

wellcare® information for you about Strontium & Well Water

What is Strontium?

Strontium is a naturally occurring element found in rocks, soil, air, water, plants and animals. Before flat-screen televisions, strontium was used in the production of television tubes, and is currently used in the production of ceramics, glass products, fluorescent lighting, drilling fluids, medicines and some toothpastes for sensitive teeth.

Two forms of strontium are found in the environment: **stable (non-radioactive)** and **unstable (radioactive)**. Stable strontium is the most common form of strontium, usually found in small amounts in our food, air, and drinking water. Unstable strontium is less common and comes from man-made nuclear activity, coal burning, and some phosphate fertilizers.

What are the health effects of Strontium?

Stable form of Strontium

In its stable form, strontium mimics calcium in our bodies and is absorbed by the growing bones of infants, children and young adults. Small amounts are not known to be harmful. However, high levels can cause bones to grow shorter and thicker than normal and may cause birth defects. People with calcium deficiencies, kidney conditions, and Paget's disease are more sensitive to the health effects than the average person.

The US Environmental Protection Agency (EPA) is in the process of deciding if it will regulate the stable form of strontium in public drinking water. Until a decision is made, several EPA non-enforceable levels can be used for guidance to treat your well water. The lifetime health advisory level (HAL) of 4 milligrams per liter (mg/L) means water with levels higher than 4 mg/L should not be used for food or drinks, but can be used for household purposes like bathing, showering, washing dishes and laundry. Children under 18 years of age and those sensitive to health effects should use the Health Reference Level (HRL) of 1.5 mg/L for guidance because it was developed to protect this sensitive part of the population. No one should drink water that contains 25 mg/L or more for any period of time.

Unstable form of Strontium

In its unstable form, strontium Sr-89 and Sr-90 may cause leukemia and bone cancer at high levels. The EPA set an average annual drinking water limit of 20 picocuries per liter (pCi/L) for Sr-89 and 8 pCi/L for Sr-90. These forms of strontium are regulated for public water supplies under the Radionuclides Rule. Well owners should use these levels as guidelines to treat their well water.

Some states set a lower allowable level of strontium for public water supplies in their state. Contact your local health department or state drinking water agency for more information on local regulations for strontium in drinking water. Contact a physician if you have any health concerns.

How do I test for Strontium?

Strontium does not add color, taste or odor to water, so testing is the only way to know if it is present. To obtain a list of certified laboratories in your area that can test strontium in water, contact the wellcare® Hotline at 1-888-395-1033, your local health department, county extension office, or use [our interactive map](#).

What are the treatments for Strontium in drinking water?

There are no treatment systems currently certified to remove strontium from drinking water. However, because strontium is similar to calcium, cation exchange water softeners that treat hard water have been found to significantly reduce strontium levels. Well owners using treatment devices should regularly test before and after a treatment device to ensure that the treatment system is effective and working properly. Ion exchange systems can increase the sodium content of drinking water and may cause health concerns for those with low-sodium diets. Contact a certified water treatment professional for guidance. To locate a certified water treatment professional in your area [visit Water Quality Association's website](#) or contact the wellcare® Hotline at 1-888-395-1033.

For more information on Strontium

Agency for Toxic Substances & Disease Registry. Strontium.

<https://www.atsdr.cdc.gov/phs/phs.asp?id=654&tid=120>

Minnesota Department of Health. Strontium and Groundwater.

<https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/strontiuminfo.pdf>

New Jersey Department of Environmental Protection. Water Monitoring and Standards.

<https://www.nj.gov/dep/wms/bears/docs/strontium%20%20factsheet%20draft%20final%20for%20posting.pdf>

US Environmental Protection Agency. Announcement of Preliminary Regulatory Determinations for Contaminants on the Third Drinking Water Contaminant Candidate List; Proposed Rule. Federal Register Vol. 49 No. 202. October 20, 2014.

<https://www.govinfo.gov/content/pkg/FR-2014-10-20/pdf/2014-24582.pdf>

Wisconsin Department of Health Services. Strontium.

<https://www.dhs.wisconsin.gov/water/strontium.htm>

FOR MORE INFORMATION to help maintain and protect your water well system:

wellcare® is a program of the **Water Systems Council (WSC)**. **WSC** is the only national organization solely focused on protecting the health and water supply of more than 13 million households nationwide who depend on private wells.

This publication is one of more than 100 **wellcare®** information sheets available **FREE** at www.watersystemscouncil.org.

Well owners and others with questions about wells and well water can contact the **wellcare®** Hotline at 1-888-395-1033 or visit www.wellcarehotline.org to fill out a contact form or chat with us live!

JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the **FREE wellcare®** Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit www.wellcarehotline.org to join!



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