



Well Water Testing Description
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Inorganic Chemical Full Description

Inorganic Chemical Sample Includes All Of The Following Analytes

Inorganic Chemical General Information: Inorganic Chemicals are elements or compounds found in water supplies and may be natural in the geology or caused by activities of man through mining, industry, or agriculture. It is common to have trace amounts of many Inorganic Chemicals in water supplies. Moreover, some Inorganic Chemicals are essential elements, meaning your body need it. Inorganic Chemicals that exceed United States Environmental Protection Agency (USEPA) and/or North Carolina drinking water standards can potentially pose aesthetic and/or health risk concerns. The following information describes the analytes that are included in this test.

Arsenic: Arsenic is a naturally occurring element that can be found in certain types of rock and soil. Arsenic can be released into the environment naturally. Additionally, Arsenic may be found in hazardous waste sites, pesticides, metal smelters, lumber operations, electronic devices, and waste ashes from coal combustion. Drinking high concentrations of Arsenic for a short period of time may cause nausea, vomiting, irregular heartbeat, and muscle cramping or weakness. Drinking water with Arsenic for many years may cause skin pigment changes, liver damage, kidney damage, cancer, and decreased red and white blood cell production.

Barium: Barium is a natural element found in rocks deep underground. Barium compounds are used in the oil and gas industry and in some medical practices. It can also be found in paint, bricks, ceramics, glass, and rubber. Drinking high levels of Barium can lead to vomiting, stomach cramps, diarrhea, and changes in blood pressure.

Cadmium: Cadmium is a natural element found in rocks deep underground and soil. Moreover, Cadmium is used in batteries, pigments, metal coatings, and plastics. Drinking high levels of cadmium can lead to vomiting, diarrhea, fragile bones, kidney damage, and lung damage.

Calcium: Calcium is a natural element found in rocks deep underground. Additionally, Calcium contributes to the hardness of well water. Calcium is an essential element, meaning your body needs it. This helps with bone development, kidney function, metabolism, vascular contraction, blood clotting, muscle contraction, and nerve transmission. Only people with pre-existing conditions, like mild alkali syndrome and hypercalcemia, may be affected by drinking high levels of Calcium because it can interfere with the absorption of other essential elements.

Chloride: Chloride is a form of chlorine gas and is found in rocks deep underground, soil, and water. Additionally, Chloride is used to produce industrial chemicals; these include fertilizers and snow/ice control. Chloride is an essential element, meaning your body needs it in small amounts. Only people with pre-existing conditions, like kidney damage, may be affected by drinking high levels of Chloride, as is may cause edema.

Chromium: Chromium is a natural element found in rocks deep underground and soil. Furthermore, it is used for chrome plating, dyes, pigments, leather tanning, and wood preserving. Chromium III is an essential element, meaning your body requires it in small quantities. Chromium VI is not an essential element, meaning your body does not need it. Chromium VI can cause stomach irritation, stomach ulcers, stomach cancer, and damage to the male reproductive system.

Copper: Copper is a natural element found in soil, water, air, and rocks deep underground. Additionally, it is used to make wire, pipes, fittings, coins, preservatives for wood, preservatives for leather, and bronze materials. Copper is an essential element, meaning your body needs it in small amounts. Drinking high levels of Copper can lead to nausea, vomiting, diarrhea, gastrointestinal illness, anemia, liver poisoning, and kidney failure.

Fluoride: Fluoride is a form of fluorine, a natural element. Fluoride is found in rocks deep underground and natural waters. Fluoride is not an essential element, meaning your body does not need it; however, it does help prevent tooth decay at low levels. Long term exposure to high levels of fluoride can cause gastrointestinal issues and brittle bones.

Iron: Iron is a natural element found in rocks deep underground. Additionally, Iron is used for construction material and pipes. Iron is an essential element, meaning your body needs it in small amounts; it helps with oxygen transport, DNA synthesis, and electron transport. High levels of Iron can cause gastrointestinal problems. For people with pre-existing conditions, like hemochromatosis, drinking high levels of Iron may cause heart, liver, and pancreas toxicity.

