



If you own a home with a private well

The Health Department recommends the following testing schedule to make sure your drinking water is safe:

- Total coliform bacterial test **every year**
- Inorganic chemical test **every five years**
- Gross alpha radiation screen **every five years**

Total Coliform Bacterial Test

A total coliform bacterial test is recommended for homeowners with private wells every year. Coliform bacteria are a large group of soil and intestinal bacteria that show possible well contamination and may cause health problems. However, coliform bacteria do not necessarily make you sick. If total coliform bacteria are found, the water is then checked for *E. coli* bacteria. Test results show an absence or presence of bacteria.

Do not drink water that has tested positive for bacterial contamination. Boiling water for one minute will kill bacteria so it can be used for drinking.

Inorganic Chemical Test

Testing for inorganic chemicals is recommended for homeowners with private wells every five years. Test for these chemicals: arsenic, chloride, copper, fluoride, hardness, iron, lead, manganese, nitrate, nitrite, sodium and uranium.

These chemicals can create nuisance problems, or in some cases, health symptoms or concerns. When you receive test results, they will be compared with maximum levels.

Gross Alpha Screen

A screen for alpha radiation is recommended for homeowners with private wells every five years. This is a screening test for naturally occurring mineral radioactivity in water such as uranium and radium. This radioactivity is measured and reported in picocuries per liter (pCi/L). You can use your gross alpha result and uranium result to determine if additional testing or treatment is needed. For more information visit: healthvermont.gov/water/radioactive-elements.

Certified Laboratories

You can order test kits from the Health Department Laboratory at 800-660-9997 or 802-338-4736 – or use another certified drinking water lab. For a list of certified labs, visit: healthvermont.gov/drinkingwaterlab.

Other Water Problems

If your water has an unusual smell, taste, color or sheen, switch to another safe water source until test results are known. For more info visit healthvermont.gov/water or call the Private Drinking Water Program at 800-439-8550 or 802-863-7220 for guidance.

Health Concerns

Health symptoms related to drinking water that is contaminated with coliform bacteria can range from no effects to severe cramps and diarrhea. Possible health effects from chemicals in drinking water depend on the level in the water, how much and how long the water has been used for drinking and, in some cases, personal health issues.

The following are health concerns related to specific chemicals found in drinking water:

Arsenic has been linked to increased lifetime risk for bladder, lung or skin cancer. The maximum level in water is 0.010 milligrams per liter (mg/L).

Chlorides do not cause health problems, but high chloride levels give drinking water an unpleasant taste and may be a sign of other problems. The maximum level in water is 250 mg/L.

Copper is an important mineral for the formation of red blood cells. Copper can stain plumbing fixtures and give the water a metallic taste. High amounts of copper in water can cause stomachaches, vomiting or diarrhea. The maximum level in water is 1.3 mg/L.

Fluoride is a mineral found in nature that helps the body resist tooth decay. You should know if well water contains fluoride so you can make adjustments to infant formula or children's supplements. The maximum level in water is 4.0 mg/L.

Hardness causes no known health risks but can cause reduced lathering of soap, and buildup of scale in water heaters, cookware and plumbing. No limits are established for water hardness.

Iron is an essential element and does not generally cause health effects. However, high amounts of iron can stain clothing, sinks, toilets and bathtubs. Iron can give water a metallic taste. The maximum level in water is 0.3 mg/L.

Lead is a toxic metal that can come from older plumbing. It can hurt the brain, kidneys and nervous system, especially for children and pregnant women. The action level for lead in water is 0.015 mg/L. Because there is no safe level of lead in the body, Vermont has set a health advisory level of 0.001 mg/L.

Manganese is an essential element, but high amounts could affect the nervous system. It can discolor water and stain clothing and bathroom fixtures grey/black, usually when levels are higher than 0.050 mg/L. The maximum level in water is 0.300 mg/L.

Nitrate/Nitrite are linked with two known health problems at high levels. They can cause an oxygen deficiency young infants' blood, resulting in a bluish skin tone. In adults, nitrates can form chemicals called nitrosamines, which are linked to cancer over the long term. High nitrate levels in well water may also show contamination from sources such as septic systems or fertilizers. The maximum level for nitrates in water is 10.0 mg/L and for nitrites is 1.0 mg/L.

Sodium is a necessary dietary element and can occur naturally in water. Water with high levels of sodium tastes salty, can corrode metal piping, and can contribute to high blood pressure. Salt from road de-icing may cause sodium levels to rise in wells close to roads. The maximum level in water is 250 mg/L.

Uranium is a radioactive element found in nature, including soil, water, rocks, plants and food. Most uranium we take into our bodies is eliminated, but a small amount is absorbed and may go through the bloodstream and kidneys. Elevated levels of uranium may increase a person's risk of kidney damage or lifetime risk of cancer. The maximum level in water is 0.020 mg/L.