

Radon and Your Health

Radon is a naturally occurring radioactive gas produced by the breakdown of uranium on soil, rock, and water. Since the air pressure inside your home is usually lower than the pressure in the soil around your home's foundation, your house acts like a vacuum, drawing radon in through foundation cracks and other openings.

While soil is the principal source of elevated radon levels in the home, radon may also be present in water and can be released into the air when water is used for general household purposes, such as showering.

You may think, if radon is a naturally occurring gas, then what is there to worry about? Experts caution that radon gas is a health concern because it decays into

cancer-causing radioactive particles that can get trapped in a person's lungs if they are exposed to air containing radon. In fact, according to the Environmental Protection Agency (EPA), radon gas is the second-leading cause of lung cancer in the United States, after smoking. Combine smoking and exposure to radon gas, and you are at a very high risk for developing lung cancer in your lifetime.

Since you cannot see or smell radon gas, testing your home is the only way to determine if you and your family are at risk. It is important to test your home, as you and your family generally spend the most time there, and it is where exposure risk is greatest.

The EPA reports that radon can vary from day to day, season to season, and

What are the Options?

If your test results reveal you have a radon problem (4 pCi/L or higher), there is more than one proven method of reducing radon in the home.

The most common solution is the installation of a vent pipe system and fan, which pulls radon from beneath the house and vents it to the outside. According to the EPA, the average cost of a radon-reducing vent pipe and fan system is about \$1,500, professionally installed. Keep in mind, there is more than one option, and the right system depends on the design and construction of your home. Consult with a professional contractor to determine your best solution.

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geographically from region to region. It can also vary widely from house to house, depending on local geology, how the home was built, and construction materials that were used.

You can either choose to purchase a do-ityourself kit, available at most hardware and specialty retail stores, or you can hire a qualified tester to do the testing for you. A list of qualified testers is available from your state radon office.

There are two types of do-it-yourself kits available, both of which are relatively inexpensive. One is the short-term test, which is placed in the lowest lived-in level of your home. It stays in place from two to 90 days, depending on the test, and offers the quickest way to get results. A long-

term test remains in your home for over 90 days. The advantage of this type of test is that you are likely to get a more accurate reading of your home's year-round average radon level.

Regardless of whether you choose a short- or long-term test, make sure your kit is EPA-approved and follow the manufacturer's instructions for best results. Once you have conducted the test, the device is then sent to an independent lab for analysis, and the results are sent back to you in about two weeks.

Another possible solution includes simply sealing cracks in floors and walls. The EPA recommends you only use a qualified contractor to fix your home because of their expertise and technical knowledge. Use a contractor who is specifically trained to fix radon problems.

Also, if high radon levels are found and your home has a private well, the EPA recommends testing your water. Point-of-use systems, which remove the radon from groundwater before it enters your home, are highly effective and readily available.

Be aware that any major renovations change the level of radon in a home, so it is important to test again after the remodeling is finished.

For more information about radon, soil or water testing, as well as locating a qualified tester in your state, visit www.epa.gov/radon. ■

Decoding the Test Results

Radon is measured in picoCuries per liter of air, or pCi/L. Test results can also be expressed in Working Levels (WL). The average indoor radon level is estimated to be about 1.3 pCi/L. By comparison, about 0.4 pCi/L of radon is found in the outside air. The EPA sets a radon action level at 4pCi/L or higher.

If you used a short-term test and your lab results are 4 pCi/L or higher, take a follow-up short-term test immediately, especially if your test result is more than twice the EPA's 4 pCi/L action level. If *that* test comes out higher than 4 pCi/L, you need to take a long-term test. If that provides high levels as well, contact a professional to have your home fixed as soon as you can.

