

Radon Gas in the Home: Everything You Need to Know

One in 15 homes across the country tests positive for dangerous levels of radon. Homeowners and homebuyers can use proven techniques to address radon gas by following this guide.



What is Radon?



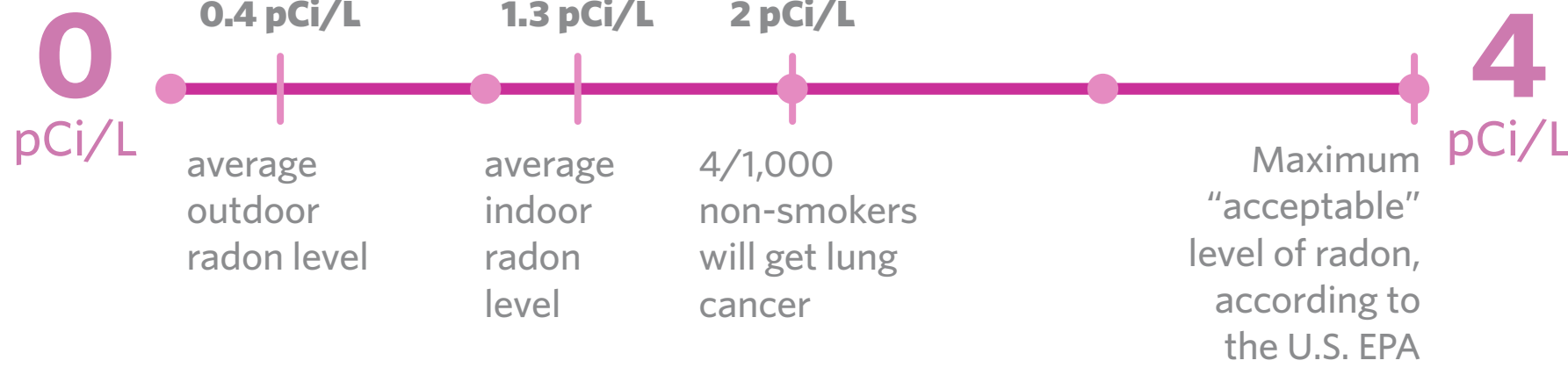
Radon is a naturally-occurring, invisible, odorless, radioactive gas that is normally found at very low levels in outdoor air, water and soil.



Radon is the No. 1 cause of lung cancer among non-smokers and is associated with approximately 21,000 lung cancer deaths per year.

How Much Radon Gas is Too Much?

Radon is measured in picocuries per liter (pCi/L). The U.S. Environmental Protection Agency recommends fixing your home if your radon level is 4 pCi/L or higher. There are no known short-term health effects associated with radon exposure.



Risk Factors

Radon gas is everywhere, but some areas are more prone to dangerous levels of radon. Levels can vary from state to state, but also from neighborhood to neighborhood.

