

# URANIUM IN PRIVATE WATER WELLS FREQUENTLY ASKED QUESTIONS



## Q: What are the sources of uranium in water wells?

A: Certain rock types have naturally occurring trace amounts of mildly radioactive elements. Uranium dissolves as water passes through soil and bedrock. In most cases, groundwater is likely to contain higher levels of uranium than surface water but in some areas surface water carries elevated levels of uranium into groundwater. The amount of uranium in well water varies with the concentration of uranium in the bedrock or surface water. These radioactive contaminants, depending on their chemical properties, may accumulate in drinking water.

## Q: What are the potential health effects from drinking water containing uranium?

A: 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 intakes of uranium is damage to the kidneys. KDHE collects information on the percentage of Kansas adults diagnosed with kidney disease. The southwest region of the state has the same prevalence of kidney disease as the state. Human studies have not found elevated rates of cancer from uranium. If you are concerned, you should talk to your health care provider and develop a plan for screening.

## Q: What levels are considered acceptable for uranium found in water wells?

A: For public water supply systems, the United States Environmental Protection Agency (US-EPA) has established a maximum drinking water contaminant level of 0.03 milligrams per liter (mg/L) or 15 picoCuries per liter (pCi/L). For more information on how this contaminant level was developed please refer to EPA's Federal Register 40 CFR Parts 9, 141, and 142 National Primary Drinking Water Regulations; Radionuclides; Final Rule: <https://www.govinfo.gov/content/pkg/FR-2000-12-07/pdf/00-30421.pdf>.

## Q: Should I test my private water well for uranium?

A: If you use your private well for drinking water purposes you should have your well tested. You can contact your local KDHE district office to ask for assistance in sample collection and testing ([http://www.kdheks.gov/befs/dist\\_office.html](http://www.kdheks.gov/befs/dist_office.html)). Additionally, you can go to KDHE's Private Water Well website [http://www.kdheks.gov/wellwateraware/local\\_resource\\_map.htm](http://www.kdheks.gov/wellwateraware/local_resource_map.htm) to access contact information for certified water well testing labs, sampling protocols, testing procedures and guidance documents. It is recommended that you retest your drinking well water periodically because the levels of contaminants may vary over time.

## Q: What if my test shows elevated levels of uranium in my private well? How do you treat it and what are the costs?

A: If elevated levels are found, consider using bottled water for drinking and cooking, research how to connect your home with a local public water supply or consider in-home treatment methods. The two most common methods for homeowners are anion exchange and reverse osmosis. Please

visit <http://wellowner.org/water-quality/uranium-what-you-need-to-know/> for more information on treatment for homeowners, including estimated treatment costs. Unfortunately, there are no products currently NSF (National Sanitation Foundation) International certified for treatment of uranium. However, systems certified for the reduction of combined radium (Radium 226/228) might also be effective at reducing uranium. You can get the complete list of the NSF certified Radium 226/228 systems here: <http://info.nsf.org/Certified/DWTU/Listings.asp?ProductFunction=044%7CRadium+226%2F228+Reduction&ProductFunction=058%7CRadium+226%2F228+Reduction&ProductType=&submit2=Search>

### **Q: Are the public water supplies in my community safe?**

A: Yes. The Safe Drinking Water Act (SDWA) authorizes and permits the EPA to set national standards for drinking water contaminants. Through the Kansas Department of Health and Environment all public water supply systems are required to monitor and comply with those standards.

### **Q: Are there ways to mitigate the health impacts for people who have been consuming contaminated water for a long period of time?**

A: Most of the uranium that a person ingests is not absorbed and leaves the body through feces. Prolonged exposure to uranium may cause uranium to be deposited in the bones, liver and kidneys. Whether or not a person develops health effects will also depend on a number of other factors including diet, family history, lifestyle, general health status, smoking status, and exposures to other contaminants. If you are concerned, you should talk to your health care provider about all of these factors and develop a plan for screening.

### **Q: If livestock drink contaminated water is the meat or milk contaminated?**

A: The brevity of lifetime for cattle limits the time for any mineral residue buildup. There are no studies that show a mineral buildup in the meat or milk.

### **Q: If root vegetables are grown in areas with soil or water contamination is it safe to eat?**

A: The brevity of lifetime for plants limits the time for any mineral residue buildup. Generally, if the amount measured in soil and water used to grow produce is low, the amount deposited in the produce would likely fall below the detection limits.

#### **Sources:**

- Agency for Toxic Substances and Disease Registry. 2013. Natural & Depleted Uranium ToxFAQs™. Available at <https://www.atsdr.cdc.gov/toxfaqs/tfacts150.pdf>. Accessed on July 14, 2019.
- United States Environmental Protection Agency. Undated. Uranium Fact Sheet. Available at <https://safewater.zendesk.com/hc/en-us/sections/202346157-Uranium>. Accessed on July 14, 2019.
- Water Systems Council. 2007. Wellcare® information for you about Uranium & Groundwater. Available at [www.watersystemscouncil.org/download/wellcare\\_information\\_sheets/potential\\_groundwater\\_contaminant\\_information\\_sheets/9242670Uranium\\_Update\\_May\\_2007.pdf](http://www.watersystemscouncil.org/download/wellcare_information_sheets/potential_groundwater_contaminant_information_sheets/9242670Uranium_Update_May_2007.pdf). Accessed on July 14, 2019.