Manitou Springs' Mineral Content

Mineral Springs Foundation

Mineral		7 Minute	Shoshone	Wheeler	Navajo	Cheyenne	Stratton	Twin	Iron Geyser
Alkalinity (bicarbonate)	$CaCO_3$	573 mg/L	2,040 mg/L	1,930 mg/L	2,317 mg/L*	2,010 mg/L	1,951 mg/L*	1,020 mg/L	1,320 mg/L
Calcium	Ca	155 mg/L	449 mg/L	420 mg/L	420 mg/L*	437 mg/L	370 mg/L*	252 mg/L	173 mg/L
Chloride	Cl	46.1 mg/L	263 mg/L	241 mg/L	230 mg/L*	243 mg/L	180 mg/L*	76.2 mg/L	212 mg/L
Copper	Cu	-	0.12 mg/L	0.17 mg/L	0.07 mg/L	0.08 mg/L	0.05 mg/L	-	-
Fluoride	F	1.0 mg/L	4.0 mg/L	3.4 mg/L	3.10 mg/L*	3.40 mg/L	3.20 mg/L*	2.40 mg/L	4.80 mg/L
Iron	Fe	0.54 mg/L	-	0.11 mg/L	-	-	-	-	14 mg/L
Lithium	Li	.079 mg/L	.759 mg/L	.726 mg/L	.705 mg/L*	.671 mg/L	.568 mg/L*	.188 mg/L	.753 mg/L
Magnesium	Mg	53.2 mg/L	75.7 mg/L	82.4 mg/L	82 mg/L*	76.3 mg/L	68 mg/L*	77.2 mg/L	26.1 mg/L
Manganese	Mn	-	2.39 mg/L	1.33 mg/L	0.78 mg/L*	1.25 mg/L	0.42 mg/L*	-	0.77 mg/L
Potassium	K	8.38 mg/L	76.5 mg/L	70.5 mg/L	70 mg/L*	67.8 mg/L	50 mg/L*	18 mg/L	79.9 mg/L
Silica	SIO	12.2 mg/L	46.4 mg/L	38.7 mg/L	41 mg/L*	40.9 mg/L	34 mg/L*	15.4 mg/L	82.4 mg/L
Sodium	Na	55.1 mg/L	499 mg/L	483 mg/L	430 mg/L*	445 mg/L	360 mg/L*	129 mg/L	508 mg/L
Sulfate	S04	71.9 mg/L	219 mg/L	207 mg/L	190 mg/L*	205 mg/L	160 mg/L*	72.8 mg/L	239 mg/L
Zinc	Zn	.13 mg/L	.11 mg/L	.096 mg/L	.094 mg/L*	.105 mg/L	.072 mg/L*	.080 mg/L	.062 mg/L
Total Dissolved Solids	TDS	1,100 mg/L†	2,870 mg/L†	2,470 mg/L†	2,690 mg/L*	2,500 mg/L†	2,200 mg/L*	1,300 mg/L†	2,060 mg/L†

mg/L – milligrams per liter

Indicates highest amount of content

Indicates lowest amount of content

$CaCO_3$,Ca, Cl, F, Li, Mg, K, SIO, Na, S04, Zn Analysis: SGS North America, Inc., Wheat Ridge, CO 2018
Fe, Mn Analysis: Hall Environmental Analysis Laboratory, Inc., Albuquerque, NM 2009 / 2010.
Cu Analysis: ACZ Laboratories, Inc., Steamboat Springs, CO 2008
*Analysis from: Hall Environmental Analysis Laboratory , Inc. report 2009 / 2010
†Analysis from: SGS North America, Inc., Wheat Ridge, CO report 2020

For more information: www.manitoumineralsprings.org

CALCIUM (Ca):
Calcium is the mineral the body uses most
About 99% of the body is calcium contained in bones, teeth. Phosphorus and vitamin D are important for the proper use of calcium by the body. Calcium regulates the rhythm of the heartbeat. Your heart could not beat without it. Calcium is necessary for bone and tooth formation, heart function, blood coagulation and muscle contraction. Calcium has a role in controlling blood pressure and may help prevent colorectal cancer, high blood pressure, heart disease, PMS and osteoporosis. Leg cramps may be alleviated with calcium. Children with extreme calcium deficiency may develop rickets; a disease that causes deformed bones. Too much magnesium or phosphorus in the diet may lead to a calcium deficiency, as can excessive smoking, alcohol or consumption of soft drinks.

CHLORIDE (CL):
In tandem with potassium and sodium, chloride is an electrolyte that helps to keep the fluid balance in and out of the body's cells. Regulates fluid and acid-based balance, plus forms part of gastric juice necessary for digestion. It is necessary for the proper functioning of the liver and for healthy joints and tendons.

