

1 Department of Health

2

3 Adopted Permanent Rules Relating to Public Water Supplies

4

5 Rules as Adopted

6 4720.0100 DEFINITIONS.

7 Subpart 1. [Unchanged.]

8 Subp. 1a. **Best available technology.** "Best available
 9 technology" means the best technology, treatment, techniques, or
 10 other means which the administrator of the United States
 11 Environmental Protection Agency finds are available, after
 12 examination for efficacy under field conditions and not solely
 13 under laboratory conditions, taking cost into consideration.
 14 For the purposes of setting maximum contaminant levels for
 15 synthetic organic chemicals, the best available technology must
 16 be at least as effective as granular activated carbon.

17 Subp. 1b. **Central water treatment.** "Central water
 18 treatment" means providing treatment at a common location or
 19 facility and subsequently delivering it to the consumer of the
 20 public water supply.

21 Subp. 2. [Unchanged.]

22 Subp. 2a. **Composite.** "Composite" means a sampling
 23 technique in which two or more samples are combined before an
 24 analysis is performed.

25 Subp. 3. [Unchanged.]

26 Subp. 3a. **Distribution system.** "Distribution system"
 27 means a network of pipes, valves, storage reservoirs, and
 28 pumping stations that delivers water to homes, businesses, and
 29 industries for drinking and other uses.

30 Subp. 4. [Unchanged.]

31 Subp. 4a. **Entry point samples.** "Entry point samples"
 32 means water samples collected at a location after any
 33 application of treatment but before the water is delivered to
 34 any consumer.

35 Subp. 4b. **Environmental Protection Agency methods.**

1 "Environmental Protection Agency methods" means methods
2 contained in "Methods for the Determination of Organic Compounds
3 in Finished Drinking Water and Raw Source Water," September
4 1986. These methods are issued by the Environmental Monitoring
5 and Support Laboratory (EMSL) of the United States Environmental
6 Protection Agency, Cincinnati, Ohio 45268. The methods
7 described in part 4720.1510, subparts 1, item J; and 3, item G,
8 are incorporated by reference and are not subject to frequent
9 change. The methods are available through the Minitex
10 interlibrary loan system.

11 Subp. 5. to 9. [Unchanged.]

12 Subp. 9a. **Groundwater.** "Groundwater" means the water in
13 the zone of saturation in which all of the pore spaces of the
14 subsurface material are filled with water. The water that
15 supplies a well is groundwater.

16 Subp. 10. to 13. [Unchanged.]

17 Subp. 13a. **Performance evaluation sample.** "Performance
18 evaluation sample" means a reference sample provided to a
19 laboratory to demonstrate that the laboratory can successfully
20 analyze the sample within limits of performance specified by the
21 United States Environmental Protection Agency or other
22 laboratory accreditation organization. The true value of the
23 concentration of the reference material is unknown to the
24 laboratory at the time of the analysis.

25 Subp. 14. and 15. [Unchanged.]

26 Subp. 15a. **Point-of-entry treatment device.**

27 "Point-of-entry treatment device" is a device that treats the
28 drinking water entering a house or building to reduce
29 contaminants in the drinking water distributed throughout the
30 house or building.

31 Subp. 15b. **Point-of-use treatment device.** "Point-of-use
32 treatment device" is a treatment device applied to a single tap
33 used to reduce contaminants in drinking water at that one tap.

34 Subp. 16. **Public water supply or supply.** "Public water
35 supply" or "supply" means a system providing piped water for
36 human consumption, and either containing a minimum of 15 service

1 connections or 15 living units, or serving at least 25 persons
2 daily for 60 days of the year. The term includes:

3 A. Any collection, treatment, storage, and
4 distribution facilities under control of the operator of the
5 supply and used primarily in connection with the supply.

6 B. Any collection or pretreatment storage facilities
7 used primarily in connection with the supply but not under
8 control of the operator. A public water supply is either a
9 community or a noncommunity water supply.

10 (1) "Community water supply" means a public water
11 supply or system which serves at least 15 service connections or
12 living units used by year-round residents, or regularly serves
13 at least 25 year-round residents.

14 (2) "Noncommunity water supply" means any public
15 water supply that is not a community water supply. The
16 following are given as examples of noncommunity water supplies
17 and are in no way meant to be an exhaustive list: seasonal
18 facilities such as children's camps, recreational camping areas,
19 resorts, or year-round facilities which serve at least 25
20 persons who are not residents thereof, such as churches,
21 entertainment facilities, factories, gasoline service stations,
22 marinas, migrant labor camps, office buildings, parks,
23 restaurants, schools.

24 (3) "Nontransient, noncommunity water supply"
25 means a public water supply that is not a community water supply
26 and that regularly serves at least 25 of the same persons over
27 six months per year. Factories, office buildings, day care
28 centers, and schools are examples of nontransient, noncommunity
29 water supplies.

30 Subp. 17. to 19. [Unchanged.]

31 Subp. 20. **Supplier.** "Supplier" means any person who owns,
32 manages, or operates a public water supply, whether or not the
33 supplier is an operator certified under Minnesota Statutes,
34 sections 115.71 to 115.82.

35 Subp. 20a. **Surface water.** "Surface water" means water
36 that rests or flows on the surface of the ground such as lakes

1 and rivers.

2 Subp. 21. to 25. [Unchanged.]

3 4720.0700 MAXIMUM LEVEL OF INORGANICS.

4 Subpart 1. Maximum levels in community water supplies.

5 The following are the maximum contaminant levels in milligrams
6 per liter, for inorganic chemicals applicable to community water
7 supplies:

8 A. to D. [Unchanged.]

9 E. fluoride, 4.0;

10 F. to J. [Unchanged.]

11 Subp. 2. Compliance. Compliance with maximum contaminant
12 levels for inorganic chemicals shall be calculated in accordance
13 with part 4720.1400, subparts 3 to 7.

14 Subp. 3. [Unchanged.]

15 4720.0800 MAXIMUM CONTAMINANT LEVEL OF ORGANIC CHEMICALS.

16 Subpart 1. Levels for community water supplies. The
17 following are the maximum contaminant levels for synthetic
18 organic chemicals. They apply only to community water supplies.
19 Compliance with maximum contaminant levels for synthetic organic
20 chemicals is calculated pursuant to part 4720.1500, subparts 2,
21 3, and 4.

