

**Q. What is radon?**

**A.** Radon is a radioactive gas, which comes from the radioactive decay of radium, which is a fairly common, a naturally-occurring mineral in the earth's crust. Radon goes through a fairly rapid radioactive decay period with a half-life of 3.82 days, and in about 28 days, all of it has decayed away leaving only its daughter products which ultimately decay away to lead 206, the familiar soft metal of a number of uses. The major risk of radon radiation is in the form of alpha radiation, which is also a form of ionizing radiation. Alpha radiation from radon is actually somewhat like two bullets, which are, released the instant that the radon atom disintegrates into its short-lived daughter products. These "bullets" are very powerful in a molecular world, and they contain a comparatively great deal of energy. When they strike a living cell, they can be disruptive both by creating chemical changes as well as genetic changes, which may be disruptive to the cell's growth. Usually, radon reaches an equilibrium concentration within a building wherein the amount of radon leaking into the building is the same as the rate that radon decays away and leaks out of the building. It will remain at that level for extended periods unless ventilation or leakage rates change, or unless the entry pathway is changed in some manner.

**Q. How dangerous is radon?**

**A.** Radon exposure over time at sufficient concentrations causes lung cancer, especially in smokers, and it is believed to be more dangerous to the very young. The last statistics that I have heard was that lung cancer is fatal in 95 percent of persons having it. Lung cancer progresses rapidly, and there is usually only about 6 months from the time of its occurring until death.

**Q. Is radon visible to the human eye or can we smell it?**

**A.** None of our five senses can detect the presence of radon. We can detect its presence only by way of tests, which look for and measure alpha or gamma radiation of a specific energy level. Do it yourself radon test kits are reasonably reliable, readily available and inexpensive. Testing protocol for the tests must be followed.

**Q. Are there any symptoms for the inhabitants of a house suspected of having radon?**

**A.** So far as I know, there are no symptoms, except that if one of the residents contracts lung cancer, it will be but a short period before it is apparent that the person is very seriously sick. And of course, then it is too late in almost every case.

**Q. What do I need to do to get a radon inspection of my house?**

**A.** Professional radon measurement folks are often listed in the telephone yellow pages. You also may contact your state radon office, which may provide you with a list of qualified testers.

**Q. How effective are the "do it yourself" kits for radon measurement?**

**A.** I believe that the kits are of uniformly good quality, and they will provide you with a reliable indication of the radon exposure, so long as the testing protocols are followed precisely. The greatest opportunity for error to be introduced is in the testing protocol, including the return of the device to the laboratory. Of course, the product must be listed by name within the EPA device list.

**Q. If I want to get an outside vendor to do a radon inspection what are the criteria I should use in finding a reputable vendor?**

**A.** A firm who performs both radon testing and radon mitigation is presented with tempting opportunities for fraud every day. I am also of the opinion that some of the most ethical folks I have met are engaged in both measurement and mitigation of radon. I encourage the use of do it yourself kits, and if there is question of the results or if the results are adverse, that you call the experts. Get two or more bids and compare them.

**Q. Is there any EPA or other certification for radon inspectors?**

**A.** In the past, such was the case. Currently voluntary certification is available from two voluntary agencies. Most states have mandatory certification programs. We suspect that some of the public are overly impressed by lots of credentials in some folk's efforts to dress up like they know something that others do not. Kinda like the biggest lawyer ad in the yellow pages. Folks who graduated from Harvard will never tell you that they did. They will tell you that they went to school in "the east."

**Q. How can I know whether a particular town has a lot of radon in its homes?**

**A.** It may not be easy. I suspect that the record-keeping of the state is frustrated by some measurement and mitigation guys' desire to keep their success quiet and private. However it is not important if a town has lots of radon or not. Radon can always be fixed. And the fixes are usually very reliable.

**Q. Does radon effect all the rooms of a house?**

**A.** Radon is likely more often found at higher concentrations in a basement or at ground level. My major radon concern is in bedrooms, children's play rooms and the rooms where invalids may be. Test those rooms for sure.

**Q. At what level of radon reading in my house should I get concerned?**

**A.** 4.0 picoCuries per Liter is the official EPA "action level." I have heard it suggested that such level is VERY ROUGHLY the equivalent of smoking seven cigarettes per day. You may seek a lower exposure.

**Q. If I find I have radon in my home how do I get rid of it or is there no cure?**

**A.** Radon cures are usually fairly quick and reliable. If your home has levels in the thousands! It may likely be reduced to less than 4.0 without great difficulty. Sometimes a radon reduction from 8 to less than 4 may be much more difficult. [Top](#)

**Q. Should I get radon "check ups" for my home? Does the radon level vary?**

**A.** If you have a home in which radon work has been done, I suggest an annual do it yourself test at New Year's. If your home has had modifications to the heating or air conditioning system, or if you have had renovation work done, I recommend that you radon test upon completion of such work. And, you bet, radon levels will vary by time of day, season, air temperature, precipitation, open or closed interior doors, wind, and more. Make sure you follow the testing protocols which are provided with the do it yourself kit, or that you maintain the conditions advised by your radon test professionals. If you find radon, have your home tested professionally and mitigated if necessary, to ensure that you have peace of mind as well as a good, healthy and safe home. CAUTIONARY NOTE: We suspect that relative humidity increases that may occur in a hot, humid climate from a certain type of radon mitigation procedure may be much more dangerous to human health than radon. We suggest that maintaining an indoor relative humidity of ABOVE 50-55 percent during cooling periods should be avoided, especially for persons wit unusual irritability, allergies, asthma or other respiratory problems but also including rashes, burning eyes, blurring vision, headaches, and a number of other seemingly unconnected ailments. Visible mold or moldy odors are powerful clues to a potentially dangerous condition which may have originated in the unintentional or negligent creation of a mold and dust mite-favorable high humidity environment The presence of mold, dust mites and dust mite allergens can be confirmed by blood tests by the sufferer.

**Q. How can I test for indoor humidity levels?**

**A.** Testing for indoor relative humidity is the easiest of all. An inexpensive digital thermo-hygrometer will constantly monitor the onset of a risky high-humidity condition for the cost of a battery once every three years. If indoor relative humidity

can be maintained below 50 percent constantly, all dust mites will dehydrate and die within 12 days. They can then safely be vacuumed up with a HEPA vacuum. They will not return unless new specimens can absorb the moisture they need out of the air. Most molds do very poorly at 50 percent relative humidity unless dew point is reached or unless there are water leaks and moisture. Molds can thrive in wall cavities where they cannot be seen. If you see mold, it is likely that it is ten times greater in your home than you can see. The most important means to control mold and eliminate dust mites is to maintain relative humidity to 50 percent or less at all times, to avoid condensation problems, and immediately to repair and to dry water leaks and all moist materials. Immediately means within 24 hours. Usually this means you should immediately call for professional help. Mold cleanup can be very expensive. Moisture and water extraction is relatively inexpensive.