Tap Water Quality –Detected Substances

The City of Boulder monitors for ~500 water quality substances in drinking water, most of which are not detected at low levels in the laboratory. The table below shows the concentrations of all substances found in the city's tap water. Concentrations are compared to the regulatory limits, if applicable.

Units Explanation

mg/L = milligrams per liter
µg/L = micrograms per liter
NTU = Nephalometric turbidity units
µmhos/cm = micromhos per centimeter
< = Concentration below the detection limit

How Small Is That?

1 mg/L is equivalent to 30 seconds in a year!
1 µg/L is equivalent to 3 seconds in a century!

Types of State and Federal Standards

Action Level (AL): Concentration that triggers certain regulatory requirements.
Maximum Contaminant Level (MCL): The highest concentration allowed in drinking water. MCLs are as close to MCLGs as possible, using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG): Below this concentration, there is no known or expected risk to public health. MCLGs allow for a margin of safety.
Maximum Secondary Level (MSL): A non-enforceable concentration set to minimize taste and odor or discoloration.
Treatment Technique (TT): A required treatment process intended to reduce the concentration in drinking water.

Water Quality Substance	Units	Description	Betasso Water Treatment Plant (2-yr median concentration)	Boulder Reservoir Water Treatment Plant (2-yr median concentration)	Regulatory Standard (to protect public health or aesthetic quality)
Alkalinity (as CaCO3)	mg/L	Buffering capacity of water	46.4	46.8	
Carbon, Total Organic	mg/L	Natural organic matter	0.9	2.0	
Geosmin	ug/L	Algal byproduct	No Data	0.002	
Hardness (as CaCO3)	mg/L	Measurement of dissolved minerals	47.9	68.8	
pH	Std Units	Measure of acidity	7.7	7.6	MSL= 6.5-8.5 (range)
Silicon, Total	mg/L	Naturally occurring ion	2.1	2.8	
Specific Conductivity	umho/cm	Indirect measure of ions in water	116.0	189.0	
Sulfate	mg/L	Naturally occurring ion	3.3	32.1	MSL= 250
Turbidity	ntu	Water clarity measurement	0.1	0.1	TT
UV-254 absorbance	cm-1	Indirect measure of organic matter	0.01	0.02	
2-Methylisoborneol (MIB)	ug/L	Algal byproduct	No Data	0.01	
Nitrogen, Nitrate as N	mg/L	Nutrient	0.03	0.02	MCL= 10
Phosphorus, Total	ug/L	Nutrient	3.6	3.6	
Chloride	mg/L	Naturally occurring ion	3.6	5.9	MSL= 250
Chlorine	mg/L	Disinfectant	1.1	1.1	
Chlorate	ug/L	Disinfection byproduct	140.0	82.5	
Haloacetic Acids (HAA5)	ug/L	Disinfection byproduct	22.0	16.1	MCL= 60
Haloacetic Acids (HAA6)	ug/L	Disinfection byproduct	1.0	3.4	
Haloacetic Acids (HAA9)	ug/L	Disinfection byproduct	26.8	18.8	

Water Quality Substance	Units	Description	Betasso Water Treatment Plant (2-yr median concentration)	Boulder Reservoir Water Treatment Plant (2-yr median concentration)	Regulatory Standard (to protect public health or aesthetic quality)
Total Trihalomethanes	ug/L	Disinfection byproduct	21.2	21.1	MCL= 80
Aluminum, Total	ug/L	Naturally occurring ion	17.1	11.5	MSL= 50-200
Arsenic, Total	ug/L	Naturally occurring ion	<0.08	0.4	MCL= 10
Barium, Total	ug/L	Naturally occurring ion	6.8	23.9	MCL= 2000
Boron, Total	ug/L	Naturally occurring ion	7.0	17.0	
Calcium, Total	mg/L	Naturally occurring ion	17.4	17.9	
Chromium, Hexavalent	ug/L	Naturally occurring ion	0.3	0.03	
Copper, Total	ug/L	Naturally occurring ion	12.6	0.7	TT; Action level 1,300
Fluoride, Total	mg/L	Naturally occurring ion	0.7	0.7	MCL= 4; MSL= 2
Iron, Total	ug/L	Naturally occurring ion	19.9	9.9	MSL= 300
Magnesium, Total	mg/L	Naturally occurring ion	0.8	5.3	
Manganese, Total	ug/L	Naturally occurring ion	0.5	<0.6	MSL= 50
Molybdenum, Total	ug/L	Naturally occurring ion	0.5	0.4	
Potassium, Total	mg/L	Naturally occurring ion	0.4	0.9	
Sodium, Total	mg/L	Naturally occurring ion	3.0	6.4	
Strontium, Total	ug/L	Naturally occurring ion	47.5	175.0	
Tin, Total	ug/L	Naturally occurring ion	0.03	No Data	
Vanadium, Total	ug/L	Naturally occurring ion	0.3	0.2	
Zinc, Total	ug/L	Naturally occurring ion	2.5	0.6	MSL= 5000
2,4-D	ug/L	Pesticide	<0.005	0.01	MCL= 70
Fluridone	ug/L	Pesticide	<0.005	0.01	
Imazamox	ug/L	Pesticide	<0.005	0.04	
Triclopyr	ug/L	Pesticide	<0.01	0.01	
Sucralose	ug/L	Household product	<0.015	0.1	

Questions about your drinking water?

Email us at drinkingwater@bouldercolorado.gov
or call 303-441-3200