22 A. Chlorinated hydrocarbons:

23 (1) Endrin (1,2,3,4,10,
24 10-hexachloro-6,7-epoxy-1, 4, 4a,5,6,7,8,8a-octa-hydro-
25 1,4-endo, endo-5,8-dimethano-naphthalene), 0.0002 milligrams per
26 liter;

27 (2) Lindane (1,2,3,4,5,6-hexachloro-cyclohexane,
28 gamma isomer), 0.004 milligrams per liter;

29 (3) Methoxychlor (1,1,1-Trichloro 2,2-bis
30 [p-methoxyphenyl] ethane), 0.1 milligrams per liter;

31 (4) Toxaphene (C₁₀H₁₀Cl₈-Technical chlorinated
32 camphene, 67-69 percent chlorine), 0.005 milligrams per liter.

33 B. Chlorophenoxys:

34 (1) 2,4-D, (2,4-Dichlorophenoxyacetic acid), 0.1
35 milligrams per liter;

1 (2) 2,4,5-TP Silvex (2,4,5-Trichloro-
2 phenoxypropionic acid), 0.01 milligrams per liter.

3 Subp. 2. [Unchanged.]

4 Subp. 3. **Maximum levels for volatile organic chemicals.**

5 The following are the maximum contaminant levels, in milligrams
6 per liter, for volatile organic chemicals applicable to
7 community and nontransient, noncommunity water supplies:

8 A. benzene, 0.005;

9 B. vinyl chloride, 0.002;

10 C. carbon tetrachloride, 0.005;

11 D. 1,2-dichloroethane, 0.005;

12 E. trichloroethylene, 0.005;

13 F. 1,1-dichloroethylene, 0.007;

14 G. 1,1,1-trichloroethane, 0.20; and

15 H. para-dichlorobenzene, 0.075.

16 Compliance with maximum contaminant levels for volatile
17 organic chemicals is calculated according to part 4720.1510,
18 subpart 1, item I.

19 4720.1400 INORGANIC CHEMICAL CONTAMINANT SAMPLING AND ANALYTICAL
20 REQUIREMENTS.

21 Subpart 1. and 2. [Unchanged.]

22 Subp. 3. **Methods of analysis.** Analyses conducted to
23 determine compliance with part 4720.0700 shall be made in
24 accordance with items A to J. See part 4720.1100 for complete
25 title of reference sources.

26 A. to D. [Unchanged.]

27 E. Fluoride: EPA Chemical, Method 340.1 or 340.2, or
28 340.3; or Standard Methods, Method 413-A and 413-C, or 413-B, or
29 413-E; or USGS 1979, Method I-3325-78; or ASTM, Method
30 D-1179-72A, or D-1179-72B; or Industrial Method #129-71W,
31 Fluoride in Water and Wastewater, Technicon Industrial Systems,
32 Tarrytown, New York 10591, December 1972; or Industrial Method
33 #380-75WE, Automated Electrode Method, Fluoride in Water and
34 Wastewater, Technicon Industrial Systems, Tarrytown, New York,
35 February 1976.

1 F. to I. [Unchanged.]

2 Subp. 4. Notification of commissioner when maximum
3 contaminant level exceeded. If the result of an analysis made
4 pursuant to subpart 1 indicates that the level of any
5 contaminant listed in part 4720.0700 exceeds the maximum
6 contaminant level, the supplier of water shall report to the
7 commissioner within seven days from the time the supplier
8 receives the results and shall collect and submit for analysis
9 three additional samples taken at the same sampling point within
10 one month from the time the commissioner is notified.

11 Subp. 5. [Unchanged.]

12 Subp. 6. Compliance. The provisions of subparts 4 and 5
13 notwithstanding, compliance with the maximum contaminant level
14 for nitrate shall be determined on the basis of the mean of two
15 analyses. When a level exceeding the maximum contaminant level
16 for nitrate is found, a second analysis shall be initiated
17 within 24 hours, and if the mean of the two analyses exceeds the
18 maximum contaminant level, the supplier of water shall report
19 any findings to the commissioner within 48 hours pursuant to
20 part 4720.3700 and shall notify the public pursuant to part
21 4720.3900.

22 Subp. 7. Fluoride monitoring. In addition to complying
23 with subparts 1 to 6, public water supplies that monitor for
24 fluoride must comply with this subpart.

25 A. Sampling of water sources must comply with the
26 following procedures:

27 (1) If the public water supply draws water from
28 one source, the supplier shall take one sample at the entry
29 point to the distribution system.

30 (2) If the public water supply draws water from
31 more than one source, the supplier must sample each source at
32 the entry points to the distribution system.

33 (3) If the public water supply draws water from
34 more than one source and sources are combined before
35 distribution, the supplier must take one sample at an entry
36 point to the distribution system during periods representative

1 of the maximum fluoride levels occurring under normal operating
2 conditions.

3 B. The commissioner may alter the frequencies for
4 fluoride monitoring in subpart 1 to increase or decrease the
5 frequency considering the following factors:

6 (1) reported concentrations from previously
7 required monitoring;

8 (2) the degree of variation in reported
9 concentrations; and

10 (3) other factors which may affect fluoride
11 concentration such as changes in pumping rates in groundwater
12 supplies or significant changes in the system's configuration,
13 operating procedures, source of water, and changes in stream
14 flows.

15 C. Monitoring may be decreased from the frequencies
16 in subpart 1 upon application in writing by the supplier if the
17 commissioner determines in writing that the supply is unlikely
18 to exceed the maximum contaminant level, considering the factors
19 in item B. The determination must state the basis for the
20 determination. Monitoring must not be reduced to less than one
21 sample every ten years. For public water supplies that monitor
22 once every ten years, the commissioner shall review the
23 monitoring results every ten years to determine whether more
24 frequent monitoring is necessary.

25 D. Analyses for fluoride under this part shall only
26 be used for determining compliance with maximum contaminant
27 levels if conducted by laboratories that have analyzed
28 performance evaluation samples to within plus or minus ten
29 percent of the references value at fluoride concentrations from
30 1.0 mg/l to 10.0 mg/l, within the last 12 months.

31 E. Compliance with the maximum contaminant level is
32 determined based on each sampling point. If any sampling point
33 is determined to be out of compliance, the public water supply
34 is considered out of compliance.

