

## Water Standards or Guidelines and Their Significance

The EPA establishes Maximum Contaminant Levels (MCLs). In the absence of an EPA MCL, states may provide guidelines.

Common terms:

**mg/L** = milligrams per liter, also parts per million (ppm)  
**ug/L** = micrograms per liter, also parts per billion (ppb)  
**P/A** = presence / absence, when even "1 bacterial colony" is considered unsatisfactory  
**TNTC** = too numerous to count, used for bacterial tests  
**pCi/L** = pico Curies per liter, a measurement of radioactivity, used for radon  
**NTU**: Nephelometric turbidity unit, a measurement of the clarity of water  
**LD** = Level of detection; the lowest level the lab equipment is able to find  
**BDL** = Below the level of detection with the lab's equipment  
**CU** = Color Units, a standardized measure of the color of water  
**TON** = Threshold Odor Number, for measuring odor as detectable by the human nose.

<b>Coliform bacteria</b>	0	Test is done on a presence / absence basis.
<b>E-coli bacteria</b>	0	Test is done on a presence / absence basis. E coli is a serious water quality problem, do not drink this water until resolved.
<b>Alkalinity</b>		Alkalinity measures the hydroxyl, carbonate, and bicarbonate content of water, which indicates the water's acid neutralizing capability.
<b>Arsenic</b>	.010 mg/L	Arsenic is a naturally occurring element that contributes to various cancers, neurological disorders and circulatory problems.
<b>Chlorides</b>	250 mg/L	Elevated levels are usually due to road salting or sea water intrusion near the coast. The water will begin to taste salty at 250 mg/L.
<b>Color</b>	15 CU	A measurement of the color of water; color is usually due to the presence of iron.
<b>Copper</b>	1.3 mg/L	Copper will be found in the water when conditions, such as low pH or the presence of chlorides, make the water corrosive to copper plumbing systems.
<b>Flouride</b>	2/4 mg/L	Fluoride has a primary standard of 4 mg/L and a secondary standard of 2 mg/L. Fluoride is an important element, however beyond a beneficial level it can cause problems with bones and teeth.
<b>Hardness</b>	150 mg/L	Usually made up of calcium carbonate or magnesium carbonate, impacts the usability of the water.
<b>Iron</b>	.3 mg/L	The standard of .3 mg/L is set because this is the level where staining (laundry, toilets, appliances) will normally occur.
<b>Lead</b>	.015 mg/L	In this region lead will be found in the water due to the previous use of lead solder in plumbing systems, or due to the small lead content of some brass fixtures
<b>Manganese</b>	.05 mg/L	The standard of .05 mg/L is set because this is the level where staining will normally occur. This is an aesthetic issue.
<b>MtBE</b>	By State	13 ug/L NH; 70 ug/L MA. Methyl tertiary butyl ether is a gasoline additive that is believed to be carcinogenic.
<b>Nitrates</b>	10 mg/L	A natural phenomenon due to the decomposition of organic matter; can be elevated due to agricultural practices or lawn fertilization.
<b>Nitrite</b>	1 mg/L	In addition to the issues related to nitrate, the presence of nitrite also can imply problems from human or animal waste or wastewater disposal.
<b>Odor</b>	3 TON	Odors tend to dissipate quickly so it is very difficult for labs to quantify odors; this measurement is based on a dilution process.

<b>pH</b>	6.5 - 8.5	A measure of the relative acidity of the water. 7 is neutral; below 7 is acidic.
<b>Radium</b>	5 pCi/L	A radioactive element associated with bone cancers.
<b>Radon</b>	By State	2000 pCi/L NH; 10000 pCi/L MA. Radon is a colorless, odorless gas that is the result of the decay of uranium and radium. Radon presents a risk when the air is breathed; contributes to the risk of lung cancer.
<b>Sodium</b>	250 mg/L	Some natural sodium occurs in this region; but most elevated levels are due to road salting or sea water intrusion near the coast
<b>Sulfate</b>	250 mg/L	A natural mineral which contributes to a white crust left where water evaporates. At extremely high levels can lead to gastro-intestinal distress.
<b>TDS</b>	500 mg/L	Total Dissolved Solids, which is a measurement, in milligrams per liter, of the dissolved mineral content of water.
<b>Turbidity</b>	5 NTU	A measurement of the clarity of the water; in this region high turbidity is usually due to iron, clay or silt.
<b>Uranium</b>	30 ug/L	A radioactive element associated with kidney cancers.
<b>Volatiles &amp; Synthetics</b>	Vary	Volatile organic compounds and synthetic organic compounds have individual standards and are associated with a variety of health issues.