Lead: Lead is a natural element found in rocks deep underground and soil. Most of the Lead found in the environment is due to human activities including burning fossil fuels, mining, and industrial processes. Lead compounds are used for batteries, pigments, rust inhibitors, ammunition, plastic stabilizers, solder, and brass fittings. Lead is not an essential element, meaning your body does not need it. Drinking high levels of Lead can lead to stomach cramps, muscle tremors, kidney damage, and brain damage. Lead is particularly hazardous to children.

Magnesium: Magnesium is a natural element found in rocks deep underground. Magnesium is an essential element, meaning your body needs it. Additionally, it helps with energy metabolism, protein synthesis, vascular tone, and insulin sensitivity. Only people with pre-existing kidney problems may be affected by drinking high levels of Magnesium because it can cause diarrhea or laxative effects.

Manganese: Manganese is an essential nutrient that occurs naturally in the environment. Furthermore, it occurs in low levels in the air, water, soil, and food. Depending on the concentration, manganese exposure may cause neurological effects on the most vulnerable populations, which includes infants, children, and pregnant women. Lastly, Manganese can cause stains to laundry and fixtures.

Mercury: Mercury is a metal that occurs naturally at low levels in rock, soil, and water. Furthermore, Mercury can be found in hazardous waste sites, paints, and pesticides. Mercury is very toxic and can cause serious damage to the brain, nervous system, and kidneys. Children under 15 years of age and developing fetuses are at greatest risk of the harmful effects of Mercury.

pH: pH is a measurement of the acidity or basicness of water. Additionally, pH levels depend on the amount of minerals like carbonate, bicarbonate, and hydroxide in groundwater. High and low levels of pH can cause gastrointestinal problems and can be corrosive. Low pH (less than 4) can cause skin and eye irritation. High pH (greater than 10) can cause hair damage.

Selenium: Selenium is a natural element found in rocks deep underground and soil. Selenium is used in the electronics industry and glass production. Furthermore, Selenium can be part of pigments, paints, inks, rubber, nutritional supplements, and fungicides. Selenium is an essential element, meaning your body needs it in small quantities. Drinking high levels of Selenium over short periods can lead to nausea, vomiting, and diarrhea. Drinking Selenium over long periods of time may lead to selenosis, a disease known for hair loss, brittle nails, and numbness of extremities.

Silver: Silver is a natural element found in rocks deep underground and soil. Silver is used to make jewelry, silverware, electronics, dental fillings, photographs, and solder. Silver is not an essential element, meaning your body does not need it. Drinking high levels of Silver over long periods of time may lead to argyria, a condition known for blue-gray discoloration of skin, hair, and internal organs.

Sodium: Sodium is a natural element found in soil, water, and rocks deep underground. Sodium is used in water softener treatment systems, disinfectants, pH adjustment chemicals, paper, glass, soap, pharmaceuticals, and food. Sodium is an essential element, meaning your body needs it in small amounts. Drinking high levels of Sodium may cause hypertension, vomiting, nausea, gastrointestinal issues, muscular twitch, and convulsions. Drinking high levels of Sodium over long periods may lead to death.

Sulfate: Sulfate is a form of sulfur, a natural element found in rocks deep underground, mineral deposits, and soil. Sulfates are used to produce fertilizers, dyes, glass, paper, soap, textiles, pesticides, and some medical supplies. Sulfate is not an essential element, meaning your body does not need it. Drinking high levels of Sulfate can have a laxative effect.

Total Alkalinity: Total alkalinity is a measurement of the capacity for water to resist changes in pH. Alkalinity cannot impact your health.

Total Hardness: Total hardness is a measurement of the amount of dissolved minerals in your water. Hard water has high levels of calcium, magnesium, and other metals. Hard water can cause high soap usage, mineral deposits on dishes, and scale build up in sinks and tubs.

Zinc: Zinc is a natural element found in rocks deep underground, air, soil, and water. Additionally, Zinc is used to produce metals, batteries, pennies, paint, rubber, dyes, ointments, and wood preservative. Drinking high levels of Zinc can lead to stomach cramps, nausea, vomiting, and anemia.