

# **Radium in Drinking Water**

The following information is in response to recent news reports regarding Radium in drinking water.

## **What is Radium?**

Radium (Ra) is a naturally occurring isotope that is formed when uranium and thorium undergo radioactive decay in the environment. Uranium and thorium are found in small amounts in most rocks and soil. The most common radium isotopes in groundwater are Ra-226 and Ra-228. Surface water sources and shallow wells will typically have lower levels of these radium isotopes while deeper wells may have higher concentrations depending on other geological factors.

## **Is Radium In My Water?**

Most of the Denver Basin Groundwater aquifers used for drinking water in the Front Range contain varying levels of Ra-226 and Ra-228. Woodmoor Water has several water sources including multiple wells in the Denver Basin Aquifers and surface water from Lake Woodmoor and Monument Creek that have little or no radium. Using water from multiple sources allows us to blend these source waters and maintain compliance with the Colorado Department of Public Health and Environment (CDPHE) and United States Environmental Protection Agency (USEPA) regulations. Woodmoor Water monitors radium levels in our drinking water to insure the combined radium levels are below the CDPHE and USEPA maximum contaminant level (MCL) of five (5) pico curies per liter (pCi/L).

## **Is Radium In Water Harmful To My Health?**

Radium in water may pose a hazard to human health when the water is used for drinking or cooking. Only a small portion of ingested radium is absorbed from the digestive tract and distributed throughout the body. The rest is passed unchanged from the body. Some absorbed radium is excreted in urine. Absorbed radium behaves similarly to calcium and is deposited in the tissues of the body, especially bone. Any radiation received externally through showering, washing, or other uses is not a hazard since alpha particles do not travel through your skin.

## **Is There A Safe Level Of Radium In Drinking Water?**

Based upon our current knowledge, it is assumed that any radiation exposure carries some degree of risk. However, the established MCL of 5 pCi/L for radium in public water supplies is well below levels for which health effects have been observed and is therefore assumed to be protective of public health.

## **Can Radium Be Removed From Water?**

Some radium is removed during the treatment process at our water treatment plants. There are other treatment options available that can further reduce the radium levels in your water. Ion exchange (water softeners) and reverse osmosis systems can remove up to 90 percent of radium present. Point-of-use/point-of-entry (POU/POE) devices and systems currently on the market may differ widely in their effectiveness in treating specific contaminants, and performance may vary from application to application. Therefore, selection of a particular device or system for health contaminant reduction should be made only after careful investigation of its performance capabilities based on results from competent equipment validation testing for the specific contaminant to be reduced.

## **Where Can I Get More Information?**

For more information on radium in drinking water please visit:

Colorado Department of Public Health and Environment's Website:

<https://www.colorado.gov/pacific/cdphe/drinking-water>

United State Environmental Protection Agency's Website:

<https://www.epa.gov/>