35 4720.1500 SYNTHETIC ORGANIC CHEMICAL CONTAMINANT SAMPLING AND

1 ANALYTICAL REQUIREMENTS.

2 Subpart 1. to 4. [Unchanged.]

3 4720.1510 VOLATILE ORGANIC CHEMICALS CONTAMINANT SAMPLING AND
4 ANALYTICAL REQUIREMENTS.5 Subpart 1. **Analysis.** Analysis of the contaminants listed
6 in part 4720.0800, subpart 3, to determine compliance with
7 maximum levels allowed in part 4720.0800, subpart 3, must follow
8 the procedures in items A to M.9 A. A supplier of groundwater must take samples at
10 points of entry to the distribution system representative of
11 each well after any application of treatment. Sampling must be
12 conducted at the same locations or more representative locations
13 every three months for one year except as provided in item H,
14 subitem (1).15 B. A supplier of surface water must take samples at
16 points in the distribution system representative of each source
17 or at entry points to the distribution system after any
18 application of treatment. Each source of surface water supply
19 must be sampled every three months except as provided in item H,
20 subitem (2). Sampling must be conducted at the same location or
21 a more representative location each quarter.22 C. If the supply draws water from more than one
23 source and sources are combined before distribution, the
24 supplier must sample at an entry point to the distribution
25 system during periods of normal operating conditions.26 D. The supplier of a community water supply and
27 nontransient, noncommunity water supply as defined in part
28 4720.0100, subpart 16, serving more than 10,000 people shall
29 analyze all distribution or entry-point samples, as appropriate,
30 representing all source waters beginning no later than January
31 1, 1988. A supplier of a community water supply and
32 nontransient, noncommunity water supply serving from ~~3,000~~ 3,300
33 to 10,000 people shall analyze all distribution or entry-point
34 samples, as required in this subpart, representing source waters
35 no later than January 1, 1989. All other community and

1 nontransient, noncommunity water suppliers shall analyze
2 distribution or entry-point samples, as required in this
3 subpart, representing all source waters beginning no later than
4 January 1, 1991.

5 E. The commissioner may require samples to confirm
6 positive or negative results. If a confirmation sample is
7 required, then the confirmation sample result is averaged with
8 the first sampling result and used for compliance determination
9 in accordance with item I. The commissioner may delete results
10 of obvious sampling errors from this calculation.

11 F. Analysis for vinyl chloride is required only for
12 groundwater supplies that have detected one or more of the
13 following two-carbon organic compounds: trichloroethylene,
14 tetrachloroethylene, 1,2-dichloroethane, 1,1,1-trichloroethane,
15 cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, or
16 1,1-dichloroethylene. The groundwater supplier must analyze for
17 vinyl chloride at each distribution or entry point where one or
18 more of the two-carbon organic compounds were found. If the
19 first analysis does not detect vinyl chloride, vinyl chloride
20 monitoring must be conducted every three years for that sample
21 location or other sample locations which are more representative
22 of the same source. If vinyl chloride is detected in the first
23 analysis, monitoring shall be conducted according to item A.
24 Surface water suppliers ~~may-be-required-to~~ must analyze for
25 vinyl chloride, when the commissioner determines the supply may
26 be vulnerable to vinyl chloride contamination.

27 G. The public water suppliers may composite up to
28 five samples from one or more public water supplies for analysis
29 under this subpart. Composite samples must be analyzed within
30 14 days of collection. If any volatile organic contaminant
31 listed in part 4720.0800, subpart 3, is detected in the
32 composite sample, a sample from each source that made up the
33 composite sample must be reanalyzed individually. The sample
34 for reanalysis must be a duplicate sample from each source,
35 taken when the sample for the composite sample was taken. If a
36 duplicate sample is not available, new samples must be taken

1 from each source and analyzed for volatile organic
2 contaminants. Reanalysis must be accomplished within 14 days of
3 the collection of the duplicate sample or new sample.

4 H. The commissioner may reduce the monitoring
5 frequency specified in items A and B as explained in this item:

6 (1) Monitoring frequency for groundwater supplies
7 is as follows:

8 (a) When volatile organic contaminants are
9 not detected in the first sample, or any subsequent samples, and
10 the supply is not determined to be vulnerable under subitem (4),
11 monitoring may be reduced to one sample and must be repeated
12 every five years.

13 (b) When volatile organic contaminants are
14 not detected in the first sample, or any subsequent sample, and
15 the supply is determined to be vulnerable under subitem (4):

16 (i) monitoring must be repeated every
17 three years for a supply with more than 500 service connections;
18 and

19 (ii) monitoring must be repeated every
20 five years for a supply with less than 500 service connections.

21 (c) If volatile organic contaminants are
22 detected in the first sample, or any subsequent sample,
23 regardless of vulnerability, monitoring must be repeated every
24 three months, as required under item A.

25 (2) Monitoring frequency for surface water
26 supplies is as follows:

27 (a) When volatile organic contaminants are
28 not detected in samples taken during the first year of sampling,
29 or in subsequent samples, and the supply is not determined to be
30 vulnerable under subitem (4), monitoring is required ~~at the~~
31 discretion of if the commissioner determines that monitoring is
32 necessary to protect the public health.

33 (b) When volatile organic contaminants are
34 not detected in samples taken during the first year of sampling,
35 or in subsequent samples, and the supply is vulnerable as
36 defined in subitem (4):

1 (i) monitoring must be repeated every
2 three years for a supply with more than 500 service connections;
3 and

4 (ii) monitoring must be repeated every
5 five years for a supply with less than 500 service connections.

6 (c) When volatile organic contaminants are
7 detected in samples taken during the first year of quarterly
8 sampling, or in subsequent samples, regardless of vulnerability,
9 monitoring must be repeated every three months, as required
10 under item B.

11 (3) Monitoring may be reduced to once per year
12 for a groundwater supply or surface water supply that has
13 volatile organic contaminants at levels consistently less than
14 the maximum contaminant levels for three consecutive years.

15 (4) The commissioner shall determine whether each
16 public water supply is vulnerable to contamination, assessing
17 the following factors:

18 (a) previous monitoring results;

19 (b) number of persons served by public water
20 supply;

21 (c) proximity of a smaller public water
22 supply to a larger supply;

23 (d) proximity to commercial or industrial
24 use, disposal, or storage of volatile synthetic organic
25 chemicals; and

26 (e) protection of the water source.

