

wellcare[®] information for you about **Radium & Groundwater**

What is Radium?

Radium is a radioactive metal that occurs naturally in trace amounts in rocks, soils and ground water. As radium decays, it continually releases energy, which is part of the natural radiation to which all living creatures are exposed. Radium readily dissolves in ground water where acid conditions (low pH levels) are found.

All rock contains some radium, usually in small amounts. Groundwater, which moves slowly through the pores or cracks in underground layers of rock, dissolves minerals as it travels. Where the rock contains significant amounts of radium, and the groundwater moves at a slow enough rate, the water can pick up higher amounts of radium.

Generally, private wells are not drilled into the deeper geologic formations containing high concentrations of radium. Nevertheless, radium has been found in a small number of private wells. Check with your state or local health department.

What are the health effects of Radium?

Immediate health risks from drinking water containing low radioactivity levels are small. But, consuming this water for a lifetime increases the health risks. Some people who drink water containing large amounts of radium over long periods of time have an increased risk of getting some types of cancer, including bone cancer.

Radium is not absorbed through the skin. Showering or bathing with water that contains radium does not pose a health risk at any level.

How do I test for Radium?

Your water should first be analyzed for radioactivity with a short-term gross alpha activity test. This screening test is less expensive than direct analysis for radium. If gross alpha activity is found, further testing for radium is warranted.

Radioactivity levels are measured in "picocuries" per liter of water (abbreviated "pCi/L"). The EPA standard for drinking water is 5 pCi/L for the combined total of two forms of radium, Radium-226 and Radium-228.

What are the treatments for Radium in drinking water?

Water softeners (i.e. ion exchange) and reverse osmosis units can remove up to 90 percent of radium. For some people, an undesired effect of ion exchange is the addition of sodium to the treated water. Those on low sodium (salt) diets should consider this before installing a softener. Also, you must check softeners regularly to assure they are operating properly and filtering the radium.

For more information about Radium and Groundwater

Illinois Department of Public Health. Environmental Health Fact Sheet: Radium in Drinking Water. Retrieved May 21, 2007 from www.idph.state.il.us/envhealth/factsheets/radium.htm

U.S. Environmental Protection Agency (EPA). Basic Information about Radionuclides in Drinking Water. Retrieved on May 4, 2007 from www.epa.gov/safewater/radionuclides/basicinformation.html

For more information on your drinking water

Contact your local water well professional or health department for information on ground water in your area. The following websites provide up-to-date information on efforts to protect drinking water supplies and steps you can take as a private well owner. In addition, you may contact the **wellcare®** hotline at **1-888-395-1033**.

Underwriters Laboratories Inc. Drink Well™ Well Water Testing
U.S. Environmental Protection Agency
Water Quality Association

www.uldrinkwell.com
www.epa.gov
www.wqa.org

For more information about wells and other wellcare® publications

wellcare® is a program of the **Water Systems Council (WSC)**. **WSC** is a national nonprofit organization dedicated to promoting the wider use of wells as modern and affordable safe drinking water systems and to protecting ground water resources nationwide. This publication is one in a series of **wellcare®** information sheets. There were more than 60 available at the time this document was published. They can be downloaded FREE from the WSC website at www.watersystemscouncil.org. Well owners and others with questions about wells or ground water can also contact the **wellcare®** hotline at **1-888-395-1033** or visit www.wellcarehotline.org



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