CR 93-115

WISCONSIN
DEPT. OF NATURAL RESOURCES
George E. Meyer
Secretary

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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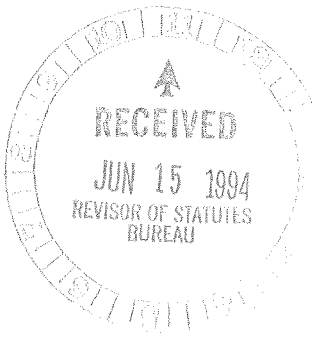
STATE OF WISCONSIN)
) ss
DEPARTMENT OF NATURAL RESOURCES)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, George E. Meyer, Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. WS-30-93 was duly approved and adopted by this Department on April 28, 1994. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.



IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at the Natural Resources Building in the City of Madison, this 9th day of June, 1994.

George E. Meyer

George E. Meyer, Secretary

(SEAL)

9-1-94

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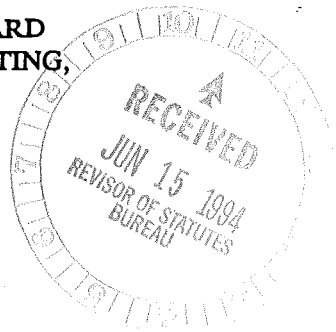
ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING, RENUMBERING, AMENDING, REPEALING AND RECREATING, AND CREATING RULES



IN THE MATTER of renumbering s. 809.02, amending ss. 809.04(29), 809.09(1), (2) & (3), NR 809.10(title), NR 809.11(1)(c), (2) & (4)(a), 809.12(3)(intro.), (a) & (b), (6)(a), (9)(b) & (c), (12) & (13), 809.20(1) & (2), 809.21(2)(a), (6), (9)(a) & (13), 809.24(1) & (2)(b), 809.25(12)(a), 809.26(title), (1)(i) & (3)(intro.), (b) & (j), 809.31(2)(d), 809.542(4)(b) & (c), 809.80(6)(a)1. & 3., and (c)1., 809.81(2)(d), repealing s. NR 809.26(3)(k), repealing and recreating s. NR 809.26(1)(e), creating ss. NR 809.02(2), 809.12(14), 809.76(1)(c) & (d) and 809.81(5)(an), (db), (dc), (ew), (ex), (hm) to (hx), (ib),(ic), (jv), (kj), (km), (mb), (mw), (nc), (nw), (om), (pm), (pw) & (qc) of the Wisconsin Administrative Code pertaining to safe drinking water.

WS-30-93

Analysis Prepared by Department of Natural Resources

Statutory authority: ss. 144.025(2)(t) and 227.11(2)(a), Stats.
Statutes interpreted: s. 144.025(2)(t), Stats.

Chapter NR 809, Safe Drinking Water, is proposed for revision in order to conform with final regulations promulgated by the U.S. Environmental Protection Agency. The federal rule is also known as the Phase Five Rule. Specific revisions parallelling federal regulations for incorporation include: establishment of maximum contaminant levels for 23 inorganic and organic contaminants, monitoring requirements for community and noncommunity water systems for these contaminants and additional mandatory wording requirements for public notices. In addition, revisions relating to reporting and public notice requirements for surface water treatment plants have been included as a result of problems experienced with a disease outbreak in the Milwaukee water system. Revisions related to the certification of laboratories for the analysis of drinking water are incorporated under ch. NR 149, Laboratory Certification and Registration.

SECTION 1. NR 809.02 is renumbered to NR 809.02(1)

SECTION 2. NR 809.02(2) is created to read:

NR 809.02(2) A decision by the department to grant a waiver shall be made in writing and shall set forth the basis for the determination. The waiver determination may be initiated by the department or upon an application by the owner or operator of a public water system.

SECTION 3. NR 809.04(29) is amended to read:

NR 809.04(29) "Initial compliance period" means the first full 3-year compliance period which begins at least 18 months after promulgation of the federal regulations. For monitoring contaminants in ss. NR 809.11(2)(b) and 809.20(1)(b), the initial compliance period means January 1993 - December 1995 for systems with 150 or more service connections and January 1996 - December 1998 for systems having fewer than 150 service connections.

SECTION 4. NR 809.09(1), (2) & (3) are amended to read:

NR 809.09 Maximum contaminant level goals for primary contaminants.

(1) Maximum contaminant level goals (MCLGs) are zero for the following contaminants:

Giardia lamblia
Legionella
Total Coliforms
Fecal Coliforms
Escherichia coli
Lead

(2) Maximum contaminant level goals (MCLGs) which are less than the MCLs are as follows:

Contaminant	MCLG (mg/L)
Acrylamide	0.00001
Alachlor	0.0004
Benzene	0.001
Benzo[a]pyrene	0.000002
Carbon tetrachloride	0.0003
Chlordane	0.00003
Dibromochloropropane	0.00003
Di(2-ethylhexyl)phthalate	0.003
1,2-Dichloroethane	0.0004
1,2-Dichloropropane	0.0005
Epichlorohydrin	0.004
Ethylene Dibromide	0.0000004
Heptachlor	0.000008
Heptachlor Epoxide	0.000004
Hexachlorobenzene	0.00002
Pentachlorophenol	0.0003
Polychlorinated biphenyls (PCBs)	0.000005
2,3,7,8-TCDD (Dioxin)	2×10^{-10}
Tetrachloroethylene	0.0007