27 (5) A supply is considered vulnerable for a
28 period of three years after any positive measurement of one or
29 more contaminants listed in part 4720.0800, subpart 3, or
30 4720.1510, subpart 3, item E, except for trihalomethanes or
31 other demonstrated disinfection byproducts.

32 I. Compliance with contaminant levels allowed in part
33 4720.0800, subpart 3, is determined based on the running annual
34 average of the results of quarterly sampling for each sampling
35 location. If one location's average is greater than the maximum
36 contaminant level, the supply is considered out of compliance.

1 If a public water supply has a distribution system that is
2 separate from other parts of the distribution system with no
3 interconnections, only that part of the supply that has a
4 contaminant level that exceeds the maximum levels in part
5 4720.0800, subpart 3, is considered out of compliance. The
6 commissioner may authorize that the public notice required in
7 part 4720.3900 need only be given to the area served by the
8 portion of the supply that is out of compliance. If a sample
9 result causes the annual average to be exceeded, then the supply
10 is considered out of compliance immediately. For supplies that
11 only take one sample per location because no volatile organic
12 contaminants were detected, compliance is based on that sample.
13 If a supply does not comply with a maximum contaminant level
14 allowed in part 4720.0800, subpart 3, the supplier must report
15 to the commissioner according to part 4720.3700 and notify the
16 public according to part 4720.3900.

17 J. A supplier must conduct analysis under this item,
18 using the following Environmental Protection Agency methods or
19 their equivalent, as approved by the Environmental Protection
20 Agency.

21 (1) Method 502.1, "Volatile Halogenated Organic
22 Chemicals in Water by Purge and Trap Gas Chromatography."

23 (2) Method 503.1, "Volatile Aromatic and
24 Unsaturated Organic Compounds in Water by Purge and Trap Gas
25 Chromatography."

26 (3) Method 524.1, "Volatile Organic Compounds in
27 Water by Purge and Trap Gas Chromatography/Mass Spectrometry."

28 (4) Method 524.2, "Volatile Organic Compounds in
29 Water by Purge and Trap Capillary Column Gas Chromatography/Mass
30 Spectrometry."

31 (5) Method 502.2, "Volatile Organic Compounds in
32 Water by Purge and Trap Capillary Gas Chromatography with
33 Photoionization and Electrolytic Conductivity Detectors in
34 Series."

35 Subp. 2. Reporting and public notification for certain
36 unregulated contaminants. The requirements of this subpart

1 apply only to the contaminants listed in subpart 3, item E.

2 A. A supplier of a community water supply or
3 nontransient, noncommunity water supply who is required to
4 monitor under subpart 3 must send to the commissioner a copy of
5 the results of the monitoring within 30 days of receipt and
6 provide public notice under item C.

7 B. The supplier of a community water supply or a
8 nontransient, noncommunity water supply must give the following
9 information to the commissioner for each sample analyzed under
10 subpart 3:

11 (1) results of all analytical methods, including
12 negatives;

13 (2) name and address of the supply from which the
14 sample was taken and location from which it was taken;

15 (3) contaminants found;

16 (4) analytical methods used;

17 (5) date of sample; and

18 (6) date of analysis.

19 C. The supplier must notify, in writing, persons
20 served by the supply of the availability of the results of
21 sampling conducted under subpart 3. The supplier must include
22 the notice in the first set of water bills issued by the
23 supplier after the receipt of the results or must give persons a
24 written notice within three months after receipt of the
25 results. The notice must tell people whom to contact and what
26 telephone number to call for information about the monitoring
27 results.

28 For surface water systems, public notification is required
29 only after the first quarter's monitoring. The notice must
30 include a statement that additional monitoring will be conducted
31 for three more quarters and that the results will be available
32 upon request.

33 Subp. 3. Special monitoring for organic chemicals.

34 A. Suppliers of community and nontransient,
35 noncommunity water supplies must monitor the supplies for the
36 contaminants listed in item E as specified in subitems (1) to

1 (3):

2 (1) for supplies serving over 10,000 persons,
3 sampling must begin no later than January 1, 1988;

4 (2) for supplies serving 3,300 to 10,000 persons,
5 sampling must begin no later than January 1, 1989; and

6 (3) for supplies serving less than 3,300 persons,
7 sampling must begin no later than January 1, 1991.

8 B. All community and nontransient, noncommunity water
9 supplies must conduct the monitoring required in this subpart at
10 least every five years from the dates specified in item A.

11 C. Suppliers of surface water shall take samples in
12 the distribution system representative of each water source or
13 at entry points to the distribution system after any application
14 of treatment. At least one sample per water source must be
15 taken every three months.

16 D. Suppliers of groundwater shall take samples at
17 points of entry to the distribution system representative of
18 each well after any application of treatment. At least one
19 sample per entry point to the distribution system must be taken.

20 E. Community water suppliers and nontransient,
21 noncommunity water suppliers shall monitor for the following
22 contaminants except as provided in item F:

- 23 (1) Chloroform;
24 (2) Bromodichloromethane;
25 (3) Chlorodibromomethane;
26 (4) Bromoform;
27 (5) trans-1,2-Dichloroethylene;
28 (6) Chlorobenzene;
29 (7) m-Dichlorobenzene;
30 (8) Dichloromethane;
31 (9) cis-1,2-Dichloroethylene;
32 (10) o-Dichlorobenzene;
33 (11) Dibromomethane;
34 (12) 1,1-Dichloropropene;
35 (13) Tetrachloroethylene;
36 (14) Toluene;

- 1 (15) p-Xylene;
- 2 (16) o-Xylene;
- 3 (17) m-Xylene;
- 4 (18) 1,1-Dichloroethane;
- 5 (19) 1,2-Dichloropropane;
- 6 (20) 1,1,2,2-Tetrachloroethane;
- 7 (21) Ethylbenzene;
- 8 (22) 1,3-Dichloropropane;
- 9 (23) Styrene;
- 10 (24) Chloromethane;
- 11 (25) Bromomethane;
- 12 (26) 1,2,3-Trichloropropane;
- 13 (27) 1,1,1,2-Tetrachloroethane;
- 14 (28) Chloroethane;
- 15 (29) 1,1,2-Trichloroethane;
- 16 (30) 2,2-Dichloropropane;
- 17 (31) o-Chlorotoluene;
- 18 (32) p-Chlorotoluene;
- 19 (33) Bromobenzene;
- 20 (34) 1,3-Dichloropropene;
- 21 (35) Ethylene dibromide (EDB); and
- 22 (36) 1,2-Dibromo-3-chloropropane (DBCP).

