



California Department of Public Health
Food and Drug Branch



SOURCE WATER and BOTTLED WATER (PRODUCT WATER)

(Revised, 11/2/2011)

**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-Dibromo-3-chloropropane (DBCP) (96-12-8)	0.0002
2, 4-D (94-75-7)	0.07
Di(2-ethylhexyl)adipate (103-23-1)	0.4
Di(2-ethylhexyl)phthalate (117-81-7) ^b	0.006
Dinoseb (88-85-7)	0.007
Diquat (85-00-7)	0.02
Endothall (145-73-3)	0.1
Endrin (72-20-8)	0.002
Ethylene Dibromide (EDB)(106-93-4)	0.00005
Glyphosate (1071-53-6)	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)	3 x 10 ⁻⁸
Toxaphene (8001-35-2)	0.003
2, 4, 5-TP (Silvex)(93-72-1)	0.05

^b: Effective April 16, 2011 (76 FR 64810, 10/19/2011)

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.

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 74, 25651-25665, 5/29/09; Beverages: Bottled Water.
- Volume 76, 64810 – 64813, 10/19/11, Beverages: Bottled Water

Code of Federal Regulations (Revised 4/1/2010) 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.

Revision 110311