Thallium	0.0005
Toxaphene	0.00003
1,1,2-Trichloroethane	0.003
Trichloroethylene	0.003
Vinyl chloride	0.000015

(3) MCLGs which equal the MCLs ~~or action levels~~ are as follows:

Contaminant	MCLG (mg/L)
Atrazine, total chlorinated residue[1]	0.003
Antimony	0.006
Asbestos	7 Million fibers/L (longer than 10 micrometers)
Barium	2
Beryllium	0.004
Cadmium	0.005
Carbofuran	0.04
Chromium	0.1
Copper	1.3
Cyanide (as free Cyanide)	0.2
2,4-D	0.07
Dalapon	0.2
o-Dichlorobenzene	0.6
para-Dichlorobenzene	0.075
1,1-Dichloroethylene	0.007
cis-1,2-Dichloroethylene	0.07
trans-1,2-Dichloroethylene	0.1
~~2,4-D~~	~~0.07~~
Dichloromethane	0.005
Di(2-ethylhexyl)adipate	0.4
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Endrin	0.002
Ethylbenzene	0.7
Fluoride	4.0
Glyphosate	0.7
Hexachlorocyclopentadiene	0.05
~~Lead~~	~~0.015~~
Lindane	0.0002
Mercury	0.002
Methoxychlor	0.04
Monochlorobenzene	0.1
Nickel	0.1
Nitrate	10 (as Nitrogen)
Nitrite	1 (as Nitrogen)
Nitrate + Nitrite	10 (as Nitrogen)
Oxamyl	0.2
Picloram	0.5
Selenium	0.05
Simazine	0.004
Styrene	0.1

Toluene	1
1,2,4-Trichlorobenzene	0.07
1,1,1-Trichloroethane	0.20
2,4,5-TP	0.05
Xylenes (Total)	10

[1] Atrazine, total chlorinated residue includes atrazine and its metabolites, diaminoatrazine, diethylatrazine and deisopropylatrazine.

SECTION 5. NR 809.10(title) **Applicability of primary maximum contaminant levels to water sources.**

SECTION 6. NR 809.11(1)(c) and (2) are amended to read:

NR 809.11(1)(c) The maximum contaminant levels for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, mercury ~~and~~, nickel, selenium and thallium apply to community water systems and non-transient, non-community water systems.

(2) The following are the maximum contaminant levels for inorganic contaminants:

(a) Contaminant	MCL (mg/L)
Arsenic	0.05
Asbestos	7 Million fibers/liter (longer than 10 um)
Barium	2
Cadmium	0.005
Fluoride	4.0
Mercury	0.002
Nitrate	10 (as Nitrogen)
Nitrite	1 (as Nitrogen)
Total Nitrate + Nitrite	10 (as Nitrogen)
Selenium	0.05

(b) Contaminant	MCL (mg/L)
Antimony	0.006
Beryllium	0.004
Cyanide (as free Cyanide)	0.2
Nickel	0.1
Thallium	0.002

Note: Water systems having fewer than 150 service connections begin monitoring for the contaminants listed in par. (b) in the January 1, 1996-December 31, 1998 compliance period.

SECTION 7. NR 809.11(4)(a) is amended to read:

NR 809.11(4)(a) The following are the BATs available for achieving compliance with the maximum contaminant levels for the inorganic contaminants listed in sub. (2), except for arsenic and fluoride:

Contaminant	BAT(s)
Antimony	2,7
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6[2],7
Cyanide	5,7,10
Mercury	2[1],4,6[1],7[1]
Nickel	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,2[3],6,7,9
Thallium	1,5

[1] BAT only if influent Hg concentration <10 ug/l.
[2] BAT for Chromium III only.
[3] BAT for Selenium IV only.

Key to BATs in Table:

1 = Activated Alumina
2 = Coagulation/Filtration
3 = Direct and Diatomite Filtration
4 = Granular Activated Carbon
5 = Ion Exchange
6 = Lime Softening
7 = Reverse Osmosis
8 = Corrosion Control
9 = Electrodialysis
10= Oxidation (Chlorine)

SECTION 8. NR 809.12(3)(intro.), (a) & (b), (6)(a), (9)(b) & (c), (12) and (13) are amended to read:

NR 809.12(3)(intro.) Each community water system and non-transient non-community water system owner or operator shall monitor for antimony, arsenic, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury ~~and~~, nickel, selenium and thallium as follows:

(a) Groundwater sources shall be sampled at each entry point ~~during each compliance period~~ once every 3 years beginning in the initial compliance period ~~starting January 1, 1993~~. Suppliers of water having surface water sources or combined surface water and groundwater sources shall take one sample annually at each entry point beginning January 1, 1993.

Note: For the contaminants in s. NR 809.11(2)(b), the initial compliance period is January 1993 - December 1995 for systems with 150 or more service connections and January 1996 - December 1998 for systems having fewer than 150 service connections.

(b) The system owner or operator may apply to the department for a waiver from the monitoring frequencies specified in ~~par~~ par. (a).