23 F. Community water suppliers and nontransient,
24 noncommunity water suppliers must monitor supplies for EDB and
25 DBCP only if the commissioner determines the supplies are
26 vulnerable to contamination by either or both of these
27 substances. For the purpose of this item, a "vulnerable supply"
28 is a supply that has the potential to be contaminated by EDB and
29 DBCP. Vulnerable supply includes surface water supplies where
30 these two compounds are applied, manufactured, stored, disposed
31 of, or shipped upstream; groundwater supplies where the
32 compounds are applied, manufactured, stored, disposed of, or
33 shipped in the groundwater recharge basin; and groundwater
34 supplies that are close to underground storage tanks that
35 contain leaded gasoline.

36 G. Analysis under this subpart shall be conducted

1 using Environmental Protection Agency methods listed in subitems
2 (1) to (5), or other equivalent methods as determined by the
3 Environmental Protection Agency.

4 (1) 502.1, "Volatile Halogenated Organic
5 Compounds in Water by Purge and Trap Gas Chromatography";

6 (2) 503.1, "Volatile Aromatic and Unsaturated
7 Organic Compounds in Water by Purge and Trap Gas
8 Chromatography";

9 (3) 524.1, "Volatile Organic Compounds in Water
10 by Purge and Trap Gas Chromatography/Mass Spectrometry";

11 (4) 524.2, "Volatile Organic Compounds in Water
12 by Purge and Trap Capillary Column Gas Chromatography/Mass
13 Spectrometry";

14 (5) 502.2, "Volatile Organic Compounds in Water
15 by Purge and Trap Gas Chromatography with Photoionization and
16 Electrolytic Conductivity Detectors in Series"; or

17 (6) Analysis of 1,2-dibromo-3-chloropropane
18 (DBCP) and 1,2-dibromoethane (EDB) shall be conducted by Method
19 504, "Measurement of 1,2-Dibromoethane (EDB) and
20 1,2-Dibromo-3-chloropropane (DBCP) in Drinking Water by
21 Microextraction and Gas Chromatography."

22 H. Instead of performing the monitoring required by
23 this subpart, the supplier of a community water supply or
24 nontransient, noncommunity water supply serving fewer than 150
25 service connections may send a letter to the commissioner
26 stating that its supply is available for sampling. This letter
27 must be sent no later than January 1, 1991. The supplier shall
28 not send such samples unless requested to do so by the
29 commissioner.

30 I. The public water suppliers may composite up to
31 five samples from one or more public water supplies for analysis
32 under this subpart. Composite samples must be analyzed within
33 14 days of collection. If any volatile organic contaminant
34 listed in item D is detected in the composite sample, a sample
35 from each source that made up the composite sample must
36 reanalyzed individually. The sample for reanalysis must be a

1 duplicate sample from each source, taken when the sample for the
2 composite sample was taken. If a duplicate sample is not
3 available, new samples must be taken from each source and
4 analyzed for volatile organic contaminants. Reanalysis must be
5 accomplished within 14 days of the collection of the duplicate
6 sample or new sample.

7 4720.3510 STANDARDS FOR ALTERNATIVE COMPLIANCE TECHNOLOGIES.

8 Subpart 1. Criteria and procedures for public water
9 supplies using point-of-entry devices. The criteria and
10 procedures for public water supplies using point-of-entry
11 devices are described in items A to E.

12 A. A public water supply may use point-of-entry
13 devices to comply with maximum contaminant levels only if they
14 meet the requirements of this subpart.

15 B. The supplier must operate and maintain the
16 point-of-entry treatment system.

17 C. The supplier must develop and obtain approval from
18 the commissioner for a monitoring plan before point-of-entry
19 devices are installed for compliance. Under the approved plan,
20 point-of-entry devices must provide health protection equivalent
21 to central water treatment. "Equivalent" means that the water
22 would meet all maximum contaminant levels contained in this
23 chapter and would be of acceptable quality similar to water
24 distributed by a well-operated central treatment plant. In
25 addition to providing for monitoring of volatile organic
26 contaminants, the plan must also include monitoring of physical
27 measurements and observations such as total flow treated and
28 mechanical condition of the treatment equipment.

29 D. Effective technology must be properly applied
30 under a plan approved by the commissioner and the
31 microbiological safety of the water must be maintained.

32 (1) The plan must include methods to ensure
33 proper performance of point-of-entry devices, field testing, and
34 an engineering design review of the point-of-entry devices.

35 (2) The design and application of the

1 point-of-entry devices must address the tendency for increase in
2 heterotrophic bacteria concentrations in water treated with
3 activated carbon and allow frequent backwashing, postcontractor
4 disinfection, and heterotrophic plate count monitoring to ensure
5 the microbiological safety of the water.

6 E. Every building connected to the supply must have a
7 point-of-entry device installed, maintained, and adequately
8 monitored. The public water supply must provide documentation
9 to the commissioner that every building is subject to treatment
10 and monitoring, and that the rights and responsibilities of the
11 public water supply customer convey with title upon sale of
12 property.

13 **Subp. 2. Bottled water; point-of-use devices; limitations.**

14 Public water supplies shall not use bottled water or
15 point-of-use devices to achieve compliance with a maximum
16 contaminant level. Bottled water or point-of-use devices may be
17 used on a temporary basis to avoid an unreasonable risk to
18 health, or as provided under subpart 3.

19 **Subp. 3. Bottled water and point-of-use devices.**

20 A. A public water supply may be required to use
21 bottled water or point-of-use devices as a condition for
22 receiving an exemption or variance from the requirements of part
23 4720.0800, subpart 3.

24 B. A public water supply that uses bottled water as a
25 condition of obtaining an exemption or variance from the
26 requirements of part 4720.0800, subpart 3, must meet the
27 requirements in either subitem (1) or (2), in addition to
28 requirements in subitem (3).

29 (1) The commissioner must approve a monitoring
30 program for bottled water. The supplier must develop and use a
31 monitoring program that provides reasonable assurances that the
32 bottled water contains contaminants that are below the maximum
33 contaminant level for all contaminants regulated under part
34 4720.0800, subpart 3. Notice of the results of this monitoring
35 shall be provided to the commissioner during the first quarter
36 that it supplies the bottled water to the public. After the

1 first quarter, the supplier shall provide the commissioner with
2 notice of the results of this monitoring on an annual basis.

