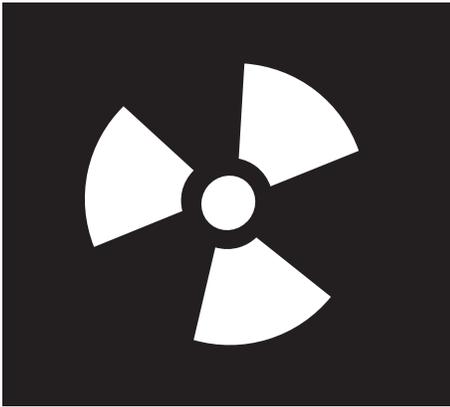


I've heard about radon gas recently and that it could be a health issue. What is radon and should I be concerned?



There has been a lot of discussion recently in Canada about Radon Gas. One of the reasons that it has become newsworthy is because Health Canada has reduced the acceptable limit to a standard more consistent with other developed countries around the world.

So What is Radon?

Radon is a gas that is formed by the breakdown of uranium in the soil. Uranium is a natural radioactive material found in rock and soil throughout Canada. The reason that Radon is of concern is that it is a cancer-causing natural gas that you can't see, smell or taste.

Although Radon is found in outdoor air, it becomes more of an issue when it enters a home through the basement walls or floor. Radon typically moves up through the ground to the air above and into your home through cracks and other holes in the foundation. Your home can trap radon inside, where the concentrations can then build up.

Any home may have a radon problem. This means new and old homes, well-sealed and drafty homes, and homes with or without basements. Concrete-block walls are particularly porous to radon.

Health Canada conducted a cross-Canada survey of 14,000 homes in 2009 and 2010. Results showed that:

- About 7% of homes in Canada have radon levels above the Canadian guideline.
- Radon levels vary quite significantly across the country.
- It is impossible to predict whether any one house will have a high level of radon.

Factors that affect radon levels in a home include:

- The amount of uranium in the ground around the home.
- The entry points available into your home (cracks in the foundation, crawl spaces, etc.).
- The way your home is ventilated.

Since Radon is a radioactive gas, when it's in your home it can pose a danger to your family's health. Specifically, Radon is the leading cause of lung cancer among non-smokers and is the second leading cause of lung cancer in the Canada and the U.S. Health Canada believes that Radon exposure is linked to roughly 16% of lung cancer deaths in Canada.

All major national and international organizations that have examined the health risks of radon agree that it is a lung carcinogen.

How Do I Know If I Have Radon in My Home?

Commercial services, some laboratories and some inspection companies offer testing services to homeowners who wish to measure radon levels in their homes. As with any service, it is important to use only businesses that have completed the necessary training and certification process.

In some Countries, short term radon tests – as short as 48 hours in length – are conducted primarily as part of real estate transactions; however Health Canada recommends only long term tests, or tests longer than 90 days.

Organizations conducting long term tests in Canada will typically use either an AlphaTrack canister or Electrolet Ion Chambers (e-Perm) to determine the levels of radon in your home. In both cases, the device must be removed from the home for analysis. A report should then be issued to you indicating the level of radon in the home and whether work should be done on your home to reduce the level of radon.

Should a short-term test be performed, the company will likely use e-Perms, charcoal canisters or a continuous monitoring device. Charcoal canisters need to be shipped to a laboratory for analysis while the results of a continuous monitoring device can be interpreted at the testing agency's office.

Once you select a testing company, it should provide you with a report illustrating the levels of Radon in your home.



In Canada, Radon is measured in units called “becquerels per cubic meter”. (If you’re technically minded, a Becquerel is a measurement of the number of radioactive disintegrations per minute).

Although there are no regulations regarding acceptable levels of Radon in indoor air in Canada, Health Canada’s 2007 guideline recommends that:

- Remedial measures be taken in a dwelling whenever the average annual radon concentration in the normal occupancy area exceeds 200 becquerels per cubic meter.
- The higher the radon concentration, the sooner remedial measures should be taken.
- When remedial action is taken, the radon level should be reduced to a value as low as practicable (i.e., reduced as much as possible using methods that are cost-effective).
- The construction of new dwellings should employ techniques that will minimize radon entry and will facilitate post-construction radon removal, should this subsequently prove necessary.

Health Canada is also proposing that for newly constructed homes, the guideline should be 100 Bq/m³ or less. To meet that target, under the National Building Code of Canada some measures may be required to prevent radon from entering the home. They include:

- Minimizing potential entry routes into the home (i.e. openings in the basement floor or foundation walls)
- Reducing forces that may draw radon into a home (proper choice of heating or ventilation systems, for example)
- Including provisions for an active soil depressurization system).

What Do I Do If I Have High Radon Levels in My Home?

If you have had your home tested for radon gas and the results show that the level is above 200 becquerels per cubic meter, then you should take action to reduce the levels in your home.

You should be aware that such actions do not necessarily have to be expensive, but because there is some risk at any

level, homeowners may want to reduce their exposure to radon, regardless of levels tested.

Some of the steps you can take to reduce radon levels in your home include:

- Renovating existing basement floors, particularly earth floors.
- Sealing cracks and openings in walls and floors, and around pipes and drains.
- Ventilating the sub-floor of basement floors.

As with Radon testing organizations, radon reduction contractors conducting repairs on your home do not currently need to be certified in Canada. It is however, recommended that they meet any applicable U.S. standards as noted above.

After you’ve completed any repairs or upgrades, it is recommended that the home be tested again to confirm that the work has addressed the radon issue.

For additional information, homeowners are directed to Health Canada, Canadian Cancer Society or the U.S. Environmental Protection Agency, both of which offer excellent publications and other resources on Radon.

Contact your local AmeriSpec office for more information.



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