Maximum Contaminant Levels (MCLs) for Drinking Water

Notes: **mg/l** (milligrams per liter) is same as **ppm** (parts per million).
Primary MCL refers to health-related effects.
Secondary MCL refers to cosmetic (skin or tooth discoloration) or aesthetic (taste, odor, or color) effects.
For more detailed information, go to the EPA website www.epa.gov/safewater.

Parameter	Primary MCL	Secondary MCL	Potential Effects
Alkalinity	None	None	Alkalinity is influenced by local rock type and reflects the chemical properties of dissolved constituents.
Arsenic	**0.01 mg/l**	None	Arsenic is a carcinogen.
Barium	**2 mg/l**	None	Can cause increase in blood pressure.
Cadmium	**0.005 mg/l**	None	Can cause liver damage.
Calcium	None	None	
Chromium	**0.1 mg/l**	None	Can cause allergic dermatitis.
Chloride	**250 mg/l**	None	Chloride can affect taste, and can indicate salt water intrusion.
Copper	**1.3 mg/l**	**1.0 mg/l**	In large doses, copper is dangerous to infants and people with certain metabolic disorders. However, lack of copper intake causes anemia, growth inhibition, and problems with blood circulation.
Fluoride	**4.0 mg/l**	**2.0 mg/l**	Fluoride in concentrations above 4 mg/l can cause skeletal damage. Fluoride in concentrations above 2 mg/l can cause staining.
Hardness	None	None	Indicates the presence of dissolved ions in water.
Iron	None	**0.30 mg/l**	Iron may contribute to bad taste, pipe clogging, and clothes, tub, sink, and teeth staining.
Lead	**0.015 mg/l** (action level)	None	Lead can cause neurological and physical problems, especially in young children.
Magnesium	None	None	
Manganese	**0.05 mg/l**	None	In large doses, manganese can cause headaches, apathy, irritability, insomnia, and weakness of the legs. Long-term heavy exposure may result in nervous-system disorders.
Mercury	**0.002 mg/l**	None	Can cause kidney damage.
Nitrate	**10.0 mg/l**	None	Nitrates and Nitrites can cause shortness of breath and "blue baby syndrome" in children under the age of 6 months.
Nitrite	**1.0 mg/l**	None	Nitrites and Nitrates can cause shortness of breath and "blue baby syndrome" in children under the age of 6 months.
pH	None	**6.5-8.5**	Low pH (less than 6.5) can contribute to the corrosiveness of water and can allow leaching of impurities from pipes into drinking water.
Selenium	**0.05 mg/l**	None	Too much selenium can cause hair or fingernail loss, numbness in fingers or toes, and circulatory problems.
Silver	None	**0.10 mg/l**	Silver can cause skin discoloration (Argyria) if ingested. Additionally, silver is used as an antibacterial agent in home water treatment systems.
Sodium	None	None	Water softeners can contribute to the level of sodium in water.
Zinc	None	**5.0 mg/l**	More than 5.0 mg/l causes a metallic bitter taste and 25 – 40 mg/l may cause nausea and vomiting.

Sources: North Carolina Cooperative Extension Service special project number 91-EWQI-1-9274.
Environmental Engineering and Sanitation, Third Edition; Joseph A. Salvato, P.E..
EPA National Primary Drinking Water Standards June 2003; from www.epa.gov/safewater.

DEH's On-Site Water Supply Branch appreciates the efforts of Mr. Mark Murosky, Craven County Health Department, in the development of this table.