3 (2) The public water supply must receive a
4 certification from the bottled water company that the bottled
5 water supplied has been taken from an approved source as defined
6 in Code of Federal Regulations, title 21, section 129.3,
7 paragraph (a); the bottled water company has conducted
8 monitoring in accordance with Code of Federal Regulations, title
9 21, section 129.80, paragraph (g), clauses (1) to (3); and the
10 bottled water does not exceed any maximum contaminant levels or
11 quality limits in Code of Federal Regulations, title 21,
12 sections 103.35, 110, and 129. The public water supply shall
13 provide the certification to the commissioner during the first
14 quarter it supplies bottled water. After the first quarter, the
15 supplier shall provide the commissioner with the certification
16 on an annual basis.

17 (3) The supplier must provide sufficient
18 quantities of bottled water to every person supplied by the
19 public water supply, by door-to-door bottled water delivery.

20 C. Public water supplies that use point-of-use
21 devices for an exemption or variance from the requirements of
22 part 4720.0800, subpart 3, must meet the following requirements:

23 (1) The supplier must operate and maintain the
24 point-of-use treatment system.

25 (2) The supplier must develop a monitoring plan
26 and obtain approval from the commissioner for the plan before
27 point-of-use devices are installed for compliance. This
28 monitoring plan must include health protection equivalent to a
29 monitoring plan for central water treatment.

30 (3) The plan must provide for effective
31 technology to maintain the microbiological safety of the water.

32 (4) The design and application of the
33 point-of-use devices must consider the tendency for increase in
34 heterotrophic bacteria concentrations in water treated with
35 activated carbon. It may be necessary to use frequent
36 backwashing, postcontractor disinfection, and heterotrophic

1 plate count monitoring to maintain the microbiological safety of
2 the water.

3 (5) The plan must include methods to ensure
4 proper performance of point-of-use devices, field testing, and
5 rigorous review of the engineering design of the point-of-use
6 devices.

7 (6) Every building connected to the supply must
8 have a point-of-use device installed, maintained, and adequately
9 monitored. The plan must include procedures the supplier must
10 follow to assure the commissioner that every building is subject
11 to treatment and monitoring, and that the rights and
12 responsibilities of the public water supply customer convey with
13 title upon sale of property.

14 4720.3900 PUBLIC NOTIFICATION OF VIOLATIONS OF MAXIMUM
15 CONTAMINANT LEVELS, TREATMENT TECHNIQUES, OR VARIANCES.

16 Subpart 1. to 6. [See Repealer.]

17 Subp. 7. Notice of violations and exemptions required. If
18 a supplier fails to comply with a maximum contaminant level,
19 variance or exemption, or monitoring or testing technique, or
20 receives an exemption under part 4720.3100, the supplier must
21 notify persons served by the supply of the violation, failure,
22 or exemption. Subparts 2 to 8 describe requirements for notice
23 under this part.

24 Subp. 8. Notice of violation of a maximum contaminant
25 level, variance, or exemption. The supplier must issue notice
26 of a violation of a maximum contaminant level, variance, or
27 exemption according to the procedures in items A to D.

28 A. Except as provided in item C, the owner or
29 operator of a public water supply must:

30 (1) Publish the notice in a daily newspaper of
31 general circulation in the area served by the supply as soon as
32 possible, but no later than 14 days after the violation or
33 failure is determined. If the area served by a public water
34 supply is not served by a daily newspaper of general
35 circulation, notice must be published in a weekly newspaper of

1 general circulation serving the area;

2 (2) Mail or hand deliver the notice not later
3 than 45 days after the violation or failure is determined. The
4 notice may be mailed separate from or along with the water
5 bill. Mail or hand delivery may be waived if the commissioner
6 determines in writing that the supplier has corrected the
7 violation or failure within the 45-day period. The commissioner
8 must issue the waiver within the 45-day period; and

9 (3) For violations of the maximum contaminant
10 levels of contaminants that may pose an acute risk to human
11 health, furnish a copy of the notice to the radio and television
12 stations in the area served by the public water supply as soon
13 as possible but in no case later than 72 hours after the
14 violation or failure is determined. The following violations
15 require radio and television notices as required under this
16 subitem:

17 (a) violations specified by the commissioner
18 as posing an acute risk to human health; and

19 (b) violation of the maximum contaminant
20 level for nitrate as defined in part 4720.0700, subpart 1, and
21 determined according to part 4720.1400, subpart 6.

22 B. Except as provided in item C, following the
23 initial notice given under item A, the owner or operator of the
24 public water supply must give notice at least once every three
25 months by mail delivery or by hand delivery, for as long as the
26 violation or failure exists. The notice may be mailed separate
27 from or along with the water bill.

28 C. In place of the requirements of item A, subitem
29 (1), the owner or operator of a community water supply in an
30 area that is not served by either a daily or weekly newspaper of
31 general circulation must give notice by hand delivery or by
32 continuous posting in conspicuous places in the area served by
33 the supply. The notice must be given within 14 days after the
34 violation or failure is determined. Posting must continue for
35 as long as the violation or failure exists. Notice by hand
36 delivery must be repeated at least every three months for as

1 long as the violation or failure exists.

2 D. In place of the requirements of items A and B, the
3 owner or operator of a noncommunity water supply may give notice
4 by hand delivery or by continuous posting in conspicuous places
5 within the area served by the supply. The notice must be given
6 within 14 days after the violation or failure is determined.
7 Posting must continue for as long as the violation or failure
8 exists. Notice by hand delivery must be repeated at least every
9 three months for as long as the violation or failure exists.

10 Subp. 9. Notice of a violation of monitoring or testing
11 techniques or issuance of an exemption. A supplier who fails to
12 perform monitoring according to parts 4720.1000 to 4720.2500,
13 fails to comply with an applicable testing method established in
14 parts 4720.1000 to 4720.2500, or is granted an exemption under
15 part 4720.3100, must notify persons served by the supply as
16 follows:

17 A. Except as provided in item C, D, or E, the
18 supplier must publish notice of the violation, variance, or
19 exemption in a daily newspaper of general circulation in the
20 area served by the supply. The notice must be published within
21 three months after the violation is determined or a variance or
22 exemption is granted. If the area served by a public water
23 supply is not served by a daily newspaper of general
24 circulation, the supplier must publish the notice in a weekly
25 newspaper of general circulation serving the area.

