

WHAT YOU NEED TO KNOW ABOUT Uranium in Private Well Water

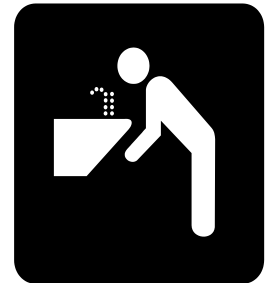
Uranium is a metal that has no smell or taste. Uranium is naturally present in bedrock in many places throughout CT. When a drinking water well is drilled into bedrock containing uranium, the uranium can get into the well water. We know that there are private wells in locations across CT with high levels of uranium. The only way to find out if your well has high uranium is to test. We recommend that homeowners test their private well at least once for uranium. This fact sheet provides homeowners with information about the health effects from uranium, how to test well water for uranium and what to do if your well water has high levels of uranium.

What is “Natural” Uranium ?

Uranium is an element that has been in rocks since the earth was formed. Not all rocks contain uranium, but there are some places in the world where uranium is in the bedrock. Other related elements that may be found in association with uranium include radium (Ra-226 and 228) and radon (Rn-222). These other elements are part of a sequence formed through a transformation (decay) process that begins with the most prevalent form of “natural” (unprocessed) uranium (U-238). U-238 is not radioactive enough to be useful in nuclear power plants or weapons. In fact, “Enriched” uranium used in power plants, needs to have most of the U-238 taken out.

Is There Uranium in My Well Water?

Uranium occurs naturally in some Connecticut bedrock ground water, therefore deep bedrock wells are susceptible to contamination. Shallow wells that do not reach bedrock are less susceptible to uranium contamination. Wells with high levels of uranium have been found sporadically all around Connecticut. Uranium gets into well water from bedrock that contains uranium. The amount of uranium in bedrock and well water will vary greatly from place to place and without testing, it is not possible to determine if the water can be considered safe for drinking.



How Can Uranium Affect My Health?

The chemical properties of uranium in drinking water are of greater concern than its radioactivity. Most ingested uranium is eliminated from the body. However, a small amount is absorbed and carried through the bloodstream. Studies show that drinking water with elevated levels of uranium can affect the kidneys over time. Bathing and showering with water that contains uranium is not a health concern.

How Can I Make Sure That My Well Water Safe For Drinking?

Uranium testing should be your first step. Based on the results, your decision will be to either install a treatment system, or do some additional testing for related contaminants. To find out if you have uranium in your drinking water, the Connecticut Department of Public Health (DPH) recommends that you contact a laboratory and ask for a uranium test using “ICP-MS”. These tests are quicker and less expensive than other alternatives.

DPH maintains a list of [State-certified laboratories](#). Search the document for labs testing “radiochemicals” in drinking water (code R). A uranium test costs about \$50.

If you have uranium in your well water at a concentration greater than the EPA standard of 30 micrograms per liter (ug/l), you will need to treat your water to remove the uranium. See the section below for information on treatment.

Radium is another naturally-occurring metal that can contaminate well water and is sometimes associated with uranium problems. Testing for radium is an option you can consider if test results indicate that you do not have a uranium problem. A radium test costs about \$200. You do not need a radium test if you have already decided to install a uranium treatment system, provided the uranium treatment system will remove radium in addition to uranium. For more information about radium, refer to the DPH Factsheet [Naturally Occurring Radium in Private Well Water](#).

When Should I Test My Well For Uranium?

You should test for uranium when you buy a house with a well or at the time a new well is drilled. It is possible for uranium levels in well water to fluctuate so even if one uranium test shows no uranium problem, it is a good idea to test for uranium every 5 years. If you have a treatment system to remove uranium from your water, you should test every year to be sure your treatment system is working properly.

Water Treatment for Uranium

Point-of-use (POU) water treatment devices treat water at just one faucet. They differ from point-of-entry (POE) devices, which are installed on the water line as it enters the home and treat all the water that enters the home. Because uranium gets into your body only through ingestion (and not through the skin or through inhalation), it is not necessary to treat all the water in your home, but only the water you drink.



Reverse osmosis (RO) and ion exchange are the most common types of treatment systems used for uranium removal and are both very effective. Both types of treatment can be installed as POU or POE systems. However, there are other technologies that will remove uranium as well. Decisions about treatment systems depend on many factors, including what else is in your water, water usage, installation costs and maintenance costs. You should consult a water treatment expert to help you decide what treatment system is best for your situation. Another source of information is [NSF International](#) which certifies many water treatment devices.

You should also think about whether the uranium treatment system you are considering will also remove radium. If you need to treat your water because of high uranium and the system you select will also remove radium, then you do not need to test your water for radium. However, if your uranium treatment system is not effective for radium, we recommend that you test your water for radium. If you have elevated radium in addition to uranium, you will need to select a system that will effectively remove both contaminants.

For More Information

Health Questions:

CT Dept. of Public Health Environmental Health Section

[Environmental & Occupational Health Assessment Program](#)

(860) 509-7740

Treatment Questions:

For technical advice on well water construction, maintenance, quality or treatment contact your [Local Health Department](#) or the Department of Public Health, [Private Well Program](#) at **860-509-7296**.

Certified Testing Labs: DPH [Environmental Laboratories](#)