

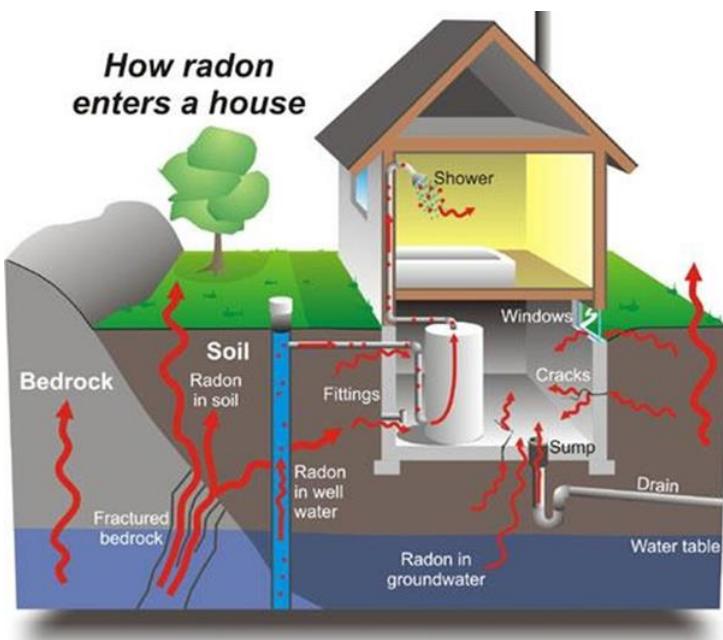
Tool Box Talk

Radon Gas

What is Radon Gas?

Radon is a colourless, odourless and tasteless radioactive gas that is formed naturally in the ground by the breakdown of uranium in soil, rocks and water. Radon gas breaks down further to form radioactive particles (progeny) that can be breathed into the lungs. As a gas, radon is slowly released from the ground, water and some building materials that contain very small amounts of uranium, such as concrete, bricks, tiles and drywall. Radon gas and radon progeny in the air can be breathed into the lungs, where they break down further and damage lung cells. When lung cells are damaged, they have the potential to result in cancer.

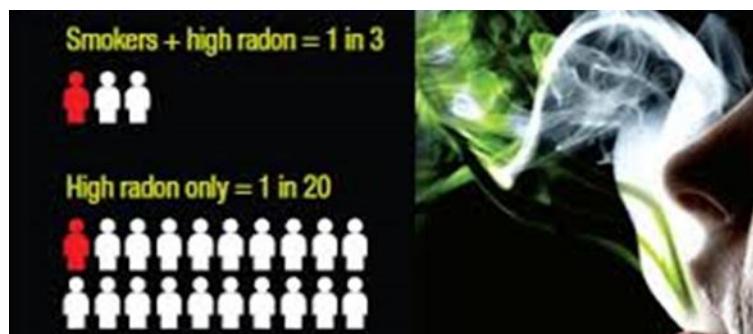
When radon is released from the ground outside, it mixes with fresh air and gets diluted. This results in concentrations too low to be of concern. Buildings can act like a vacuum for underground gases. When air is pushed out of the structure, air containing radon is sucked in through cracks in foundation walls, floors, joints, gaps around service pipes, support posts, floor drains, sump pumps and the water supply. Seasonal changes affect radon levels, which are usually elevated in winter compared to summer and tend to be higher at night than during the day.



Dangers

In March 2012, a cross-Canada survey of radon concentrations in homes was completed. In Saskatchewan, an average of 16.3% of all homes were above the recommended limit of 200Bq/m³, with locations in the south of the province above 25% contamination.

On average, 16% of lung cancer deaths are linked to radon exposure in Canada. A lifelong smoker faces a 1 in 10 risk of developing lung cancer, but with radon exposure, the risk rises to 1 in 3. For non-smokers exposed to the same high radon levels, the lifetime risk is 1 in 20.



Testing and Regulations

There are two options for radon testing. The first is to purchase a do-it-yourself radon test kit. The other is to hire a radon measurement professional. The Canadian guideline for radon in indoor air dwellings is 200 Bq/m³. If testing shows levels of radon above this threshold, remedial measures should be taken.

There is no legal requirement for employers or landlords to test. Federal employees are governed by the Canada Labour Code (CLC), which requires the Government of Canada to ensure that its workers are not exposed to high levels of radon. Other workplaces are governed by the Naturally Occurring Radioactive Material (NORM) guidelines. Contact the Canadian National Radon Proficiency Program for a list of companies that are certified to do radon monitoring and mitigation.