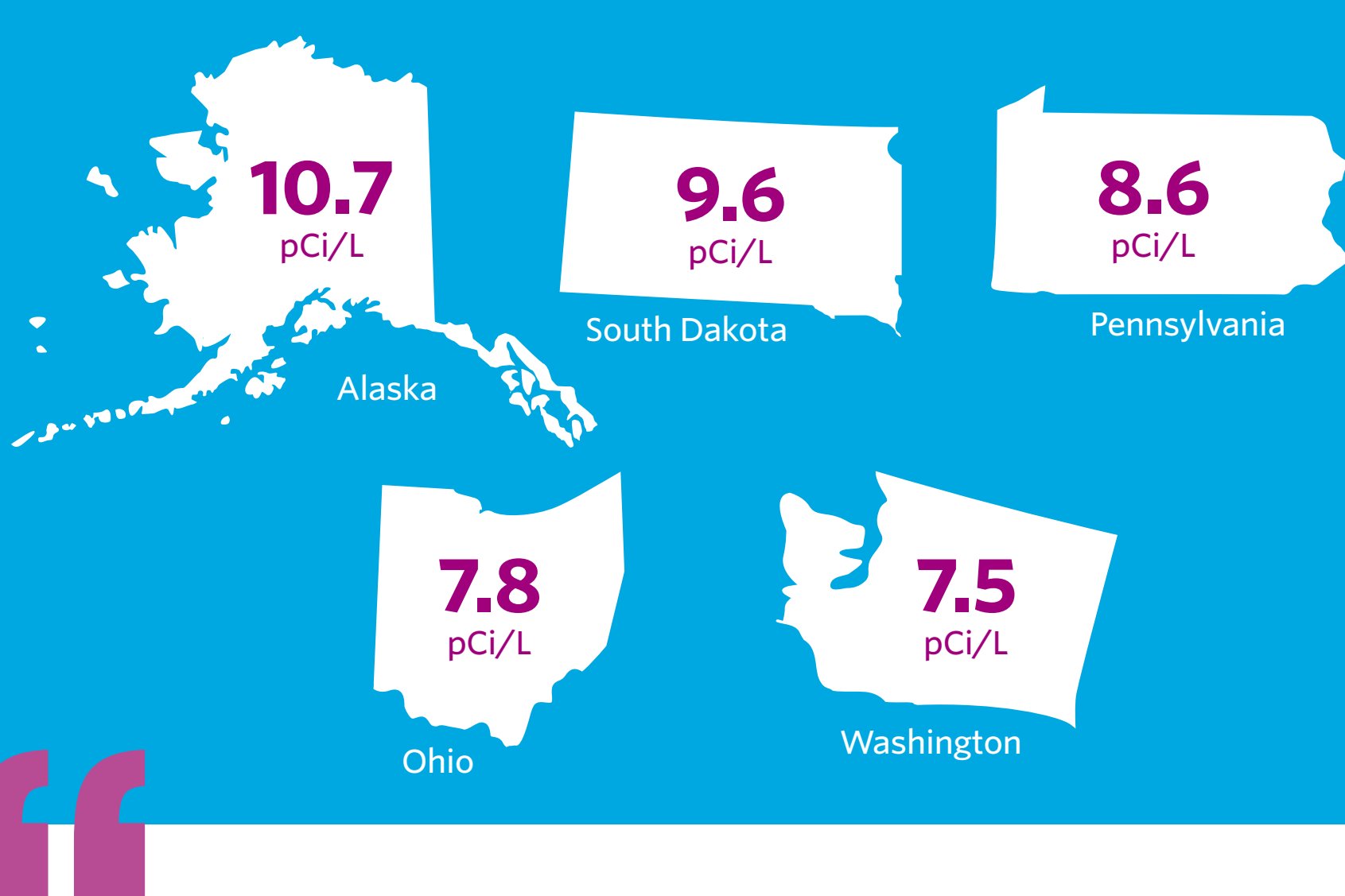
The Geology of Radon

The source of radon is the element Uranium, found naturally in almost all rocks. Some areas have rocks with higher than average levels of Uranium that deposit the element in surrounding soil and water.

Uranium Ores	Located everywhere; concentrated in the Rocky Mountains and Colorado Plateau
Dark Shales	Located in Virginia, West Virginia, Kentucky, Ohio, Pennsylvania
Phosphate	Location varies; concentrated in Florida, Idaho, North Carolina and Utah
Granites	Located everywhere; concentrated in Appalachian Mountains, Rocky Mountains, and Sierra Nevada

States with the Highest Radon Gas Levels

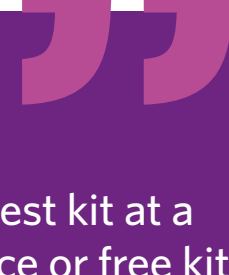
Did you know? If you live in a state with higher levels of Uranium deposits, your home is more likely to absorb radon through cracks or openings in the floors or walls.



You cannot predict radon levels based on state, local, and neighborhood radon measurements. Do not rely on radon test results taken in other homes in the neighborhood to estimate the radon level in your home. Homes which are next to each other can have different indoor radon levels. Testing is the only way to find out what your home's radon level is.

U.S. Environmental Protection Agency Advisory

Home Buyer's and Seller's Guide to Radon, March 2018



How to Test Your Home for Radon Gas

To find out if your home has elevated levels of radon, start by purchasing a radon test kit at a home improvement store, hardware store or online. Some states offer reduced price or free kits through the public health department.

1

Start with a Short-Term Test

Duration: 2 - 90 days

Cost: \$10 - \$30

2

If Above 3.5 pCi/L, Perform a Long-Term Test

Duration: 90 days - 1 year

Cost: \$75 - \$150

Tips for Reliable Test Results:

- Close the windows and outside doors for 12 hours before the test
- Do not conduct short-term tests during severe storms with high winds
- Place the test device at least 20 inches above the floor
- Put the testing device in the lowest point of your home and avoid damp areas like the bathroom or kitchen

How to Reduce High Radon Levels

If your building is greater than 4 pCi/L, you should take action to mitigate radon in your home by hiring a contractor.



Select a Contractor

• **Are they licensed?** Many states require radon professionals to be licensed, certified or registered.

• **Did you get a fair price?** Radon mitigation has a typical price range of \$800 to \$1,200.

• **Do they provide a guarantee?** Most quality radon mitigation contractors will provide a written guarantee of performance.



Radon Mitigation Options

• **House or room pressurization** uses a fan to blow air into the living area, creating enough pressure to prevent radon from entering into the home.

• **Heat recovery ventilators** can be installed to increase ventilation by introducing outdoor air and ventilating the home.

• **Sub-slab suction** draws the gas from below your foundation using pipes inserted into the soil.

• **Sealing** cracks and other openings in the foundation limits the flow of radon into your home.

Homebuyer's Checklist

There's a lot to think about when buying a home, but it pays to ask about radon. Follow these steps to protect you and your family from monetary costs and health effects down the road.



Determine the results of any previous radon testing



Determine who conducted the previous test: homeowner, professional or other



If a new test is in order, ask how seller and buyer will share test result costs, if necessary

Home Builder's Checklist

Build a safe structure by installing these proven radon-resistant features during construction. As of 2019, California, Illinois, Maryland, Minnesota and Oregon require all new homes be built following radon-resistant new construction (RRNC) standards.



Install a gas-permeable layer beneath the flooring system



Install a layer of clean gravel or aggregate beneath the slab or flooring system



Lay polyethylene sheeting on top of the gravel layer



Include a gas-tight venting pipe from the gravel level through the building to the roof



Seal and caulk the foundation thoroughly