



California Department of Public Health
Food and Drug Branch



SOURCE WATER and BOTTLED WATER (PRODUCT WATER)

(Revised, 6/20/2008)

**CHEMICAL-PHYSICAL-RADIOLOGICAL-BACTERIOLOGICAL TESTS
AND
FREQUENCY OF TESTING**

**GROUP I
PHYSICAL**

	Maximum
Color (units)*	15
Odor*	Threshold Odor No.3
Turbidity (units)*	5
Total Dissolved Solids (mg/L) ^a	500.0

^a: Mineral water is exempt from the 500 mg/L TDS-allowable level.

**GROUP II
CHEMICAL SUBSTANCE 1**

	Maximum (mg/L)
Aluminum	0.2
Antimony	0.006
Arsenic	0.010
Barium	2
Beryllium	0.004
Cadmium	0.005
Chloride	250
Chromium	0.1
Copper	1.0
Cyanide	0.2
Fluoride	[see 21 CFR 165.110(b)(4)(ii)]
Iron	0.3
Lead	0.005
Manganese	0.05
Mercury	0.002
Nickel	0.1
Nitrate (as nitrogen)	10
Nitrite (as nitrogen)	1
Total Nitrate & Nitrite (sum as nitrogen)	10
Phenols	0.001
Selenium	0.05
Silver	0.1
Sulfate	250.0
Thallium	0.002
Zinc	5.0

GROUP III**CHEMICAL SUBSTANCE 2 (Volatile Organic Chemicals or VOCs)**

	Maximum, mg/L
Benzene (71-43-2)	0.005
Carbon Tetrachloride (56-23-5)	0.005
o-Dichlorobenzene (95-50-1)	0.6
p-Dichlorobenzene (106-46-7)	0.075
1,2-Dichloroethane (107-06-2)	0.005
1,1-Dichloroethylene (75-35-4)	0.007
cis-1,2-Dichloroethylene(156-59-2)	0.07
trans-1,2-Dichloroethylene (156-60-5)	0.1
Dichloromethane (75-09-2)	0.005
1,2-Dichloropropane (78-87-5)	0.005
Ethylbenzene (100-41-4)	0.7
Monochlorobenzene (108-90-7)	0.1
Styrene (100-42-5)	0.1
Tetrachloroethylene (127-18-4)	0.005
Toluene (108-88-3)	1
1,2,4-Trichlorobenzene (120-82-1)	0.07
1,1,1-Trichloroethane (71-55-6)	0.20
1,1,2-Trichloroethane (79-00-5)	0.005
Trichloroethylene (79-01-6)	0.005
Vinyl chloride (75-01-4)	0.002
Xylenes (330-20-7)	10
Total Trihalomethanes (THMs)**	0.010

GROUP IV**CHEMICAL SUBSTANCE 3 (Non-Volatile Synthetic Organic Chemicals or SOCs)**

	Maximum, mg/L
Alachlor (15972-60-8)	0.002
Atrazine (1912-24-9)	0.003
Benzo(a)pyrene (50-32-8)	0.0002
Carbofuran (1563-66-2)	0.04
Chlordane (57-74-9)	0.002
Dalapon (75-99-0)	0.2
1,2-Dibromochloropropane (DBCP) (96-12-8)	0.0002
2, 4-D (94-75-7)	0.07
Di(2-ethylhexyl)adipate (103-23-1)	0.4
Dinoseb (88-85-7)	0.007
Diquat (85-00-7) ^b	0.02
Endothall (145-73-3) ^b	0.1
Endrin (72-20-8)	0.002
Ethylene Dibromide (EDB)(106-93-4)	0.00005
Glyphosate (1071-53-6) ^b	0.7
Heptachlor (76-44-8)	0.0004
Heptachlor Epoxide (1024-57-3)	0.0002
Hexachlorobenzene (118-74-4)	0.001
Hexachlorocyclopentadiene (77-47-4)	0.05
Lindane (58-89-9)	0.0002
Methoxychlor (72-43-5)	0.04
Oxamyl (23135-22-0)	0.2
Pentachlorophenol (87-86-5)	0.001
PCB's (as decachlorobiphenyls)(1336-36-3)	0.0005
Picloram (1918-02-1)	0.5
Simazine (122-34-9)	0.004
2,3,7,8-TCDD (Dioxin)(1746-01-6) ^b	3 x 10 ⁻⁸
Toxaphene (8001-35-2)	0.003
2, 4, 5-TP (Silvex)(93-72-1)	0.05

^b: See note on Page 5 for monitoring waiver for Bottled water (product water).

