April 2007

Radium

What is radium?

Radium is a radioactive element that occurs naturally in very low concentrations in the earth's crust. The main use of radium has been as a component in luminous paint used on the dials of watches, clocks, and other instruments. Due to health and safety concerns it is no longer used for this purpose.

How does radium get into the environment?

It exists naturally in low concentrations in virtually all soil, rock, surface water, ground water, plants, and animals. Higher levels are present in uranium ores and other geologic materials. Groundwater in areas where concentrations of radium are high in surrounding bedrock typically has relatively high radium content.

How can I determine if radium is in the environment where I am?

You need special equipment to detect the presence of radium. However, you can check for radon and detection kits for this are available at most hardware stores.

How do people come in contact with radium?

Since radium is present at low levels in the natural environment, everyone has some minor exposure to it. Individuals may be exposed to higher levels of radium if they live in an area where there is an elevated level of radium in the surrounding rock and soil. Private well water in these areas can also be a source of radium. The concentration of radium in drinking water is generally low. Limited information is available about the amounts of radium that are typically present in food and air, but they are very low. People can also be exposed to radium if it is released into the air from the burning of coal or other fuels.

How does radium enter the body?

People may swallow radium with food and water, or may inhale it as part of dust in the air. Most radium that is swallowed will quickly leave the body through feces. The portion that does not leave the body enters the bloodstream and accumulates in the bones. Some of this radium is excreted over a long period of time. A portion will remain in the bones throughout the person's lifetime.

Sedgwick County Health Department – 1900 E Ninth St N - Wichita, Kansas – phone - 316-660-7300 – www.sedgwickcounty.org

Radium—page 2

How can radium affect the body?

Long-term exposure to radium increases the risk of developing several diseases. Inhaled or ingested radium increases the risk of developing diseases such as lymphoma, bone cancer, and diseases that affect the formation of blood, like leukemia. External exposure to radium increases the risk of cancer to varying degrees in all tissues and organs, however the greatest health risk from radium is from exposure to its radioactive decay product, radon. Radon is common in many soils and can collect in homes and other buildings.

What can I do to protect myself and my family from radium?

The most effective way to protect yourself and your family is to test your home for radon. Radon test kits can be obtained from the Sedgwick County Extension Office or the American Lung Association. Detection kits are also available at many local hardware and builder's supply stores. A list of certified testers and radon mitigation contractors is also available from the state program office by calling the Kansas Radon Hotline.

How do people get tested for exposure to radium?

There are tests that can determine exposure to radium or other radioactive substances. These tests are not routinely performed in a doctor's office because it requires special laboratory equipment.

For more information:

Sedgwick County Health Department
660-7300

Sedgwick County Extension Office
722-7721

Kansas Department of Health and Environment
1-800-693-KDHE
http://radon.oznet.ksu.edu/

American Lung Association
1-800-LUNGUSA

Environmental Protection Agency
http://www.epa.gov