COPPER (Cu):
Copper, found in the bones, muscles, brain, heart, liver and kidneys, is an important trace mineral for the cardiovascular, nervous and skeletal systems. Copper pipes and cooking pans may raise the copper content of food and water. Highly processed foods are often depleted of most of their copper content. Copper is involved in the absorption and metabolism of iron. It also helps form connective tissue, nerve fibers and red blood cells. Copper helps keep your arteries flexible. Severe copper deficiency is rare. Too much zinc, or excessive diarrhea may lead to a marginal deficiency with symptoms such as anemia, skeletal defects, loss of pigment in hair and skin, decreased resistance to infection, heart disease, high cholesterol, nervous system disorders, lack of coordination and a tingling of the extremities.

FLUORIDE (F):
Fluoride is found mainly in the teeth - no wonder it is such a common ingredient in toothpastes. In many parts of the world, fluoride is added to tap water. Studies have proven that this significantly decreases tooth decay in children, especially when fluoride is consumed before the teeth erupt. Fluoride is essential for healthy bone and tooth formation, as it helps the body retain calcium. It prevents acid and plaque formation in the mouth caused from food, especially sugar.

IRON (Fe):
You can tell iron is an important nutrient by the amount of supermarket products that are advertised as 'iron enriched'. Unfortunately, many of these products are enriched from ferrous, not ferric, compounds, which is more difficult for the body to absorb. Iron is found in many plants, but even that is often in a form that is difficult to absorb (some iron-rich vegetables like spinach also contain oxalic acid, which interferes with the absorption of iron and other minerals). Vitamin C greatly improves iron absorption. Iron binds with hemoglobin molecules and carries oxygen in your blood and throughout your body. It is involved in enzyme activities related to energy storage and availability. Iron also forms part of several enzymes and proteins in the body. Iron deficiency can lead to anemia, which causes lethargy, poor concentration, pale skin and shortness of breath. Vegetarians have to ensure they get an adequate iron intake, as do menstruating or pregnant women.

LITHIUM (Li):
Lithium carbonate (Li2CO3) has been used since the 1960's for treatment of those who suffer from the psychological disorder of manic depression or bipolar affective disorder.

MAGNESIUM (Mg):
More than half of the body's magnesium is found in bone, the rest in cells, soft tissues, muscle and blood. If the diet is low in magnesium, it is leached from the bones. Cooking, canning and freezing destroy magnesium. Magnesium is involved in the formation of bone and teeth. It is also vital for nerve conduction and muscle contraction, plus activates enzymes that aid in the release of energy from food. It helps control blood pressure, regulate body temperature and maintain the acid-base balance in the body. Calcium and magnesium must be in proper proportion to perform their closely related body functions. For example, calcium stimulates muscles while magnesium relaxes them. Magnesium has had some success in treating migraines, asthma and diabetes.

MANGANESE (Mn):
Not a lot is known about this trace element, but it may play a role in treating heart arrhythmia, osteoporosis, epilepsy and back pain. Our bodies store about 10 mg of manganese in the bones, liver, kidneys and pancreas. Manganese is used in bone formation, muscle coordination, nervous system function and is involved in several enzyme reactions. It is also used, along with Vitamin K to promote blood clotting.

POTASSIUM (K):
Potassium is a major nutrient in fruits and vegetables and is the predominant positive electrolyte in body cells. To avoid high blood pressure, try to keep your potassium to sodium intake at 5:1 ratio.
Potassium helps maintain blood pressure, and is involved in nerve transmission and muscle contraction. In partnership with chloride, potassium helps maintain the water balance in and out of body cells, plus it regulates blood pressure and heartbeat. It stimulates the kidneys to release toxins from the body. Some studies have shown potassium may help prevent strokes. Potassium deficiency is common due to the modern diet's high salt consumption, which stimulates the body to rid itself of the mineral. Symptoms include muscle cramps, poor reflexes, heart irregularities, low blood pressure, respiratory failure, kidney problems, insomnia and dry skin

SILICA (SIO):
No apparent health benefits

SODIUM (Na):
Sodium is one mineral you don't need to worry about getting enough of. The typical modern diet has more than enough in the form of sodium chloride - otherwise known a table salt - found in processed foods, cured meats, canned vegetables, salty snacks and condiments. Sodium is an electrolyte that plays a crucial role in maintaining blood pressure. Along with potassium and chloride, it regulates fluids and acid-base balance in the body. It is also involved in nerve transmission and muscle contraction, including the heartbeat. Sodium excess is a more likely scenario, but profound sweating, fever, diarrhea, fasting and very low-salt diets can result in symptoms like muscle twitching, dehydration, memory loss, nausea, poor concentration and loss of appetite.

SULFATE (S04):
No apparent health benefits

ZINC (Zn):
Zinc is an important trace element involved in antioxidant reactions. It can boost your immune system and has been reported to be effective in fending off bad colds. Vegetarians should be conscious of ensuring an adequate intake of zinc. Zinc is a component of insulin and over 100 enzymes, proteins, nucleic acids and hormones. It helps in the healing of wounds, tissue repair, growth, energy conversion and sexual development. It regulates blood sugar, blood pressure, heart rate and cholesterol levels.