(6)(a) The department may require the collection of a confirmation sample where sample results indicate an exceedance of the MCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, ~~or~~ nickel, selenium or thallium. The confirmation sample shall be collected as soon as possible after the initial sample results were received, but not exceeding 2 weeks, at the same entry point.

(9)(b) For systems which are conducting monitoring more frequently than annual, compliance with the MCLs for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury ~~and~~, nickel, selenium and thallium is determined by a running annual average at each entry point. If the average at any sampling point is greater than the MCL, then the system is out of compliance. If any one or more samples would cause the annual average to exceed a MCL, then the system is out of compliance immediately. Any sample below the reported method detection limit shall be calculated at zero for the purpose of determining the annual average.

(c) For systems which are monitoring annually, or less frequently, the system is out of compliance with the MCL for antimony, arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury ~~and~~, nickel, selenium or thallium if the level of a contaminant at any entry point is greater than the MCL. If a confirmation sample is required by the department, compliance shall be based on the average of the 2 samples.

(12) Sample collection for ~~arsenic, asbestos, barium, cadmium, chromium, fluoride, mercury, nitrate, nitrite and selenium under this section~~ the inorganic contaminants under s. NR 809.11(2) shall be conducted using the sample preservation, containers and maximum holding time procedures specified in s. NR 809.725(1), Table F.

(13) Analyses under this section shall only be conducted by laboratories that have received certification under ch. NR 149 or approval by EPA. Laboratories may conduct sample analyses for the parameters in s. NR 809.11(2)(b) under provisional certification until January 1, 1996.

SECTION 9. NR 809.12(14) is created to read:

NR 809.12(14)(a) The department may reduce the total number of samples a system shall analyze by allowing the use of compositing. Compositing shall only be permitted for entry points within a single system. Composite samples from a maximum of 5 entry points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL.

(b) Compositing of samples shall be done in the laboratory.

(c) If the concentration in the composite sample is greater than or equal to one-fifth of the MCL of any inorganic contaminant, a follow-up sample shall be taken from each entry point included in the composite and analyzed within 14 days. These samples shall be analyzed for the contaminants which exceeded one-fifth of the MCL in the composite sample.

(d) If duplicates of the original sample taken from each entry point used in the composite are available and the holding time listed in s. NR 809.725(1) Table F has not been exceeded, the system may use these instead of resampling. The duplicates shall be analyzed and the results reported to the department within 14 days of the composite analysis.

Note: Detection limits for each analytical method are listed in 40 CFR Part 141.23.

SECTION 10. NR 809.20(1) is amended to read:

NR 809.20 Synthetic organic contaminant maximum contaminant levels and BATs. (1) The following maximum contaminant levels for organic contaminants apply to community water systems and non-transient non-community water systems.

(a) Contaminant	MCL (mg/L)
Alachlor	0.002
Atrazine	0.003
Carbofuran	0.04
Chlordane	0.002
Dibromochloropropane	0.0002
2,4,D	0.07
Endrin	0.002
Ethylene Dibromide	0.00005
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Lindane	0.0002
Methoxychlor	0.04
Polychlorinated biphenyls (PCBs)	0.0005
Pentachlorophenol	0.001
Toxaphene	0.003
2,4,5-TP	0.05

(b) Contaminant	MCL (mg/L)
Benzo[a]pyrene	0.0002
Dalapon	0.2
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.007
Diquat	0.02
Endothall	0.1
Glyphosate	0.7
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Oxamyl	0.2
Picloram	0.5
Simazine	0.004
2,3,7,8-TCDD (Dioxin)	$3x10^{-8}$

Note: Water systems having fewer than 150 service connections begin monitoring for the contaminants listed in par. (b) in the January 1, 1996 - December 31, 1998 compliance period.

SECTION 11. NR 809.20(2) is amended to read:

NR 809.20(2) The following are the BATs available for achieving compliance with the maximum contaminant levels for the organic chemicals listed in sub. (1):

(a) Central treatment using granular activated carbon, ~~and~~ except for glyphosate,

(b) Packed tower aeration for dibromochloropropane, di(2-ethylhexyl)adipate, ethylene dibromide, hexachlorocyclopentadiene and toxaphene ~~only.~~ and,

(c) Oxidation for glyphosate.

SECTION 12. NR 809.21(2)(a), (6), (9)(a) and (13) are amended to read:

NR 809.21(2)(a) Each community and non-transient, non-community water system shall take 4 consecutive quarterly samples for each contaminant listed in s. NR 809.20 ~~during each compliance period beginning with the compliance period starting January 1, 1993~~ every 3 years beginning with the initial compliance period.

Note: For the contaminants in s. NR 809.20(1)(b), the initial compliance period is January 1993 - December 1995 for systems with 150 or more service connections and January 1996 - December 1998 for systems having fewer than 150 service connections.

(6) Detection as used in this section shall be defined as greater than or equal to the following concentrations for each contaminant.