26 B. Except as provided in item C, D, or E, after the
27 notice under item A, the supplier must, at least once every
28 three months, notify persons served by the supply of the
29 violation, or the granting of the exemption or variance. Notice
30 may be mailed or hand delivered. Notice must be given for as
31 long as the violation exists or the variance or exemption is in
32 effect.

33 C. In place of the requirements of items A and B, the
34 supplier of a community water supply in an area that is not
35 served by a daily or weekly newspaper of general circulation
36 must hand deliver the notice or post the notice in conspicuous

1 places in the area served by the supply. The notice must be
2 issued within three months after the violation is determined or
3 the variance or exemption is granted. Posting must continue for
4 as long as the violation exists in a variance or exemption
5 remains in effect. Notice by hand delivery must be repeated at
6 least every three months for as long as the violation exists or
7 a variance or exemption is in effect.

8 D. In place of the requirements of items A and B, the
9 supplier of a noncommunity water supply must hand deliver the
10 notice or post the notice in conspicuous places in the area
11 served by the supply. The notice must be issued within three
12 months after the violation is determined or the variance or
13 exemption is granted. Posting must continue for as long as the
14 violation exists, or a variance or exemption remains in effect.
15 Notice by hand delivery must be repeated at least every three
16 months for as long as the violation exists or a variance or
17 exemption remains in effect.

18 E. In place of the requirements of items A to D, the
19 supplier of a public water supply, at the discretion of the
20 commissioner, may provide less frequent notice for minor
21 monitoring violations as defined by the commissioner, if EPA has
22 approved the commissioner's application for a program revision
23 under Code of Federal Regulations, title 40, section 142.16.
24 Notice of violations must be given at least annually.

25 Subp. 10. Notice to new consumers. A supplier of a
26 community water supply must give to new consumers of the supply
27 a copy of the most recent public notice required under this part.
28 The notice must be given to new consumers before or when service
29 begins.

30 Subp. 11. General content of public notice. A notice
31 required by this part must provide a clear and readily
32 understandable explanation of the violation, potential adverse
33 health effects, the population at risk, the steps that the
34 supplier is taking to correct the violation, the need to seek
35 alternative water supplies, if any, and preventive measures the
36 consumer should take until the violation is corrected. A notice

1 must be conspicuous and written in plain language and readable
2 print. Each notice must include the telephone number of the
3 supplier as a source of additional information concerning the
4 notice. When appropriate, the notice shall be multi-lingual.

5 Subp. 12. **Mandatory health effects language.** If a
6 variance, violation, or exemption involves one of the
7 contaminants described in items A to H, the notice required
8 under this part must include the language in items A to H for
9 the particular contaminant involved.

10 A. **Trichloroethylene.** The United States
11 Environmental Protection Agency (EPA) sets drinking water
12 standards and has determined that trichloroethylene is a health
13 concern at certain levels of exposure. This chemical is a
14 common metal cleaning and dry cleaning fluid. It generally gets
15 into drinking water by improper waste disposal. This chemical
16 has been shown to cause cancer in laboratory animals such as
17 rats and mice when the animals are exposed at high levels over
18 their lifetimes. Chemicals that cause cancer in laboratory
19 animals also may increase the risk of cancer in humans who are
20 exposed at lower levels over long periods of time. The EPA has
21 set forth the enforceable drinking water standard for
22 trichloroethylene at 0.005 parts per million (ppm) to reduce the
23 risk of cancer or other adverse health effects which have been
24 observed in laboratory animals. Drinking water which meets this
25 standard is associated with little to none of the risk and
26 should be considered safe.

27 B. **Carbon tetrachloride.** The United States
28 Environmental Protection Agency (EPA) sets drinking water
29 standards and has determined that carbon tetrachloride is a
30 health concern at certain levels of exposure. This chemical was
31 once a popular household cleaning fluid. It generally gets into
32 drinking water by improper waste disposal. This chemical has
33 been shown to cause cancer in laboratory animals such as rats
34 and mice when the animals are exposed at high levels over their
35 lifetimes. Chemicals that cause cancer in laboratory animals
36 also may increase the risk of cancer in humans who are exposed

1 at lower levels over long periods of time. The EPA has set the
2 enforceable drinking water standard of carbon tetrachloride at
3 0.005 parts per million (ppm) to reduce the risk of cancer or
4 other adverse health effects which may have been observed in
5 laboratory animals. Drinking water which meets this standard is
6 associated with little to none of this risk and should be
7 considered safe.

8 C. 1,2-Dichloroethane. The United States
9 Environmental Protection Agency (EPA) sets drinking water
10 standards and has determined that 1,2-dichloroethane is a health
11 concern at certain levels of exposure. This chemical is used as
12 a cleaning fluid for fats, oils, waxes, and resins. It
13 generally gets into drinking water from improper waste
14 disposal. This chemical has been shown to cause cancer in
15 laboratory animals such as rats and mice when the animals are
16 exposed at high levels over their lifetimes. Chemicals that
17 cause cancer in laboratory animals also may increase the risk of
18 cancer in humans who are exposed at lower levels over long
19 periods of time. The EPA has set the enforceable drinking water
20 standard for 1,2-dichloroethane at 0.005 parts per million (ppm)
21 to reduce the risk of cancer or other adverse health effects
22 which have been observed in laboratory animals. Drinking water
23 which meets this standard is associated with little to none of
24 the risk and should be considered safe.

25 D. Vinyl chloride. The United States Environmental
26 Protection Agency (EPA) sets drinking water standards and has
27 determined that vinyl chloride is a health concern at certain
28 levels of exposure. This chemical is used in industry and is
29 found in drinking water as a result of the breakdown of related
30 solvents. The solvents are used as cleaners and degreasers of
31 metals and generally get into drinking water by improper waste
32 disposal. This chemical has been associated with significantly
33 increased risks of cancer among certain industrial workers who
34 were exposed to relatively large amounts of this chemical during
35 their working careers. This chemical has also been shown to
36 cause cancer in laboratory animals when the animals are exposed

1 at high levels over their lifetimes. Chemicals that cause
2 increased risk of cancer among exposed industrial workers and in
3 laboratory animals also may increase the risk of cancer in
4 humans who are exposed at lower levels over long periods of
5 time. The EPA has set the enforceable drinking water standard
6 for vinyl chloride at 0.002 parts per million (ppm) to reduce
7 the risk of cancer or other adverse health effects which have
8 been observed in humans and laboratory animals. Drinking water
9 which meets this standard is associated with little to none of
10 this risk and should be considered safe.

