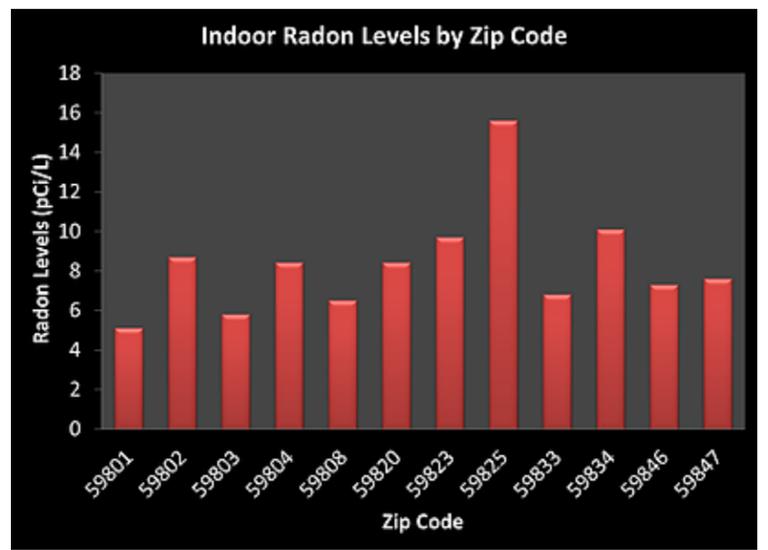


# RADON IN MISSOULA COUNTY MONTANA

Compiled by Home Inspection Solutions Missoula MT.

(NOTICE: This information was compiled & abridged from the local & national sources & publications from the EPA & DEQ. This document contains paraphrasing, interpretation & plain English descriptions & does not claim to be the entire original document from EPA or DEQ.)



## For Local Professional Radon Testing :

**Murphy Contracting**

[murphycontractingllc@gmail.com](mailto:murphycontractingllc@gmail.com)

Tel: 406.531.3860

Tel: 406.531.1717

<https://www.mtradon.com/>

**Radon Solutions**

<http://www.radon-mt.com/index.html>

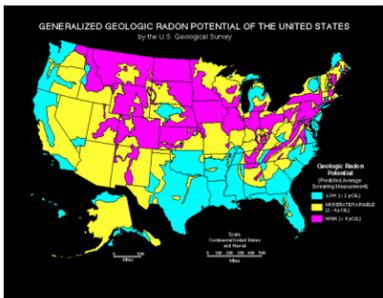
Tel: 406-836-0786

[RadonSolutions@cox.net](mailto:RadonSolutions@cox.net)

**Montana Professional Enterprises**

406-531-0457

<http://www.radonmitigationmissoula.com/>



## About Radon in General

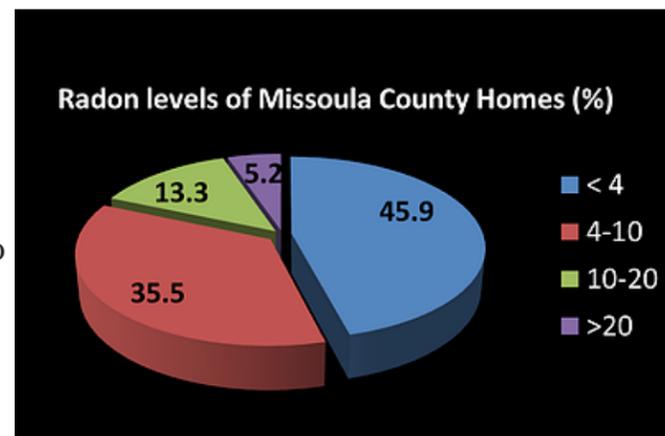
Radon is a colorless, odorless radioactive gas that has been found in homes all over the United States & it can be dangerous to your health. It comes from the natural breakdown of uranium in soil, rocks, and water, it can get into the air you breathe. Radon typically moves up through the ground to the air above and into your home through cracks and other holes in the foundation. Radon can also enter your home through well water. Your home can trap radon inside. Any home can have a radon problem. This means new and old homes, well-sealed and drafty homes, and homes with or without basements. In fact, you

and your family are most likely to get your greatest radiation exposure at home; that is where you spend most of your time.

