

# Radon

Radon is a radioactive gas that is colorless, odorless and tasteless. Radon tends to accumulate in enclosed indoor spaces. The chemical symbol for Radon is Rn. On the following periodic chart, radon is found on the bottom left hand side of the chart.

H																				He							
Li	Be																				B	C	N	O	F	Ne	
Na	Mg																				Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr										
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe										
Cs	Ba		Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn										
Fr	Ra		Rf	Db	Sg	Bh	Hs	Mt	Lr	U	N	L															
			La	Ce	Pr	Nd	Pm	Er	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu										
			Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Mn	Nd	Lr										

## Where does Radon come from?

Radon is a naturally occurring gas produced by the radioactive decay of uranium in soil and water. Radon will enter a building from area in contact with the earth and rock beneath the building. Radon can also enter through tap water coming from a well. Any building materials made from earth materials (cinder blocks, bricks) can also be a source of radon.

## Why measure radon?

Radon is the second leading cause of lung cancer in the United States. The National Academy of Sciences BEIR VI Report has estimated that radon causes about 15,000 to 22,000 lung cancer deaths annually. Major scientific organizations continue to believe that approximately 12% of lung cancers annually in the United States are attributable to radon.

## How do I measure radon?

There are several different technologies for measuring radon, depending on your purpose and budget. The Safety Siren Pro 3 Radon Detectors (Google “safety radon detectors”) are an electronic device can be used to get a measurement in 48 hours. This device is great for a quick check and for educational use. The manufacturer uses the term “EPA evaluated” on their webpage; the use of this term is misleading since EPA has not conducted a formal assessment of the device.

The EPA website gives an overview of various technologies that can be used for radon measurements. (<http://www.epa.gov/radon/methods.html>)

The detector should be placed in the lowest occupied area of the building in a location where it will not be disturbed. You could also place a detector in a basement area rarely used, however the results should be interpreted with care. Measurements taken in occupied areas are more valuable for making decisions on mitigation steps that might be required. Typical radon measurements may vary with the seasons. You may need to measure the radon in different seasons to make a good assessment of the average radon levels of a building.

You can also purchase simple “home” kits via the Internet, (Google “radon home test kit”), but if you are making important decisions based on the results of the test, you may want to work with a qualified radon service professional.

### **What are some normal levels of radon?**

Based on a national residential radon survey completed in 1991, the average indoor radon level is about 1.3 picocuries per liter (pCi/L) in the United States. The average outdoor level is about 0.4 pCi/L.

### **What standards are there for radon?**

There is not a standard for radon, but EPA suggests an action level if the radon level is greater than 4 pCi/L. If you have radon readings greater than 4 pCi/L, you should investigate mitigation for the building, which can involve measures such as increasing ventilation rates.