11 E. Benzene. The United States Environmental
12 Protection Agency (EPA) sets drinking water standards and has
13 determined that benzene is a health concern at certain levels of
14 exposure. This chemical is used as a solvent and degreaser of
15 metals. It is also a major component of gasoline. Drinking
16 water contamination generally results from leaking underground
17 gasoline and petroleum tanks or improper waste disposal. This
18 chemical has been associated with significantly increased risks
19 of leukemia among certain industrial workers who were exposed to
20 relatively large amounts of this chemical during their working
21 careers. This chemical has also been shown to cause cancer in
22 laboratory animals when the animals are exposed at high levels
23 over their lifetimes. Chemicals that cause increased risk of
24 cancer among exposed industrial workers and in laboratory
25 animals also may increase the risk of cancer in humans who are
26 exposed at lower levels over long periods of time. The EPA has
27 set the enforceable drinking water standard for benzene at 0.005
28 parts per million (ppm) to reduce the risk of cancer or other
29 adverse health effects which have been observed in humans and
30 laboratory animals. Drinking water which meets this standard is
31 associated with little to none of this risk and should be
32 considered safe.

33 F. 1,1-Dichloroethylene. The United States
34 Environmental Protection Agency (EPA) sets drinking water
35 standards and has determined that 1,1-dichloroethylene is a
36 health concern at certain levels of exposure. This chemical is

1 used in industry and is found in drinking water as a result of
2 the breakdown of related solvents. The solvents are used as
3 cleaners and degreasers of metals and generally get into
4 drinking water by improper waste disposal. This chemical has
5 been shown to cause liver and kidney damage in laboratory
6 animals such as rats and mice when the animals are exposed at
7 high levels over their lifetimes. Chemicals which cause adverse
8 effects in laboratory animals also may cause adverse effects in
9 humans who are exposed at lower levels over long periods of
10 time. The EPA has set the enforceable drinking water standard
11 for 1,1-dichloroethylene at 0.007 parts per million (ppm) to
12 reduce the risk of these adverse health effects which have been
13 observed in laboratory animals. Drinking water which meets this
14 standard is associated with little to none of this risk and
15 should be considered safe.

16 G. Para-dichlorobenzene. The United States
17 Environmental Protection Agency (EPA) sets drinking water
18 standards and has determined that para-dichlorobenzene is a
19 health concern at certain levels of exposure. This chemical is
20 a component of deodorizers, moth balls, and pesticides. It
21 generally gets into drinking water by improper waste disposal.
22 This chemical has been shown to cause liver and kidney damage in
23 laboratory animals such as rats and mice when the animals are
24 exposed to high levels over their lifetimes. Chemicals which
25 cause adverse effects in laboratory animals also may cause
26 adverse health effects in humans who are exposed at lower levels
27 over long periods of time. The EPA has set the enforceable
28 drinking water standard for para-dichlorobenzene at 0.075 parts
29 per million (ppm) to reduce the risk of these adverse health
30 effects which have been observed in laboratory animals.
31 Drinking water which meets this standard is associated with
32 little to none of this risk and should be considered safe.

33 H. 1,1,1-Trichloroethane. The United States
34 Environmental Protection Agency (EPA) sets drinking water
35 standards and has determined that the 1,1,1-trichloroethane is a
36 health concern at certain levels of exposure. This chemical is

1 used as a cleaner and degreaser of metals. It generally gets
2 into drinking water by improper waste disposal. This chemical
3 has been shown to damage the liver, nervous system, and
4 circulatory system of laboratory animals such as rats and mice
5 when the animals are exposed at high levels over their
6 lifetimes. Some industrial workers who were exposed to
7 relatively large amounts of this chemical during their working
8 careers also suffered damage to the liver, nervous system, and
9 circulatory system. Chemicals which cause adverse effects among
10 exposed industrial workers and in laboratory animals may also
11 cause adverse health effects in humans who are exposed at lower
12 levels over long periods of time. The EPA has set the
13 enforceable drinking water standard for 1,1,1-trichloroethane at
14 0.2 parts per million (ppm) to protect against the risk of these
15 adverse health effects which have been observed in humans and
16 laboratory animals. Drinking water which meets this standard is
17 associated with little to none of this risk and should be
18 considered safe.

19 Subp. 13. **Public notices for fluoride.** A notice of
20 violations of the maximum contaminant level for fluoride, a
21 notice of a variance or exemption from the maximum contaminant
22 level for fluoride, and a notice of failure to comply with
23 variance and exemption schedules for the maximum contaminant
24 level for fluoride must describe steps the supplier is taking to
25 comply with standards and must use the following language:

26 Public Notice

27 Dear User:

28 The United States Environmental Protection Agency requires
29 that we send you this notice on the level of fluoride in your
30 drinking water. The drinking water in your community has a
31 fluoride concentration of (insert the test result) milligrams
32 per liter (mg/l).

33 Federal regulations require that fluoride, which occurs
34 naturally in your water supply, not exceed a concentration of
35 4.0 mg/l in drinking water. This is an enforceable standard
36 called a Maximum Contaminant Level (MCL), and it has been

1 established to protect the public health. Exposure to drinking
2 water levels above 4.0 mg/l for many years may result in some
3 cases of crippling skeletal fluorosis, which is a serious bone
4 disorder.

5 Your water supplier can lower the concentration of fluoride
6 in your water so that you will still receive the benefits of
7 cavity prevention while the possibility of stained and pitted
8 teeth is minimized. Removal of fluoride may increase your water
9 costs. Treatment systems are also commercially available for
10 home use. Information on such systems is available at the
11 address given below. Low fluoride bottled drinking water that
12 would meet all standards is also commercially available.

13 For further information contact (insert the name, address,
14 and telephone number of the supplier and the name of contact
15 person) at your public water supply.

16 Subp. 14. Public notification by the commissioner. The
17 commissioner may give notice required by this part to the public
18 on behalf of the supplier. A notice given by the commissioner
19 must meet the requirements of this part. However, the supplier
20 is legally responsible for ensuring that the requirements of
21 this part are met.

22

23 REPEALER. Minnesota Rules, part 4720.3900, subparts 1, 2,
24 3, 4, 5, and 6 are repealed.