

Radon

Radon is a naturally occurring radioactive gas. Radon has no color, odor or taste and results from the decay of uranium, which is a radioactive element found naturally in the earth's crust. Over billions of years, uranium decays into radium, and eventually, radon.

Unless you test for it, there is no way of knowing if radon is present in your home

There are no known health effects connected with brief exposure to radon. However, over a lifetime, breathing air with too much radon increases a person's risk of getting lung cancer. The risk is increased even more for a smoker exposed to radon.

According to a report by the National Academy of Sciences, radon is estimated to cause between 15,000 and 22,000 lung cancer deaths per year. It is the second leading cause of lung cancer after smoking.

Radon is present in soil, air and water. However, soil is the main contributor of radon in homes. The amount of radon that escapes from the soil into a home's air depends on many factors including geology, soil type, and building construction.

Elevated levels of radon have been found in all types of homes in every area of Vermont. The likelihood of a radon problem cannot be predicted by the style, age, or location of the house. Houses can act like large chimneys, with warm air rising and escaping out upper floor windows and through cracks in the attic. This creates a vacuum at the lowest level of the house, which can pull the radon from the soil into the house.

Well water that contains radon may increase the level of radon gas in a home. Actions like taking showers, doing laundry or running the dishwasher can release radon into the air. It generally takes 10,000 picocuries per liter (pCi/L) in water to increase the radon level in air by 1.0 pCi/L.

The use of a long-term radon test is best. Because radon levels can change daily, weekly and seasonally, a test of three to 12 months (ideally including a heating season) gives the most accurate measure of actual exposure. Free long-term radon test kits are available to Vermont residents by calling the Health Department or by e-mailing a request to radon@vdh.state.vt.us. Please put the words "Radon Test Kit" in the subject line and be sure to include your name and Vermont mailing address.

Radon testing should be done in the lowest level of living space in the house, ideally in a living room, playroom, den, office or bedroom. The testing device should not be placed in kitchens, bathrooms, laundry rooms, hallways or closets. Once the device is set up, it should not be disturbed until the test period is over.

Vermont law does not require a radon test as part of a real estate transaction. However, if radon testing has been done in the past, the buyer must be notified. For real estate transactions or other cases where a quick test is needed, the Health Department Laboratory, private labs and building supply stores sell short-term detectors.

For real estate transactions, short-term testing may be conducted in the basement if the buyer plans to use it as a living space. If you are using short-term test kits, the federal Environmental Protection Agency recommends using two testing devices, placed side-by-side. For a copy of the EPA's "Home Buyer's and Seller's guide to Radon," call the Health Department.

What does the radon test result mean?

Radon gas, which is measured in units of picocuries per liter (pCi/L) of air, can be found both inside and outside your house. In Vermont, the average radon level in the outside air is 0.4 pCi/L and the average level in homes is about 2.5 pCi/L.

The EPA has set 4.0 pCi/L as the action level for radon. If your test result is at or above 4.0 pCi/L, you should seek help from a certified mitigation contractor to reduce radon levels in your home. To obtain a list of professionals, check the web at www.radongas.org and www.nrsb.org/SpecialistLocator.htm.

How can I fix a radon problem?

The cost for installing a radon reduction system can range from \$800 to \$2,500, depending on the type of house and the choice of system. In most cases, a venting pipe and a fan are used to reduce radon, and no major structural changes to the home are required. Sealing foundation cracks alone has not been proven to lower levels significantly or consistently.

Where can I get more information?

Call or write the Vermont Department of Health:

- For free long-term test kits—802-863-7226 or 800-439-8550 toll free from within VT (Division of Health Protection). For TTY/TDD, dial 711 for relay service. You may e-mail your request to radon@vdh.state.vt.us. Please put the words "Radon Test Kit" in the subject line of your e-mail and be sure to include your name and Vermont mailing address.
- For real estate transaction/short-term kits—call the Public Health Laboratory at 802-863-7335 or 800-660-9997 (toll free from within VT).
- A copy of the EPA's "Home Buyer's and Seller's Guide to Radon" is available from the Division of Health Protection.

Check the web:

- Vermont Department of Health: www.HealthyVermonters.info (click on "Contents")
- Professionals certified in radon mitigation: www.radongas.org, www.nrsb.org/SpecialistLocator.htm.
- National Environmental Health Association: www.radongas.org
- National Radon Safety Board: www.nrsb.org
- U.S. Environmental Protection Agency: www.epa.gov/iaq/radon