Contaminant	Detection Limit (mg/L)
Alachlor	0.0002
Atrazine	0.0001
Benzo[a]pyrene	0.00002
Carbofuran	0.0009
Chlordane	0.0002
2,4-D	0.0001
Dalapon	0.001
Dibromochloropropane	0.00002
Di(2-ethylhexyl)adipate	0.006
Di(2-ethylhexyl)phthalate	0.006
Dinoseb	0.0002
Diquat	0.0004
~~2,4-D~~	~~0.0001~~
Endothall	0.009
Endrin	0.00001
Ethylene dibromide	0.00001
Glyphosate	0.006
Heptachlor	0.00004
Heptachlor epoxide	0.00002
Hexachlorobenzene	0.0001
Hexachlorocyclopentadiene	0.0001
Lindane	0.00002
Methoxychlor	0.0001
Oxamyl	0.002
Picloram	0.0001

Polychlorinated biphenyls (PCBs as ~~decachlorobyphenyls~~ decachlorobiphenyls)	0.0001
Pentachlorophenol	0.00004
Simazine	0.00007
Toxaphene	0.001
2,3,7,8-TCDD (Dioxin)	0.000000005
2,4,5-TP	0.0002

(9)(a) The department may reduce the total number of samples a system shall analyze by allowing the use of compositing. Composite samples from a maximum of 5 entry points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL. Compositing is only permitted at entry points within a single system. Compositing of samples shall be done in the laboratory and analyzed within 14 days of sample collection.

(13) Analyses under this section shall only be conducted by laboratories that have received certification under ch. NR 149 or approval by EPA. Laboratories may conduct sample analyses for the parameters in s. NR 809.20 under provisional certification until January 1, 1996.

SECTION 13. NR 809.24(1) and (2)(b) are amended to read:

NR 809.24(1) The following maximum contaminant levels for volatile organic (VOC) contaminants apply to community water systems and non-transient, non-community water systems.

Contaminant	**MCL (mg/L)**
Benzene	0.005
Vinyl chloride	0.0002
Carbon tetrachloride	0.005
1,2-Dichloroethane	0.005
Trichloroethylene	0.005
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.20
para-Dichlorobenzene	0.075
cis-1,2-Dichloroethylene	0.07
trans-1,2-Dichloroethylene	0.1
Dichloromethane	0.005
1,2-Dichloropropane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1
~~trans-1,2-Dichloroethylene~~	~~0.1~~
1,2,4-Trichlorobenzene	0.07
1,1,2-Trichloroethane	0.005
Xylenes (total)	10

(2)(b) Central treatment using granular activated carbon, except for vinyl chloride and dichloromethane.

SECTION 14. NR 809.25(12)(a) is amended to read:

NR 809.25(12)(a) The department may reduce the total number of samples a system shall analyze by allowing the use of compositing. Compositing shall only be permitted for entry points within a single system. Composite samples from a maximum of 5 entry points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL.

SECTION 15. NR 809.26(title) is amended to read:

NR 809.26(title) Special monitoring, reporting, and public notification for selected organic chemicals and sulfate.

SECTION 16. NR 809.26(1)(e) is repealed and recreated as follows:

NR 809.26(1)(e) Suppliers of water having community water systems or non-transient, non-community water systems shall monitor for the following contaminants:

Chloroform[1]	Dibromomethane
Bromoform[1]	m-Dichlorobenzene
Chlorodibromomethane[1]	1,1-Dichloropropene
Bromodichloromethane[1]	1,1-Dichloroethane
Bromobenzene	1,3-Dichloropropane
Bromomethane	2,2-Dichloropropane
Chloromethane	1,3-Dichloropropene
Chloroethane	1,1,1,2-Tetrachloroethane
o-Chlorotoluene	1,1,2,2-Tetrachloroethane
p-Chlorotoluene	1,2,3-Trichloropropane

[1] A trihalomethane (THM). Monitoring results for total THMs required under s. NR 809.23 do not comply with this section because the samples are collected in the distribution system.

SECTION 17. NR 809.26(1)(i) and (3)(intro.), (b) & (j) are amended to read:

NR 809.26(1)(i) Monitoring for the following compounds is required at the discretion of the department:

~~1.~~ 1,2,4-Trimethylbenzene
~~2. 1,2,4-Trichlorobenzene~~
~~3.~~ 1,2,3-Trichlorobenzene
~~4.~~ n-Propylbenzene
~~5.~~ n-Butylbenzene
~~6.~~ Naphthalene
~~7.~~ Hexachlorobutadiene
~~8.~~ 1,3,5-Trimethylbenzene
~~9.~~ p-Isopropyltoluene
~~10.~~ Isopropylbenzene
~~11.~~ Tert-butylbenzene
~~12.~~ Sec-butylbenzene
~~13.~~ Fluorotrichloromethane
~~14.~~ Dichlorodifluoromethane

~~15.~~ Bromochloromethane

(3)(intro.) Monitoring ~~of~~ for sulfate and the contaminants listed in ~~pars.~~ par. (j) ~~and (k)~~ shall be conducted as follows:

(b) Suppliers of water for community and non-transient, non-community water systems shall take one sample at each entry point for ~~the inorganic contaminants listed in par. (k)~~ sulfate and report the results to the department. Monitoring shall be completed by December 31, 1995.