## ABOUT RADON IN MISSOULA :

Because of Montana's geology, many homes in the state and Missoula County have high levels of radon gas. **Missoula levels are high.** For example, nationwide 7% of buildings contain elevated levels of radon. **In Missoula, 54% of homes have high levels** (see pie chart). This is over **7x the national average.**

When the Health Department looked at test results throughout the County, no pattern was observed. Homes in the valley, in the foothills, and it all reaches of the county had high levels\*.



**In the U.S. the average indoor radon level is 1.3 pCi/L. In Missoula**

**County, the average is 7.2 pCi/L. This is more than 5x the national average. Results vary from 4.5 in 59801 to 9 in 59825 (See the bar chart at top)\* Based on 2012 study of zip code data from MCCHD test kit sales.**

**This is like receiving approximately 350 chest x-rays in a year or smoking 14 cigarettes a day.**

**When this gas is drawn into a home or building, it can build up to dangerous levels and be inhaled into the lungs. Radon and its decay products can release radiation into lungs and damage the tissue. In fact, radon exposure is the number one cause of lung cancer among non-smokers and is responsible for about 21,000 lung cancer deaths each year in the USA. All zipcodes in Missoula county AND surrounding areas have averages are above the EPA Action Level of 4pCi/L.**

Interestingly, one house may test high but a neighbor's home may be low. This is due to differences in the ground structure and to a lesser degree, the home construction. All the more reason to test every home. In a location like Missoula, building homes to be radon resistant from the start makes good sense.

**Should I test my home for radon?**

The only way to know your radon level is to test. Tests can be either short term (2-90 days) or long term (> 90days). Short term tests are inexpensive and available at the Health Department and local hardware stores. Test kits are also available at the radon hotline 1-800-SOS-RADON (767-7236).

### **Are levels of radon below 4pCi/L considered safe?**

The EPA has established that a level of 4pCi/L is the action level or the level above which homes should be fixed. Does this mean that it is safe if you are at 3.9pCi/L? The answer is no. There is no safe level of radiation. A radon level of 4.0pCi/L is equal to 200 chest x-rays per year or 16 cigarettes per day. The U.S. Congress has set a long-term goal that indoor radon levels be no more than outdoor levels, about 0.4 pCi/L.

**Above Information is from Missoula Radon Coalition <http://www.missoularadon.org/>**



### **The EPA recommends:**

1. If you are buying a home or selling your home, have it tested for radon.
2. For a new home, ask if radon-resistant construction features were used and if the home has been tested.
3. Fix the home if the radon level is 4 picoCuries per liter (pCi/L) or higher.
4. Radon levels less than 4 pCi/L still pose a risk, and in many cases, may be reduced.
5. If you do your own short term test, take steps to learn how to test properly & prevent device interference & false negative results when conducting a radon test.
6. If you are having an other party do a test for you make sure the person conducting your test follows all instructions to prevent device interference.



### **Expected Costs Of Dealing With Radon \$\$ :**

When installed properly and completely, radon-resistant techniques can also make your home more energy-efficient and help you save on your energy costs. In a new home, the cost to install passive radon-resistant features **during construction is usually between \$350 to \$500**. In some areas, the cost may be as low as \$100. A qualified mitigator will charge about \$300 to add a vent fan to a passive system, making it an active system and further reducing radon levels. **In an existing home, it usually costs between \$800 to \$2,500 to install a radon mitigation system.**

**You can roll this cost into closing or create an escrow account to cover radon mitigation costs if needed.**

### **Home Inspection Solutions DOES NOT DO RADON TESTS - (Because we are not licensed to do professional grade tests)**

**You can run your own short term test if you wish, its easy & cheap:**

**(Same test a Home Inspector would run, only a Radon Professional is qualified to run a more in-depth test)**

**Test kits can be purchased at the Environmental Health Department located on the 2nd floor of the City-County Health Department building, 301 W Alder, Missoula Mt 59801.**

**( for \$7.00 )or @ hardware stores, or online @ <http://www.radonkit.org>**

**To Get MORE RADON TESTING INFO. From The State Go To :**

**<http://deq.mt.gov/Energy/EnergizeMT/radon>**

### **Learn How To Do Your Radon Test Properly : The Radon Testing Checklist**

#### **EPA Testing Checklist:**

In the "Consumer's Guide to Radon," the EPA offers a Radon Testing Checklist, which states: For reliable test results, follow this Radon Testing Checklist carefully. Testing for radon is not complicated. Improper testing may yield inaccurate results and require another test. Disturbing or interfering with the test device, or with closed-house conditions, may invalidate the test results and is illegal in some states. If the seller or qualified tester cannot confirm that all items have been completed, take another test.

