

1550.3210 PRODUCT QUALITY.

Subpart 1. **Standards.** Bottled water must be from an approved source and must not contain anything in a quantity that may be injurious to health. Bottled water must meet the standards in Minnesota Statutes, section 31.101, subdivision 8, and other rules adopted by the department.

Subp. 2. **Microbiological quality.** Bottled water must meet the standard of microbiological quality in item A or B if a sample of analytical units of equal volume is examined by the methods described in applicable sections of "Standard Methods for the Examination of Water and Wastewater," 20th edition (1998), published by the American Public Health Association. The commissioner may accept other official methods of analysis when published in "Standard Methods for the Examination of Water and Wastewater." That publication is incorporated by reference, is not subject to frequent change, and is available through the Minitex interlibrary loan system or from the American Public Health Association, 800 I Street, Washington, D.C. 20001-3710.

A. Multiple-tube fermentation method. Not more than one of the analytical units in the sample may have a most probable number of 2.2 or more coliform organisms per 100 milliliters and no analytical unit may have a most probable number of 9.2 or more coliform organisms per 100 milliliters.

B. Membrane filter method. Not more than one of the analytical units in the sample may have 4.0 or more coliform organisms per 100 milliliters and the arithmetic mean of the coliform density of the sample may not exceed one coliform organism per 100 milliliters.

Subp. 3. **Physical quality.** Bottled water must meet the standards of physical quality in items A to C if a composite of analytical units of equal volume from a sample is examined by the method described in applicable sections of "Standard Methods for the Examination of Water and Wastewater," 20th edition (1998), which is incorporated by reference in subpart 2.

A. The turbidity must not exceed five units.

B. The color must not exceed 15 units.*

C. The odor must not exceed threshold odor No. 3.*

* Mineral water is exempt from the standard.

Subp. 4. **Chemical quality.**

A. If a composite of analytical units of equal volume from a sample is examined by the methods described in item B, bottled water must meet standards of chemical quality

and may not contain chemical substances in excess of the concentrations listed in subitems (1) to (18), expressed in milligrams per liter:

- (1) arsenic, 0.05;
- (2) barium, 1.0;
- (3) cadmium, 0.01;
- (4) chloride*, 250.0;
- (5) chromium, 0.05;
- (6) copper, 1.0;
- (7) iron*, 0.3;
- (8) lead, 0.05;
- (9) manganese*, 0.05;
- (10) mercury, 0.002;
- (11) nitrate, 10.0;
- (12) organics:
 - (a) Endrin (1,2,3,4,10,10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octa-hydro-1,4-endo, endo-5,8-dimethane naphthalene), 0.0002;
 - (b) Lindane (1,2,3,4,5,6-hexachloro-cyclohexane, gamma isomer), 0.004;
 - (c) Methoxychlor (1,1,1-trichloro-2,2-bis[p-methoxy-phenyl] ethane), 0.1;
 - (d) total Trihalomethanes, 0.10;
 - (e) Toxaphene ($C_{10}H_{10}Cl_8$ -technical chlorinated camphene, 67 to 69 percent chlorine), 0.005;
 - (f) 2,4-D (2,4-dichlorophenoxyacetic acid), 0.1;
 - (g) 2,4,5-TP Silvex (2,4,5-trichlorophenoxypropionic acid), 0.01;
- (13) phenols, 0.001;
- (14) selenium, 0.01;
- (15) silver, 0.05;
- (16) sulfate*, 250.0;
- (17) total dissolved solids*, 500.0;
- (18) zinc*, 5.0.

* Mineral water is exempt from the standard.

B. Analyses conducted to determine compliance with this subpart must be made in accordance with the methods described in the applicable sections of "Standard Methods for the Examination of Water and Wastewater," 20th edition (1998), which is incorporated by reference in subpart 2, or "Methods for Chemical Analysis of Water and Wastes," Environmental Monitoring and Support Laboratory, EPA-600/4-82-055, March 1983, United States Environmental Protection Agency. Analyses for organic substances must be determined by appropriate methods described in "Methods for Organochlorine Pesticides in Industrial Effluents" and "Methods for Chlorinate Phenoxy Acid Herbicides in Industrial Effluents," November 28, 1973, and "Part I: The Analysis of Trihalomethanes in Finished Waters by the Purge and Trap Method," Method 501.1 and "Part II: The Analysis of Trihalomethanes in Drinking Water by Liquid/Liquid Extraction," Method 501.2 in Code of Federal Regulations, title 40, part 141, Appendix C.

Subp. 5. **Radiological quality.** If a composite of analytical units of equal volume from a sample is examined by the methods described in item D, bottled water must meet standards of radiological quality in items A to D.

A. The bottled water may not contain a combined radium-226 and radium-228 activity in excess of five picocuries per liter of water.

B. The bottled water may not contain a gross alpha particle activity (including radium-226, but excluding radon and uranium) in excess of 15 picocuries per liter of water.

C. The bottled water may not contain beta particle and photon radioactivity from manmade radionuclides in excess of that which would produce an annual dose equivalent to the total body or any internal organ of four millirems per year calculated on the basis of an intake of two liters of the water per day. If two or more beta- or photon-emitting radionuclides are present, the sum of their annual dose equivalent to the total body or to any internal organ may not exceed four millirems per year.

D. Analyses conducted to determine compliance with this subpart must be made in accordance with the methods described in the applicable sections of "Standard Methods for the Examination of Water and Wastewater," 18th edition (1991), which is incorporated by reference in subpart 2, and "Interim Radiochemical Methodology for Drinking Water," Environmental Monitoring and Support Laboratory, EPA-600/4-75-008 (Revised), March 1976, United States Environmental Protection Agency.

Subp. 6. **Volatile organic compounds.**

A. Volatile organic compounds may not exceed the levels listed in subitems (1) to (7), expressed in milligrams per liter:

(1) benzene, 0.005;

- (2) carbon tetrachloride, 0.005;
- (3) 1,2-dichloroethane, 0.005;
- (4) 1,1-dichloroethylene, 0.007;
- (5) 1,1,1-trichloroethane, 0.20;
- (6) trichloroethylene, 0.005;
- (7) vinyl chloride, 0.002.

B. Analyses conducted to determine compliance with this subpart must be made in accordance with a relevant method contained in "Methods for the Determination of Organic Compounds in Drinking Water," ORD Publications, CERL, EPA/600/4-88/039, December 1988. Copies are available from the National Technical Information Service, United States Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

(1) Method 502.1 - "Volatile Halogenated Organic Compounds in Water by Purge and Trap Gas Chromatography" (applicable to volatile organic compounds).

(2) Method 502.2 - "Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series" (applicable to volatile organic compounds).

(3) Method 503.1 - "Volatile Aromatic and Unsaturated Organic Compounds in Water by Purge and Trap Column Gas Chromatography" (applicable to volatile organic compounds).

(4) Method 524.1 - "Volatile Organic Compounds in Water by Purge and Trap Gas Chromatography/Mass Spectrometry" (applicable to volatile organic compounds).

(5) Method 524.2 - "Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography/Mass Spectrometry" (applicable to volatile organic compounds).

Statutory Authority: *MS s 31.101; 31.11*

History: *18 SR 31; 27 SR 168*

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