

wellcare™ information for you about **Radium**

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. Ground water, 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 ground water 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 private wells in about half of all states. Check with your 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. Radium is known to cause bone cancer when consumed in high doses.

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 is the treatment 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 on your ground water

Your local well contractor, health department, cooperative extension service and state environmental or natural resources department can provide more information about ground water in your area. Check the telephone directory or search the web under “water wells” or “government agencies.”

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 promote the wider use of wells as modern and affordable safe drinking water systems and to protect ground water resources nationwide.



Contact us at 888-395-1033 or visit www.watersystemscouncil.org

Other wellcare™ publications:

A Consumer's Guide to Water Wells

A Consumer's Guide to Well Testing & Disinfection

wellcare™ Info Sheet: Home Drinking Water Treatment Devices

wellcare™ Info Sheet: Water Quality – arsenic, bacteria, chromium, iron, MTBE (methyl tertiary butyl ether), nitrate, radon, radium, sulfur and TCE (trichloroethylene)

Other organizations you may want to contact:

Water Quality Association	630-505-0160	www.wqa.org
The Ground Water Foundation	800-858-4844	www.groundwater.org
American Ground Water Trust	603-228-5444	www.agwt.org
National Ground Water Association	800-551-7379	www.ngwa.org

This publication was developed in part under Assistance Agreement No. X-82849101-1 awarded by the U.S. Environmental Protection Agency. It has not been formally reviewed by EPA. The views expressed in this document are solely those of WSC. EPA does not endorse any products or commercial services mentioned in this publication.