

It's *YOUR* Health!



VDH's Office of Environmental Health Services has developed the "It's YOUR Health" information program to help private system owners with the educational, emergency, and service provider information needed to safeguard wells and septic systems so that they remain protective of human health and the environment. Because it's YOUR health!

Private well owners are responsible for all water quality sampling before and after the well is approved. Please keep the following in mind when determining whether you should test your private well water supply for arsenic.

Sources

Arsenic is a semi-metallic element which occurs naturally in rocks, soils, and waters that come in contact with these rocks and soils. Arsenic is odorless and tasteless.

Arsenic can enter the water supply from natural deposits in the earth or from industrial and agricultural pollution. It is widely believed that naturally occurring arsenic dissolves out of certain rock formations when ground water levels drop significantly. Some industries in the United States release thousands of pounds of arsenic into the

environment every year. Once released, arsenic remains in the environment for a long time. Arsenic is removed from the air by rain, snow, and gradual settling. Once on the ground or in surface water, arsenic can slowly enter ground water. High arsenic levels in private wells may come from certain arsenic containing fertilizers used in the past or industrial waste. It may also indicate improper well construction or overuse of chemical fertilizers or herbicides in the past.

Source: CDC

Health Risks Associated with Arsenic

Inorganic arsenic has been recognized as a human poison since ancient times, and large oral doses (above 60,000 ppb in water which is 10,000 times higher than 80% of U.S. drinking water arsenic levels) can result in death. If you swallow lower levels of inorganic arsenic (ranging from about 300 to 30,000 ppb in water; 100–10,000 times higher than most U.S. drinking water levels), you may experience irritation of your stomach and intestines, with symptoms such as stomachache, nausea, vomiting, and diarrhea. Other effects you might experience from swallowing inorganic arsenic include decreased production of red and white blood cells, which may cause fatigue, abnormal heart rhythm, blood-vessel damage resulting in bruising, and impaired nerve function causing a "pins and needles" sensation in your hands and feet.

Source: ATSDR

What Can You Do If You Find Arsenic in Your Private Well Supply

Heating or boiling your water will not remove arsenic. Because some of the water evaporates during the boiling process, the arsenic concentrations can actually increase slightly as the water is boiled. Additionally, chlorine (bleach) disinfection will not remove arsenic.

You may wish to consider water treatment methods such as reverse osmosis, ultra-filtration, distillation, or ion exchange. Typically these methods are used to treat water at only one faucet. Contact your local health department for recommended procedures. If you want to know more about these and other treatment options, please contact [NSF International](#), an organization that focuses on public health and safety through standards development, product certification, education, and risk management.

Source: CDC

LINKS for Further Information

[National Groundwater Association](#)

[Virginia Household Water Quality Program](#)

[Center for Disease Control: Arsenic and Drinking Water from Private Wells](#)