**([https://www.epa.gov/sites/production/files/2016-02/documents/2013\\_consumers\\_guide\\_to\\_radon\\_reduction.pdf](https://www.epa.gov/sites/production/files/2016-02/documents/2013_consumers_guide_to_radon_reduction.pdf))**

#### **Before Conducting a Radon Test:**

1. Notify the occupants of the importance of proper testing conditions.
2. Give the occupants written instructions or a copy of "Buyers/Sellers Guide To Radon" or "Radon Reduction Guide" and explain the directions carefully. (<https://www.epa.gov/sites/production/files/2015-05/documents/hmbuygud.pdf> or [https://www.epa.gov/sites/production/files/2016-02/documents/2013\\_consumers\\_guide\\_to\\_radon\\_reduction.pdf](https://www.epa.gov/sites/production/files/2016-02/documents/2013_consumers_guide_to_radon_reduction.pdf))

3. Conduct the radon test for a minimum of 48 hours; some test devices have a minimum exposure time greater than 48 hours, follow manufacturers instructions.
4. When doing a short-term test ranging from 2-4 days, it is important to **maintain closed-house conditions\*** for at least 12 hours before the beginning of the test and during the entire test period.

→ **\*NOTE: Closed-house conditions means:** keeping all windows closed, keeping doors closed except for normal entry and exit, and not operating fans or other machines which bring in air from outside. Fans that are part of a radon-reduction system or small exhaust fans operating for only short periods of time may run during the test.

1. When doing a short-term test ranging from 4-7 days, EPA recommends that closed-house conditions be maintained. See above note.
2. If you conduct the test yourself, use a qualified radon measurement device and follow the laboratory's instructions. Your county or state may be able to provide you with a list of do-it-yourself test devices available from qualified laboratories.
3. **If you hire someone to do the test, hire only an EPA qualified individual. Some states issue photo identification (ID) cards;** ask to see it. The tester's ID number, if available, should be included or noted in the test report.
4. The test should include method(s) to prevent or detect interference with testing conditions or with the testing device itself.
5. If the house has an active radon-reduction system, make sure the vent fan is operating properly. If the fan is not operating properly, have it (or ask to have it) repaired and then test.

**\*During a Radon Test:**

1. **Maintain closed-house conditions** during the entire time of a short term test, especially for tests shorter than one week in length.
2. Operate the home's heating and cooling systems normally during the test. For tests lasting less than one week, operate only air-conditioning units which recirculate interior air.
3. Do not disturb the test device at any time during the test.
4. If a radon-reduction system is in place, make sure the system is working properly and will be in operation during the entire radon test.

**\*After a Radon Test:**

1. If you conduct the test yourself, be sure to promptly return the test device to the laboratory. Be sure to complete the required information, including start and stop times, test location, etc.
2. Be sure that you or the radon tester can demonstrate or provide documentation to ensure that the testing conditions were not violated during the testing period.
3. \*If an elevated level is found, fix the home. Contact an EPA qualified radon-reduction contractor about lowering the radon level. EPA recommends that you fix the home when the radon level is 4 pCi/L or more. See local contacts @ top of document.

**Our Disclaimers:**

a. **Checklist Limitations:** This checklist is not inclusive of all the inspection criteria that is required

Items on this check list may note contain recent changes made by EPA/ DEQ documents or policies.

b. **Conflicting Requirements:** If more than one code requirement is applicable in any given situation, the more stringent requirement shall apply.

c. **Interpretation :** This list is an abridged interpretation & is compiled in good faith as an overview for convenience & is not a replacement for any the official EPA /DEQ list of requirements. If you have questions or concerns please contact your state office or call the the radon hotline 1-800-SOS-RADON (767-7236 ) or you may Contact The Missoula Radon Coalition :

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(Sources : <http://www.homeinspectionssolutions-mt.com/uploads/2/0/8/4/20845464/radon-homeowner.pdf>, <https://www.missoularadon.org>, [http://www.homeinspectionssolutions-mt.com/uploads/2/0/8/4/20845464/2013\\_consumers\\_guide\\_to\\_radon\\_reduction.pdf](http://www.homeinspectionssolutions-mt.com/uploads/2/0/8/4/20845464/2013_consumers_guide_to_radon_reduction.pdf), <https://www.epa.gov/radon>, <http://deq.mt.gov/Energy/EnergizeMT/radon#drinktest> )

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