

WHAT YOU NEED TO KNOW ABOUT **Radium in Private Well Water**

Radium is a naturally-occurring radioactive element that is present in rocks and soil within the earth's crust. Radium has no smell or taste. When a drinking water well is drilled into bedrock containing radium, the radium can dissolve into the well water. We know that there are private wells in locations across CT with high levels of radium. The only way to find out if your well has high radium is to test. This fact sheet provides homeowners with information about the health effects from radium, how and when to test well water for radium and what to do if your well water has high levels of radium.

What is Radium ?

Radium is a naturally-occurring radioactive element that is present in rocks and soil within the earth's crust. When a well is drilled into bedrock, radium can dissolve into the well water. There are several forms of radium but the most common forms found in groundwater are radium 226 (Ra-226) and radium 228 (Ra-228).



Is There Radium in My Well Water?

Radium 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 radium contamination. Wells with high levels of radium have been found sporadically all around Connecticut. The amount of radium 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 Radium Affect My Health?

Radium in water can pose a hazard to human health when the water is used for drinking or cooking. Bathing and showering in water with radium is not a health concern. After ingestion, some of the radium is absorbed into the body and accumulates in the bone. Radiation emitted from the radium that is absorbed in the body can damage surrounding tissues, including bones. High levels of radium can cause problems with the blood (anemia), eyes (cataracts), and teeth (broken teeth, cavities). Exposure to high levels of radium has also been shown to increase your risk of bone, liver, and breast cancer.

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

Well owners concerned about radium should first test for uranium. There are three reasons for this.

- ⇒ Uranium and radium often occur together in well water.
- ⇒ Data from wells in CT indicate that uranium problems are more common than radium problems.
- ⇒ A uranium test is less expensive than a radium test.
- ⇒ If you have a uranium problem, you may be able to install treatment that will, in many cases, also remove radium. This would eliminate the need to spend money on a radium test.



For information on uranium testing, refer to the Connecticut Department of Public Health (DPH) Fact Sheet [Uranium in Private Well Water](#). If you decide you want to test your well water for radium, consult the list of [State-certified Laboratories](#). Look for labs testing Radiochemicals (code R) in drinking water. Tell the lab that you want a test for “combined radium” (Ra-226 plus Ra-228). A radium test costs about \$200.

If your well water has radium at a concentration greater than the EPA standard of 5 picocuries per liter (pCi/L), you will need to treat your water to remove the radium. 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 treatment expert to help you decide what treatment system is best for your situation.



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](#)