	4400
22. 2,4-Dinitrotoluene	0.51	0.48	13	5.3	110
23. 1,2-Diphenylhydrazine	0.38	0.31	3.3	1.04	88
24. Halomethanes[3]	55	53	1960	922	11200
25. *Hexachlorobenzene (ng/L)	0.73	0.22	0.73	0.22	44000
26. * Hexachlorobutadiene	0.59	0.19	0.69	0.2	910
27. Hexachloroethane	7.7	2.9	11	3.3	5000
28. N-Nitrosodiethylamine (ng/L)	2.3	2.3	150	140	460
29. N-Nitrosodimethylamine	0.0068	0.0068	0.46	0.46	1.4
30. N-Nitrosodi-n-butylamine	0.063	0.062	2.5	1.3	13
31. N-Nitrosodiphenylamine	44	23	116	34	13000
32. N-Nitrosopyrrolidine	0.17	0.17	11	11	34
33. *Polychlorinated biphenyls (ng/L)	0.01	0.003	0.01	0.003	9100
34. *2,3,7,8-Tetrachlorodibenzo-p-dioxin (pg/L)	0.014	0.0041	0.014	0.0041	930
35. 1,1,2,2-Tetrachloroethane	1.7	1.6	52	22	350
36. Tetrachloroethene	5.8	4.6	46	15	1300
37. *Toxaphene (ng/L)	0.11	0.034	0.14	0.034	63600
38. 1,1,2-Trichloroethane[2]	6.0	6.0	195	87	1200
39. Trichloroethene[2]	5	5	539	194	6400
40. 2,4,6-Trichlorophenol	29	24	30	97	6400

* Indicates substances that are BCCs.

1 A human cancer criterion expressed in micrograms per liter (ug/L), nanograms per liter (ng/L) or picograms per liter (pg/L) can be converted to milligrams per liter (mg/L) by dividing the criterion by 1000, 1,000,000 or 1,000,000,000, respectively.

2 For this substance the human cancer criteria for public water supply receiving water classifications equal the maximum contaminant level pursuant to s. NR 105.09 (4) (b).

3 Human cancer criteria for halomethanes are applicable to any combination of the following chemicals: bromomethane (methyl bromide), chloromethane (methyl chloride), tribromomethane (bromoform), bromodichloromethane (dichloromethyl bromide), dichlorodifluoromethane (fluorocarbon 12) and trichlorofluoromethane (fluorocarbon 11).

4 For BCCs, these criteria apply to all waters of the Great Lakes System.

SECTION 7. EFFECTIVE DATE. This rule shall take effect the first day of the month following publication in the Wisconsin administrative register.

SECTION 8. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on _____.

Dated at Madison, Wisconsin _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
Matthew J. Frank, Secretary

(SEAL)