(j) List of unregulated organic contaminants:

~~1.~~ Aldrin
~~2.~~ Aldicarb
~~3.~~ Aldicarb Sulfoxide
~~4.~~ Aldicarb Sulfone
~~5. Benzo[a]pyrene~~
~~6.~~ Butachlor
~~7.~~ Carbaryl
~~8. Dalapon~~
~~9. Di(2-ethylhexyl)adipate~~
~~10. Di(ethylhexyl)phthalate~~
~~11.~~ Dicamba
~~12.~~ Dieldrin
~~13. Dinoseb~~
~~14. Diquat~~
~~15. Endothall~~
~~16. Glyphosate~~
~~17. Hexachlorobenzene~~
~~18. Hexachlorocyclopentadiene~~
~~19.~~ 3-Hydroxycarbofuran
~~20.~~ Methomyl
~~21.~~ Metolachlor
~~22.~~ Metribuzin
~~23. Oxamyl (vydate)~~
~~24. Picloram~~
~~25.~~ Propachlor
~~26. Simazine~~
~~27. 2,3,7,8-TCDD (Dioxin)~~

SECTION 18. NR 809.26(3)(k) is repealed.

SECTION 19. NR 809.31(2)(d) is amended to read:

NR 809.31(2)(d) If one or more repeat samples in the set is total coliform-positive, the public water supplier shall collect an additional set of repeat samples in the manner specified in pars. (a) to (c). The additional set of samples shall be collected within 24 hours of being notified of the positive result, unless the department extends the limit as provided in par. (a). The water supplier shall repeat this process until either total coliforms are not detected in one complete set of repeat samples or the system determines that the MCL for total coliforms in s. NR 809.30 has been exceeded and notifies the department as specified in s. NR 809.80(2).

SECTION 20. NR 809.542(4)(b) & (c) are amended to read:

NR 809.542(4)(b) Step 2: The system owner or operator shall complete corrosion control studies and submit option for optimal corrosion control treatment to the department by July 1, 1994.

(c) Step 3: ~~The system owner or operator shall submit information for optimal corrosion control to the department for approval by January 1, 1995.~~ The department shall approve optimal corrosion control treatment by January 1, 1995.

SECTION 21. NR 809.725 Table A is amended to read:

Parameter and Methodology	Reference (Method Number) EPA[15]	ASTM[2]	SM[3]	Other[4]
Antimony				
Atomic absorption; furnace technique[5]	204.2	-	3113 B	-
Atomic absorption; platform furnace[5]	200.9	-	-	-
Inductively Coupled Plasma; Mass Spectrometry (ICP/MS)[6]	200.8	-	-	-
Atomic absorption; gaseous hydride[9]	-	D3697-87	-	-
Asbestos				
Transmission Electron Microscopy	[12]	-	~~3113 B~~	-
Arsenic				
Atomic absorption; furnace technique[5]	206.2	-	-	-
Atomic absorption; gaseous hydride[9,10]	206.3	D2972-88B	3114[3]	I-1062-85[7]
Spectrophotometric; silver diethyldithiocarbamate	206.4	D2972-88A	3500-As C[3]	-
Inductively Coupled Plasma (ICP)[6]	200.7A[8,14]	-	-	-
Barium				
Atomic absorption; direct aspiration[5]	208.1	-	3113 B	-
Atomic absorption; furnace technique[5]	208.2	-	3111 D	-
ICP[6]	200.7A[8,14]	-	3120 B	-
Beryllium				
Atomic absorption; furnace technique[5]	210.2	D3645-84B	~~3120 B~~ 3113 B	-
Atomic absorption; platform furnace[5]	200.9	-	-	-
ICP[6]	200.7[8]	-	3120 B	-
ICP/MS[6]	200.8	-	-	-
Cadmium				
Atomic absorption; furnace technique[5]	213.2	-	3113 B	-
ICP[6]	200.7A[8,14]	-	-	-
Copper				
Atomic absorption; furnace technique[5]	220.2	D1688-90C	3113 B	-
Atomic absorption; direct aspiration[5]	220.1	D1688-90A	3111 B	-
ICP[6]	200.7[8]	-	3120 B	-
ICP/MS[6]	200.8	-	-	-
Atomic absorption; platform furnace[5]	200.9	-	-	-
Chromium				
Atomic absorption; furnace technique[5]	218.2	-	3113 B	-
ICP[6]	200.7A[8,14]	-	3120 B	-
Cyanide				
Distillation, spectrophotometric	335.2	D2036-89A	4500-CN D	I-3300-85
Distillation, automated spectrophotometric	335.3	-	4500-CN E	-
Distillation, selective electrode	-	D2036-89A	4500-CN F	-
Distillation, amenable, spectrophotometric	335.1	D2036-89B	4500-CN G	-
Fluoride				
Colorimetric SPADNS; with distillation	340.1	D1179-72A	4500-F⁻ D, B[3]	-
Potentiometric ion selective electrode	340.2	D1179-72B	4500-F⁻ C[3]	-

