

wellcare[®] information for you about

URANIUM & WELL WATER

What is Uranium?

Uranium is a naturally-occurring element found at low levels in virtually all rock, soil, and water. It is both radioactive and a toxic metal. Concentrations vary across the United States, depending on the types of minerals in the soil or bedrock. For example, in granite bedrock, the average concentrations can be higher.

Uranium dissolves as water passes through soil and bedrock. Groundwater is likely to contain higher levels of uranium than surface water. The amount of uranium in well water varies with the concentration of uranium in the bedrock. Wells most likely to have high levels of uranium are those in areas with granite or alkaline sandstone and shale bedrock.

What are the health effects of Uranium?

Most ingested uranium is eliminated from the body, but a small amount is absorbed in the bloodstream and carried into the kidneys. As a result, the greatest health risk from uranium is damage to the kidneys. Overtime, uranium exposure can also increase your risk of cancer due to its radioactivity.

The U.S. Environmental Protection Agency (EPA) maximum contaminant level for uranium in public water systems is 30 parts per billion (ppb). Well owners are encouraged to use this level as a guideline for when well water should be treated. Canada and some states, such as Vermont, have gone further and set a maximum contaminant level of 20 ppb. If your state has a lower maximum level for uranium in drinking water, this level supersedes the EPA level and should be used in its place.

If you suspect contamination or experience illness, stop drinking and cooking with the water immediately and do not resume until testing has proven it to be safe to use. Always seek advice from your medical doctor if you have any health concerns.

How do I test for Uranium?

The initial test can be a lower-cost screen for alpha radiation (the lab may have this listed as gross alpha and gross beta), to determine whether your water contains any radioactive elements. If the result of an alpha radiation screen is 15 picocuries per liter (abbreviated to “pCi/liter”) or greater, then a test for uranium and other radioactive substances, such as radium and radon are recommended.

Contact your state or local health department for a list of state-certified laboratories in your area or use [our interactive map](#).

What are the treatments for Uranium in well water?

Uranium can be removed from drinking water by several treatment methods. The two most common methods for homeowners are anion exchange and reverse osmosis.

Anion exchange is a treatment system in which the well water flows through a tank with a resin that “exchanges” uranium for a safer compound – in most cases, chloride. Periodically, a backwash pump flushes the uranium and other wastes away from the resin into the household wastewater. The clean and recharged resin is then reused.

Reverse osmosis uses a semi-permeable membrane to capture any uranium in the water. The device uses water pressure as a force against the membrane, and only water is able to pass through, which leaves the uranium behind. The membrane is continually rinsed. The rinse water containing uranium is discarded. In addition to the membrane, reverse osmosis typically has pre and post carbon filters. This method of treatment can be slow and uses several gallons of water for each gallon of household drinking water produced.

Contact a certified water treatment professional for guidance. To locate a certified water treatment professional in your area, visit [WQA](#)'s website. Treatment systems should be certified by NSF or Water Quality Association (WQA) when available. To find treatment systems that are certified visit [NSF](#) or [WQA](#) websites. It is necessary to maintain treatment devices as specified by the manufacturer or your water treatment professional. You should also retest your water after treatment is installed and after maintenance to confirm the effectiveness of the device.

NOTE: Radioactivity collects on carbon filters, which may cause a handling hazard and require special disposal methods. Additional wastewater disposal precautions may be necessary in some instances. Please contact your state's hazardous waste division for assistance with disposal.

For More Information on Uranium & Well Water

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



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 an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

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!