Compound	4-day Average	1-hr Average
Arsenic ^{b, c, d}	150	340
Cadmium ^d	е	е
Chromium III ^{c, d, f}		
Chromium VI ^{b, c, d, g}	11	16
Copper ^{b, c, d}	9.0 ^h	13 ^h
Cyanide ⁱ		
Lead ^{b, c, d}	2.5 ^j	65 ^j
Mercury ^k		2.4
Nickel ^{b, c, d}	52 ¹	470 ^ı
Selenium ^m		
Silver ^{b, c, d}		3.4 ⁿ
TributyItin ^o		
Zinc ^{b, c, d}	120 ^p	120 ^p

Table 3-4: Freshwater^a Water Quality Objectives for Toxic Pollutants for Surface Waters (all values in μ g/L)

Notes:

- a. Freshwaters are those in which the salinity is equal to or less than 1 part per thousand 95% of the time, as set forth in Chapter 4 of the Basin Plan. Unless a site-specific objective has been adopted, these objectives shall apply to all freshwaters except for the South Bay south of Dumbarton Bridge, where the California Toxics Rule (CTR) applies. For waters in which the salinity is between 1 and 10 parts per thousand, the applicable objectives are the more stringent of the marine (Table 3-3) and freshwater objectives.
- b. Source: 40 CFR Part 131.38 (California Toxics Rule or CTR), May 18, 2000.
- c. These objectives for metals are expressed in terms of the dissolved fraction of the metal in the water column.
- d. These objectives are expressed as a function of the water-effect ratio (WER), which is a measure of the toxicity of a pollutant in site water divided by the same measure of the toxicity of the same pollutant in laboratory dilution water. The table values assume a WER equal to one.
- e. The objectives for cadmium are expressed in the total recoverable form by formulas where H = In (hardness) as CaCO₃ in mg/l: The four-day average objective for cadmium is a WER times e^(0.7852H-3.490). This is 1.1 μg/l at a hardness of 100 mg/l as CaCO₃. The one-hour average objective for cadmium is a WER times e^(1.128H-3.828). This is 3.9 μg/l at a hardness of 100 mg/l as CaCO₃.
- f. Chromium III criteria were promulgated in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 180 ug/l (4-day average) and 550 ug/l (1-hr. average). The objectives for chromium III are based on hardness. The values in this footnote assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = In (hardness): The 4-day average objective for chromium III is a WER times a conversion factor (CF) times e^(0.8190H+1.561). The 1-hour average for chromium III is a WER times a CF times e^(0.8190H+3.688). The CF (or "translator") adjusts the criterion expressed as the total recoverable fraction in the water column to an objective expressed as the dissolved fraction in the water column. If a site-specific CF is unavailable, the CTR CF (40 C.F.R. section 131.38(b)(2)(iv), "Table 2 to paragraph (b)(2) of this section") may be used.

- g. This objective may be met as total chromium.
- h. The objectives for copper are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = In (hardness): The 4-day average objective for copper is a WER times a CF times e^(0.8545H-1.702). The 1-hour average for copper is a WER times a CF times e^(0.9422H-1.700). If a site-specific CF is unavailable, the CTR CF may be used.
- i. Cyanide criteria were promulgated in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 5.2 ug/l (4-day average) and 22 ug/l (1-hr. average).
- j. The objectives for lead are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = In (hardness): The 4-day average objective is a WER times a CF times e^(1.273H-4.705). The 1-hour average for lead is a WER times a CF times e^(1.273H-1.460). If a site-specific CF is unavailable, the CTR CF may be used.
- k. Source: U.S. EPA Quality Criteria for Water 1986 (EPA 440/5-86-001). The 1-hour average value continues to apply to waters specified in Table 3-4A. For inland surface waters other than those covered under Table 3-4A, refer to Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California —Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions (Statewide Mercury Provisions).
- The objectives for nickel are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = In (hardness): The 4-day average objective is a WER times a CF times e^(0.8460H+0.0584). The 1-hour average objective is a WER times a CF times e^(0.8460H+2.255). If a site-specific CF is unavailable, the CTR CF may be used.
- m. Selenium criteria were promulgated for all San Francisco Bay/Delta waters in the National Toxics Rule (NTR). The NTR criteria specifically apply to San Francisco Bay upstream to and including Suisun Bay and Sacramento-San Joaquin Delta. Note: at the time of writing, the values are 5.0 ug/l (4-day average) and 20 ug/l (1-hr. average), expressed in the total recoverable form.
- n. The objective for silver is based on hardness. The table value assumes a hardness of 100 mg/l CaCO₃. At other hardnesses, the objective must be calculated using the following formula where H = In (hardness): The 1-hour average objective for silver is a WER times a CF times e^(1.72H-6.52). If a site-specific CF is unavailable, the CTR CF may be used. U.S. EPA has not developed a 4-day criterion.
- Tributyltin is a compound used as an antifouling ingredient in marine paints and toxic to aquatic life in low concentrations. U.S. EPA has published criteria for protection of aquatic life, Ambient Aquatic Life Water Quality Criteria for Tributyltin (TBT) – Final (EPA 822-R-03-031, December 2003). These criteria are cited for advisory purposes.
- p. The objectives for zinc are based on hardness. The table values assume a hardness of 100 mg/l CaCO₃. At other hardnesses, the objectives must be calculated using the following formulas where H = In (hardness): The 4-day average objective for zinc is a WER times a CF times e^(0.8473H+0.884). The 1-hour average for zinc is a WER times a CF times e^(0.8473H+0.884). If a site-specific CF is unavailable, the CTR CF may be used.