Parameter and Methodology	Reference (Method Number) EPA[5]	ASTM[2]	SM[3]	Other[4]
Automated Alizarin fluoride blue; with distillation	340.3	-	4500-F⁻ E, B[3]	129-71W[11]
Automated ion selective electrode	-	-	-	380-75WE[11]
Lead				
Atomic absorption; furnace technique[6]	239.2	D3559-85D	3113	-
ICP/MS[6]	200.8	-	-	-
Atomic absorption; platform furnace[6]	200.9	-	-	-
Mercury				
Manual cold vapor technique[9]	245.1	D3223-86	3112 B	-
Automated cold vapor technique[9]	245.2	-	-	-
Nickel				
Atomic absorption; direct aspiration[6]	249.1	-	3111 B	-
Atomic absorption; furnace technique[6]	249.2	-	3113	-
Atomic absorption; platform furnace[6]	200.9	-	-	-
ICP[6]	200.7[5]	-	3120	-
ICP/MS[6]	200.8	-	-	-
Nitrate				
Manual cadmium reduction	353.3	D3867-90B	4500-NO$_3$ E	-
Automated hydrazine reduction	353.1	-	-	-
Automated cadmium reduction	353.2	D3867-90A	4500-NO$_3$ F	-
Ion selective electrode	-	-	-	WeWWG/5880[7]
Ion Chromatography	300.0A[11]	-	-	B-1011[8]
Nitrite				
Spectrophotometric	354.1	-	-	-
Automated cadmium reduction	353.2	D3867-90-A	4500-NO$_3$ F	-
Manual cadmium reduction	353.3	D3867-90-B	4500-NO$_3$ E	-
Ion chromatography	300.0A[11]	-	-	B-1011[8]
Selenium				
Atomic absorption; furnace technique[6]	270.2	D3859-88-B	3113 B	-
Atomic absorption; gaseous hydride[6,10]	270.3	D3859-84A	3114 B	-
Sulfate				
Spectrophotometric	375.1	-	-	-
Spectrophotometric	375.2	-	-	-
Turbidimetric	375.4	-	-	-
Ion chromatography	300.0A[11]	-	-	-
Thallium				
Atomic absorption; furnace technique[6]	279.2	-	3113	-
Atomic absorption; platform furnace[6]	200.9	-	-	-
ICP/MS[6]	200.8	-	-	-
Turbidity				
Nephelometric	180.1	-	2130 B	-

[1] "Methods for Chemical Analysis of Water and Wastes", EPA Environmental Monitoring and Support Laboratory, Cincinnati, Ohio, 45268 (EPA-600/4-79-020),March 1983, Available from ORD Publications, CERI, EPA, 26 W. Martin Luther King Drive, Cincinnati, Ohio, 45268. For approved analytical procedures for metals, the technique applicable to total metals shall be used.

[2] "Annual Book of ASTM Standards", Vol. 11.01. Available from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania, 19103.

[3] "Standard Methods for the Examination of Water and Wastewater", 17th Edition, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1989. American Public Health Association, 1015 Fifteenth Street, N.W., Washington, D.C., 20005.

[4] "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments", Techniques of Water Resources Investigation of the United States Geological Survey, Chapter A-1, Third Edition, 1989. Available from Open-File Services Section, Western Distribution Branch, U.S. Geological Survey, MS 306 Box 24525, Denver Federal Center, Denver, CO 80225.

[5] The method is found in "Methods for the Determination of Metals in Environmental Samples", ORD Publications, EPA/600/4-91/010,June 1991. Available from National Technical Information Service, Order #PB91-231498,5285 Port Royal Road, Springfield, VA 22161.

TABLE A (continued)
Approved Methodology for Primary Inorganic Contaminants

[6] Samples that contain less than 1 NTU (nephelometric turbidity unit) and are properly preserved (conc. HNO_3 to pH < 2) may be analyzed directly (without digestion) for total metals, otherwise, digestion is required. Turbidity must be measured on preserved samples just prior to the initiation of metal analysis. When digestion is required the total recoverable technique as defined in the method must be used.

[7] "Orion Guide to Water and Wastewater Analysis." From WeWWG/5880, p. 5, 1985. Orion Research, Inc. Cambridge, MA.

[8] "Waters Test Method for the Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography", Method B-1011, Millipore Corporation, Waters Chromatography Division, 34 Maple Street, Milford, MA 01757.

[9] For the gaseous hydride determinations of antimony, arsenic, and selenium and for the determination of mercury by the cold vapor techniques, the proper digestion technique as defined in the method must be followed to ensure the element is in the proper state for analyses.

[10] Add 2 mL of 30% H_2O_2 and an appropriate concentration of matrix modifier $Ni(NO_3)_2 \bullet 6H_2O$ (nickel nitrate) to samples.

[11] "Method 300.0 Determination of Inorganic Anions in Water by Ion Chromatography." Inorganic Chemistry Branch, Environmental Monitoring Systems Laboratory. August 1991.

[12] "Analytical Method for the Determination of Asbestos Fibers in Water", EPA-600/4-83-043, September 1983, U.S. EPA, Environmental Research Laboratory, Athens, GA 30613.

[13] "Standard Methods for the Examination of Water and Wastewater", 16th Edition, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1985. American Public Health Association, 1015 Fifteenth Street, N.W., Washington, D.C. 20005. (16th Edition is available on inter-library loan.)

[14] "Fluoride in Water and Wastewater Industrial Method #129-71W". December 1972. Available from Technicon Industrial Systems, Benedict Avenue, Tarrytown, New York, 10591.

[15] "Fluoride in Water and Wastewater", February 1976. Available from Technicon Industrial Systems, Benedict Avenue, Tarrytown, New York, 10591.

[16] a 4x preconcentration step may be required for ICP metals analyzed by method 200.7.

