Radium (Ra)

What is Radium?

Radium 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. Radium is constantly being produced by the radioactive decay of uranium and thorium. Two of the main radium isotopes found in the environment are radium-226 and radium-228 with an atomic weight of 226 and 228.

Does Radium have any additional names?

Radium-226, Radium-228, Combined Radium 226 and 228

What are the known health effects?

Exposure to radioactivity may be harmful to chemical reactions important to living cells in your body. Radiation pulls electrons off atoms in the cells and may prevent the cell from functioning properly. It may lead to the cell's death, to the cell's inability to repair itself, or to the cell's uncontrolled growth (cancer). Drinking water containing Radium may pose a hazard to human health when the water is used for drinking or cooking.

How does exposure occur?

Everyone is exposed to low levels of radium in the air, water, and food. Higher levels may be found in the air near industries that burn coal or other fuels. It may be found at higher levels in drinking water from wells. It may also be found at radioactive waste disposal sites.

Is this contaminant regulated?

Yes, and water supplied to Mount Laurel MUA customers is in compliance with USEPA and NJDEP requirements. The maximum concentration of Radium permitted in drinking water is 5 pCi/L; water supplied by the MLTMUA system has a detected maximum of 1.26 pCi/L.

How can I reduce exposure?

Radium can be removed from drinking water by ion exchange, lime softening, electrochemical deionization, reverse osmosis, and distillation.

Additional information regarding Radium, including the information referenced, can be found at:
https://www.atsdr.cdc.gov/toxfaqs/tfacts144.pdf
https://www.wqa.org/Portals/0/Technical/Technical%20Fact%20Sheets/2014_Radium.pdf