

Inorganic Chemicals and Metals

The Federal Safe Drinking Water Act requires all of the nation's public water supplies (PWS) to be tested periodically for various potential contaminants. The analyses of inorganic chemicals, also referred to as IOCs, in drinking water are among the many analytical services provided by the Department of Environmental Quality's State Environmental Laboratory (SEL). The purpose of this fact sheet is to assist you with interpreting your test results. The analyses of IOCs can include some parameters for which there are primary drinking water standards and others for which there are non-enforceable secondary standards.

Primary drinking water standards are established for certain contaminants which, when present at excessive levels, may have an adverse effect upon human health. These Maximum Contaminant Level (MCL) concentrations are the highest level of a contaminant that is allowed in drinking water.

EPA has also established National Secondary Drinking Water regulations that set non-mandatory and non-enforceable secondary water quality standards, or SMCLs, for certain contaminants which can make the appearance, taste, or odor of drinking water less pleasing to a consumer. These SMCLs are established as guidelines to assist public water supply systems in managing their drinking water for aesthetic considerations. These contaminants are not considered to be a risk to human health at the SMCL.

The units of measure for most of these standards are reported either in micrograms per liter ($\mu\text{g/L}$) or milligrams per liter (mg/L). Tests with concentration results below that lab test's lowest reportable value are indicated by a "<" (less than symbol) followed by that test's lowest level that can be reported. When a result is reported as a "less than", it essentially means that no significant concentration of that contaminant was detected in the sample.

If you have any questions concerning your results or test pricing, contact DEQ's State Environmental Laboratory for assistance at (405) 702-1000 or (866) 412-3057.

Primary Standards

Contaminant	Maximum Contaminant Level (MCL)
Arsenic	0.010 mg/L (10 $\mu\text{g/L}$)
Barium	2 mg/L (2000 $\mu\text{g/L}$)
Beryllium	0.004 mg/L (4 $\mu\text{g/L}$)
Cadmium	0.005 mg/L (5 $\mu\text{g/L}$)
Chromium (total)	0.1 mg/L (100 $\mu\text{g/L}$)
Cyanide	0.2 mg/L
Fluoride	4.0 mg/L
Mercury	0.002 mg/L (2 $\mu\text{g/L}$)
Nitrate (as N)	10 mg/L
Nitrite (as N)	1 mg/L
Selenium	0.05 mg/L (50 $\mu\text{g/L}$)
Thallium	0.002 mg/L (2 $\mu\text{g/L}$)

Secondary Standards

Contaminant	Secondary Maximum Contaminant Level (SMCL)
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Copper	1.0 mg/L (1000 $\mu\text{g/L}$)
Fluoride	2.0 mg/L
Iron	0.3 mg/L (300 $\mu\text{g/L}$)
Manganese	0.05 mg/L (50 $\mu\text{g/L}$)
pH	6.5 to 8.5 SU
Silver	0.1 mg/L (100 $\mu\text{g/L}$)
Sulfate	250 mg/L
Total Dissolved Solids (TDS)	500 mg/L
Zinc	5 mg/L (5000 $\mu\text{g/L}$)

$\mu\text{g/L}$ =
 mg/L =
 1 $\mu\text{g/L}$ per liter
 SU=

micrograms per liter are equivalent to parts per billion (ppb)
 milligrams per liter are equivalent to parts per million (ppm)
 0.001 milligram per liter
 Standard units