

WHAT IS RADON AND WHAT DOES IT MEAN TO ME?

UNDERSTANDING RADON

What is Radon?

Radon is colorless, odorless, tasteless radioactive gas. Radon is a radioactive element in the decay series of Uranium 238, which is naturally occurring and plentiful in the earth's crust. As Uranium decays over time, it creates other radioactive elements which also decay, and eventually radon is created from the radioactive element Radium.

Is Radon dangerous?

Radon is a known human carcinogenic which means it can cause cancer. As a matter of fact, Radon is the *second leading cause of lung cancer in the United States and the leading cause among non smokers.*

How common is Radon in homes?

A state study shows that elevated levels of Radon can be found in about 4 out of 10 homes in Illinois. (42%) The only way to know if you have elevated levels is to test for Radon. Two houses next to each other can have vastly different levels of Radon. While one house may be fine, the house next door may have elevated levels.

How does Radon get into my house?

As Radium decays in the soil, it produces Radon which is a gas. Radon gas easily moves through soil due to pressure differentials in the soil. It also enters houses due to pressure differentials, traveling through cracks and holes in the foundation. In addition to being "sucked" through the concrete to enter homes, radon can be released into the air from well water containing radon, and can be directly released into the house from building materials that contain Radium.

How does Radon affect me?

Radon is chemically inert meaning it does not stick to objects. Radon radioactively decays into other elements that *do* stick to objects. This is where the real danger lies. These other elements, called "Radon daughter products" or RDP's for short, stick to dust and smoke particles which can be inhaled and captured in the lungs. Once in the lungs, the RDP's radioactively decay, damaging lung tissue in the process. This can eventually cause lung cancer.

How much Radon is dangerous?

Radon is measured in picoCuries per liter (pCi/L). The average indoor Radon level in the U.S. is estimated to be 1.3pCi/L and the average outdoor level is about .4pCi/L. Congress has set a long term goal that indoor Radon levels be no more than outdoor levels. While this goal is not technologically achievable in all cases, most homes can be reduced to 2pCi/L. The level of Radon at which the U.S. EPA and the State of Illinois recommend mitigation (fixing) is 4pCi/L.

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I'm buying a house. Should I test for Radon?

It is strongly recommended by both the U.S. EPA and the State of Illinois that homebuyers have a Radon test performed prior to purchasing a home. If a test has previously been performed at the home, review the results. If a prior test was done two or more years ago, it is recommended that the home be tested again. If the home has not yet been tested, it is recommended the home be tested.

How are Tests conducted?

Radon Tests for real estate transactions are usually performed by a trained and licensed professional or technician. A test takes approximately 2 days under what is called "closed house conditions". Closed house conditions are a set simple rules that must be followed by the occupants of the home during the test. These include keeping doors and windows closed except for normal use and no tampering of measurement devices. The person administering the test will make sure the occupants are informed of the procedure.

What if there are elevated levels of Radon found in the home?

Don't panic! High Radon levels can be reduced. The average cost of mitigating (fixing) elevated levels of Radon a home can range from \$800 to about \$2,500 with average mitigation costs ranging from \$800 to \$1,200. There are a variety of methods used to mitigate (fix) a home. Sealing cracks and holes in the foundation and floors is part of most mitigation programs. Usually a system with a vent pipe(s) and fan(s) is used to reduce radon. These systems do not require major changes to the home.

My home had less than 4pCi/L of Radon. Should I have it tested again?

The U.S. EPA recommends that homes be tested every two years, including homes that have been mitigated (fixed). If you are planning any major structural renovation, such as converting an unfinished basement area into living space, it is especially important to test the area for radon before you begin the renovation. If your test results indicate a radon problem, radon-resistant techniques can be inexpensively included as part of the renovation. Major renovations can change the level of radon in any home by creating potential pathways for Radon to enter the building; therefore it is recommended that you test for Radon again after work is completed.

Where can I find more information about Radon?

To find more information about Radon you can visit the U.S EPA website at:

<http://www.epa.gov/radon/>

and the Illinois Emergency Management Agency Radon website at:

<http://www.radon.illinois.gov/>

