

Water Quality Analytical Results – December 2020

Chemical Parameters	Units	Guidelines for Canadian Drinking Water Quality	Typical Distribution System Water
Benzene - found in gasoline and used in industrial processes	ug/L	5	ND
Carbon Tetrachloride - produced while manufacturing other hydrocarbons	ug/L	2	ND
1,2 Dichlorobenzene - found in paint removers and degreasers	ug/L	200	ND
1,4 Dichlorobenzene - found in paint removers and degreasers	ug/L	5	ND
1,2 Dichloroethane - used in preparation of poly vinyl chloride (PVC)	ug/L	5	ND
Dichloromethane - volatile liquid used in paint strippers, degreasers and aerosols	ug/L	50	ND
Ethyl Benzene - found in gasoline used to make plastics	ug/L	140	ND
Tetrachloroethylene - solvent used in dry cleaning and metal cleaning industries	ug/L	30	ND
Total Trihalomethanes - by-products associated with chlorine disinfection	ug/L	100	0-50
Total Xylenes - found in gasoline and used to make consumer products	ug/L	90	ND
Toluene - found in gasoline, solvents and glues	ug/L	60	ND
Trichloroethylene - metal parts degreaser and dry cleaning solvent	ug/L	5	ND
Vinyl Chloride - synthetic chemical with no known natural sources	ug/L	2	ND
Benzo(a)pyrene - found in creosote and cigarette smoke	ug/L	0.01	ND
Pentachlorophenol - used in pesticides and wood preservatives	ug/L	60	ND
Inorganic Parameters - a range of materials that are both naturally occurring and artificially produced			
Alkalinity - the capacity of water to neutralize acids	mg/L	~	90
Aluminium - inorganic metallic element	mg/L	0.1	0.023
Antimony - element used in metal manufacturing, historically mined in N.B.	ug/L	6	<0.1
Arsenic - can occur naturally or come from industrial effluents	ug/L	10	<1.0
Barium - occurs naturally and is produced by industry	mg/L	1	0.029
Boron - naturally occurring in over 80 minerals	mg/L	5	0.009
Bromide - natural element, often associated with salt deposits	mg/L	~	<0.05
Cadmium - metal plating and batteries	ug/L	5	<0.01
Calcium - occurs naturally helps produce "hard" water	mg/L	~	42.4
Chloride - found in road salts, sea water and processed food	mg/L	250	33.2
Chromium - natural metallic element used to plate metal	mg/L	0.05	<0.001
Conductivity - measures the waters capacity to carry an electric current	uS/cm	~	302
Copper - can stain laundry at levels above Guidelines for Canadian Drinking Water Quality	mg/L	1	0.01
Fluoride - occurs naturally in many minerals	mg/L	1.5	0.09
Iron - can cause staining in laundry and plumbing	mg/L	0.3	0.02
Lead - can be found in older plumbing fixtures, and in solder	ug/L	10	<0.1
Magnesium - along with calcium, contributes to forming "hard" water	mg/L	~	3.46
Manganese - metal; can cause staining in laundry and plumbing fixtures	mg/L	0.05	0.007
Nitrate - often used in inorganic fertilizers	mg/L	45	0.28
Nitrate / Nitrite - naturally occurring ions, used in inorganic fertilizers	mg/L	~	0.28
Nitrite - naturally occurring, used in food preservatives	mg/L	3.2	<0.05
pH - measure of acidity	pH	6.5 - 8.5	8.2
Potassium - similar to sodium, essential element, found in potash fertilizer	mg/L	~	0.92
Selenium - metal used to make red glass, active ingredient in some shampoo	ug/L	50	<1.0
Sodium - found in table salt, road salt and processed food	mg/L	≤200	12.7
Sulfate - occurs naturally found in gypsum	mg/L	500	14
Thallium - rare metallic element	ug/L	~	<1.0
Total Hardness - caused by dissolved minerals primarily calcium and magnesium	mg/L	² See Note	120
Turbidity - a measure of suspended solids in the water	NTU	1	<0.1
Uranium - naturally occurring element	ug/L	20	0.03
Zinc - found in some plumbing fixtures and galvanized metal	mg/L	5	<0.001

¹ Note: mg/L are parts per million; ug/L are parts per billion

² Note Public acceptance of hardness varies considerably. Levels up to 100 mg/L are considered "acceptable" with levels greater than 200 mg/L poor but tolerable. Unacceptable levels are greater than 500 mg/L.

Hardness Scale (as per Health Canada)

Soft	0 to <60 mg/L;	0 - 3.5 grains	
Medium hard	60 to <120 mg/L	3.5 - 7.0 grains	The City of Fredericton's water is medium hard.
Hard	120 to < 180 mg/L	7.0 - 10.5 grains	
Very hard	180 mg/L & above.	10.5 grains & above	

Manganese commonly occurs in groundwater in New Brunswick. At concentrations greater than 0.15 mg/L, manganese can stain plumbing fixtures and laundry and may cause undesirable taste in beverages. The City of Fredericton's Water Treatment Plants remove manganese through a process of chlorination and filtration.

ND = Not Detected (level below detection limit of instrumentation)