SECTION 22. NR 809.76(1)(c) & (d) are created to read:

NR 809.76(1)(c) To determine compliance with par. (a), turbidity measurements shall be performed on representative samples of filtered water at least every 4 hours that the system serves water to the public.

(d) In lieu of the requirements of par. (c), turbidity measurements from a continuous reading and recording turbidity monitoring device shall be recorded at predetermined 4 hour intervals to determine compliance with par. (a). The highest turbidity measurement recorded at any time during the day shall be reported under s. NR 809.80(6)(a)1.

SECTION 23. NR 809.80(6)(a)1. & 3., and (c)1. are amended to read:

NR 809.80(6)(a)1. The total number of filtered water turbidity measurements taken during the month and the highest daily turbidity measurement for each day.

3. The date and value of any turbidity measurements taken during the month which exceed ~~5~~ 1.0 NTU.

(c) 1. If ~~at any time~~ during any 4 hour monitoring period the turbidity exceeds ~~5~~1.0 NTU or at any time during the month, turbidity measurements indicate the 95th percentile turbidity level of 0.5 NTU will be exceeded for that month, the water supplier shall inform the department as soon as possible, but no later than the end of the next business day.

SECTION 24. NR 809.81(1)(a)3.a. & b., and (2)(d) are amended to read:

NR 809.81(1)(a)3.a. Occurrence of a waterborne disease outbreak, as defined in s. NR 809.04(65), or a violation of the microbiological MCL or treatment technique which poses an acute risk to public health as defined in s. NR 809.30 (2).

b. Any violation of the microbiological MCL or treatment technique in which the department determines warrants a notification to boil water.

(2)(d) The owner or operator of a non-community water system shall give notice, within 30 days of being notified of the violation or the granting of the variance under s. NR 809.91 or conditional waiver under s. NR 809.90, by continuous posting at all drinking water outlets within the area served by the system. Posting shall continue for a period of 30 days or as long as the violation exists, whichever is longer, or the variance or conditional waiver remains in effect.

SECTION 25. NR 809.81(5)(an), (db), (dc), (ew), (ex), (hm) to (hx), (ib), (ic), (jv), (kj), (km), (mb), (mw), (nc), (nw), (om), (pm), (pw), & (qc) are created to read:

NR 809.81(5)(an)Antimony. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that antimony is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in soils, groundwater and surface waters and is often used in the flame retardant industry. It is also used in ceramics, glass, batteries, fireworks and explosives. It may get into drinking water through natural weathering of rock, industrial production, municipal waste disposal or manufacturing processes. This chemical has been shown to decrease longevity, and altered blood levels of cholesterol and glucose in laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard for antimony at 0.006 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to antimony.

(db)Benzo[a]pyrene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that benzo[a]pyrene is a health concern at certain levels of exposure. Cigarette smoke and charbroiled meats are common sources of general exposure. The major source of benzo[a]pyrene in drinking water is the leaching from coal tar lining and sealants in water storage tanks. This chemical has been shown to cause cancer in animals such as rats and mice when the animals are exposed at high levels. EPA has set the drinking water standard for benzo[a]pyrene at 0.0002 parts per million (ppm) to protect against the risk of cancer. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to benzo[a]pyrene.

(dc)Beryllium. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that beryllium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, groundwater and surface waters and is often used in electrical equipment and electrical components. It generally gets into water from runoff from mining operations, discharge from processing plants and improper waste disposal. Beryllium compounds have been associated with damage to the bones and lungs and induction of cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. There is limited evidence to suggest that beryllium may pose a cancer risk via drinking water exposure. Therefore, EPA based the health assessment on noncancer effects with an extra uncertainty factor to account for possible carcinogenicity. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for beryllium at 0.004 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to beryllium.

(ew)Cyanide. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that cyanide is a health concern at certain levels of exposure. This inorganic chemical is used in electroplating, steel processing, plastics, synthetic fabrics and fertilizer products. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the spleen, brain and liver of humans fatally poisoned with cyanide. EPA has set the drinking water standard for cyanide at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to cyanide.

(ex)Dalapon. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dalapon is a health concern at certain levels of exposure. This organic chemical is a widely used herbicide. It may get into drinking water after application to control grasses in crops, drainage ditches and along railroads. This chemical has been shown to cause damage to the kidneys and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard for dalapon at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to dalapon.

(hm)Dichloromethane. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dichloromethane (methylene chloride) is a health concern at certain levels of exposure. This organic chemical is a widely used solvent. It is used in the manufacture of paint remover, as a metal degreaser and as an aerosol propellant. It generally gets into drinking water after improper discharge or waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for dichloromethane at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dichloromethane.

(hp)Di(2-ethylhexyl)adipate. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that di(2-ethylhexyl)adipate is a health concern at certain levels of exposure. Di(2-ethylhexyl)adipate is a widely used plasticizer in a variety of products, including synthetic rubber, food packaging materials and cosmetics. It may get into drinking water after improper waste disposal. This chemical has been shown to damage the liver and testes in laboratory animals such as rats and mice exposed to high levels. EPA has set the drinking water standard for di(2-ethylhexyl)adipate at 0.4 parts per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)adipate.

