

Radon is a radioactive gas. It comes from uranium and radium in soils, which can be found everywhere in the world. Uranium is present in rocks such as granite, shale, phosphate and pitchblende. Uranium breaks down to radium, which then decays into radon. This gas can easily move up through the soil into the atmosphere. Natural deposits of uranium and radium, not man-made sources, produce most of the radon present in the air.

- Radon is in the soil and air everywhere in varying amounts.
- People cannot see, taste, feel or smell radon. There is no way to sense the presence of radon.
- Radon levels are commonly expressed in picocuries per liter of air (pCi/L), where a Picocurie is a measure of radioactivity.
- The national average of indoor radon levels in homes is about 1.3 pCi/L.
- Radon levels outdoors, where radon is diluted, average about 0.4 pCi/L.

Radon in the soil can be drawn into a building and can accumulate to high levels. Every building or home has the potential for elevated levels of radon, even those built with radon-resistant features. EPA recommends taking action to reduce indoor radon levels when levels are 4 pCi/L or higher.

Is radon a significant health risk?

When radon enters a home, it decays into radioactive particles that have a static charge, which attracts them to particles in the air. These particles can get trapped in your lungs when you breathe. As the radioactive particles break down further, they release bursts of energy which can damage the DNA in lung tissue. In some cases, if the lung tissue does not repair the DNA correctly, the damage can lead to lung cancer. Not everyone exposed to elevated levels of radon will develop lung cancer, but your risk of getting radon-induced lung cancer increases as your exposure to radon increases (either because the radon levels are higher or you are in the home longer). Smokers who have high radon levels in their homes are at especially high risk for getting radon-induced lung cancer.

How does radon enter a home?

Four main factors drive radon entry into homes. All of these factors exist in most homes throughout the country.

1. Uranium is present in the soil nearly everywhere in the United States.
2. The soil is permeable enough to allow radon to migrate into the home through the slab, basement or crawlspace.
3. There are pathways for the radon to enter the basement, such as small holes, cracks, plumbing penetrations or sumps. All homes have radon entry pathways.
4. An air pressure difference between the basement or crawlspace and the surrounding soil draws radon into the home.