**GROUP V
RADIOACTIVITY*****

	Maximum
Combined Radium-226 and Radium-228	5 pCi/L
Gross Alpha particle activity (including Radium-226 but excluding Radon and Uranium)	15 pCi/L
Gross Beta particle activity	50 pCi/L
Uranium	30 ug/L

**GROUP VI
BACTERIOLOGICAL**

	Maximum
Coliforms: Multiple Tube Fermentation Method	2.2 MPN /100 m L
Membrane Filter Method	1 c /100 mL

[see 21 CFR 165.110(b)(2)(i) for more details]

**Group VII
DISINFECTION BYPRODUCTS AND RESIDUAL DISINFECTANTS******

Disinfection Byproducts (DBp's)

	Maximum, mg/L
Bromate	0.010
Chlorite	1.0
Haloacetic acids (five)(HAA5)	0.060

Residual disinfectants

	Maximum, mg/L
Chloramine (as Cl ₂)	4.0
Chlorine (as Cl ₂)	4.0
Chlorine dioxide (as ClO ₂)	0.8

Note: All analyses must be done using methods specified in 21CFR 165.110(b) and "Standard Methods for the Examination of Water and Wastewater.

- * Standard Methods for the Examination of Water and Wastewater
- ** Total Trihalomethanes (TTHM): Sum of chloroform, bromodichloromethane, chlorodibromomethane, and bromoform. 10 ppb Pursuant to H&SC 111080(b).
- *** Radioactivity
 Combined Radium 226 and Radium-228: If gross alpha is <5pCi/L, Radium 226 does not have to be analyzed. Determine only Radium-228.

 Uranium: If gross alpha is <15pCi/L, uranium does not have to be analyzed.
- **** Residual Disinfectants and DBP's: (1) Source water – Firms, that do not use a public water system as the source of their water and whose source water has not been treated with a chlorine-based disinfectant or ozone, do not have to test their source water for residual disinfectants and DBP's. Firms, that do not use a public water system as the source of their water but whose source water has been treated with a chlorine-based disinfectant or ozone, must test their source water for the residual disinfectants and the DBP's [21CFR 129.35(a)(4)(iii); 66FR 16865. 3/28/01]; (2) Product water (Bottled Water) - Test annually for residual disinfectants and DBP's.

Frequency of Testing:

Group I, II, III, IV, VII:	Every year
Group V:	Source Water - Every 4 years Bottled (Product) Water - Every Year
Group VI :	Weekly.

Note ^(b) on Group IV (*Limited Waiver: Product Water Only*): You may apply for “*Limited Waiver for Reducing the Frequency of Testing of for four SOCs in Group IV (Diquat, Endothall, Glyphosate, Dioxin)* in bottled water (product water) by contacting the FDB Licensing Desk at (916)-650-6522. In order to obtain the waiver, your firm must test your product water, using approved analytical methods, for four consecutive quarters; and submit a written request with test data demonstrating that the finished product water at issue contained no detectable level of any of the four SOCs during the four quarters. After reviewing your request, FDB would issue a letter allowing to test any of the 4 SOCs once every three years. Each year, you must attach a copy of the letter to the annual test report for product water, which is required to submit for renewal of your license.

Limited Waiver (Source Water Only): You may apply for “Limited Waiver for Reducing the Frequency of Testing of Certain Substances in Source Water” by contacting the FDB Licensing Desk at (916)-650-6515. [Note: No waivers will be issued for product water.]

REFERENCES:

Federal Register:

- Volume 60, 57076, 11/13/95; Volume 63, 25764, 5/11/98; Beverages: Bottled Water.
- Volume 59, 61529, 12/1/94; Quality Standards for Foods With No Identity Standards: Bottled Water.
- Volume 66, 16858-16868, 3/28/01; Beverages: Bottled Water.
- Volume 68, 9873-9882, 3/3/03; Beverages: Bottled Water.
- Volume 70, 33694-33701, 6/9/05; Beverages: Bottled Water.

Code of Federal Regulations (Revised 4/1/2005) sections 129.1 to 129.80, and 165.110(b).

The California Health and Safety Code sections 111070 to 111195.

The California Code of Regulations, Title 22, Sections 64421 to 64449.

Letter from Ms. Kim Green of IBWA to Dr. Henry Kim of FDA, dated 11/16/04.