(hq)Di(2-ethylhexyl)phthalate. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that di(2-ethylhexyl)phthalate is a health concern at certain levels of exposure. Di(2-ethylhexyl)phthalate is a widely used plasticizer, which is primarily used in the production of polyvinyl chloride (PVC) resins. It may get into drinking water after improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice exposed to high levels over their lifetimes. EPA has set the drinking water standard for di(2-ethylhexyl)phthalate at 0.004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)phthalate.

(hv)Dinoseb. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dinoseb is a health concern at certain levels of exposure. Dinoseb is a widely used pesticide and generally gets into drinking water after application on orchards, vineyards and other crops. This chemical has been shown to damage the thyroid and reproductive organs in laboratory animals such as rats exposed to high levels. EPA has set the drinking water standard for dinoseb at 0.007 parts per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to dinoseb.

(hx)Diquat. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that diquat is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to damage the liver, kidneys and gastrointestinal tract and causes cataract formation in laboratory animals such as dogs and rats exposed at high levels over their lifetimes. EPA has set the drinking water standard for diquat at 0.02 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to diquat.

(ib)Endothall. The United States Environmental Protection Agency (EPA) has determined that endothall is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to damage the liver, kidneys, gastrointestinal tract and reproductive system of laboratory animals such as rats and mice exposed at high levels over their lifetimes. EPA has set the drinking water standard for endothall at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to endothall.

(ic)Endrin. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that endrin is a health concern at certain levels of exposure. This organic chemical is a pesticide no longer registered for use in the United States. However, this chemical is persistent in treated soils and accumulates in sediments and aquatic and terrestrial biota. This chemical has been shown to cause damage to the liver, kidneys and heart in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for endrin at 0.002 parts

per million (ppm) to protect against the risk of these adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to endrin.

(jv)Glyphosate. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that glyphosate is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control grasses and weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to cause damage to the liver and kidneys in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for glyphosate at 0.7 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to glyphosate.

(kj)Hexachlorobenzene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that hexachlorobenzene is a health concern at certain levels of exposure. This organic chemical is produced as an impurity in the manufacture of certain solvents and pesticides. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed to high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for hexachlorobenzene at 0.001 parts per million (ppm) to protect against the risk of cancer and other adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to hexachlorobenzene.

(km)Hexachlorocyclopentadiene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that hexachlorocyclopentadiene is a health concern at certain levels of exposure. This organic chemical is used as an intermediate in the manufacture of pesticides and flame retardants. It may get into water by discharge from production facilities. This chemical has been shown to damage the kidneys and the stomach of laboratory animals when exposed at high levels over their lifetimes. EPA has set the drinking water at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to hexachlorocyclopentadiene.

(mb)Nickel. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nickel poses a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products. It generally gets into water from mining and refining operations. This chemical has been shown to damage the heart and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard at 0.1 parts per million (ppm) for nickel to protect against the risk of these adverse effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to nickel.

(mw)Oxamyl. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that oxamyl is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for the control of insects and other pests. It may get into drinking water by runoff into surface water or leaching into ground water. This chemical has been show to damage the kidneys of laboratory animals such as rats when exposed at high levels over their lifetimes. EPA has set the drinking water standard for oxamyl at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to oxamyl.

(nc)Picloram. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that picloram is a health concern at certain levels of exposure. This organic chemical is

used as a pesticide for broadleaf weed control. It may get into drinking water by runoff into surface water or leaching into groundwater as a result of pesticide application and improper waste disposal. This chemical has been shown to cause damage to the kidneys and liver in laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for picloram at 0.5 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to picloram.

(nw)Simazine. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that simazine is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control annual grasses and broadleaf weeds. It may leach into ground water or run off into surface water after application. This chemical may cause cancer in laboratory animals such as rats and mice exposed at high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for simazine at 0.004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to simazine.

(om)Thallium. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that thallium is a health concern at certain high levels of exposure. This inorganic metal is found naturally in soils and is used in electronics, pharmaceuticals, and the manufacture of glass and alloys. This chemical has been shown to damage the kidneys, liver, brain and intestines of laboratory animals when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for thallium at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to thallium.

(pm)2,3,7,8-TCDD (Dioxin). The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dioxin is a health concern at certain levels of exposure. This organic chemical is an impurity in the production of some pesticides. It may get into drinking water by industrial discharge of wastes. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for dioxin at 0.00000003 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to dioxin.

(pw)1,2,4-Trichlorobenzene. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,2,4-trichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a dye carrier and as a precursor in herbicide manufacture. It generally gets into drinking water by discharges from industrial activities. This chemical has been shown to cause damage to several organs, including the adrenal glands. EPA has set the drinking water standard for 1,2,4-trichlorobenzene at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to 1,2,4-trichlorobenzene.

(qc)1,1,2-Trichloroethane. The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined 1,1,2-trichloroethane is a health concern at certain levels of exposure. This organic chemical is an intermediate in the production of 1,1-dichloroethylene. It generally gets into water by industrial discharge of wastes. This chemical has been shown to damage the kidney and liver of laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard

for 1,1,2-trichloroethane at 0.005 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to 1,1,2-trichloroethane.

The foregoing rule was approved and adopted by the State of Wisconsin Natural Resources Board on 4/28/94. The rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

Dated at Madison, Wisconsin 6-9-94.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By George E. Meyer
George E. Meyer, Secretary

(SEAL)

(W:\809\revision\Phase5.REV)