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## Radon in Drinking Water from Private Wells

### What is radon?

Radon is a colorless, tasteless, odorless, radioactive gas. It occurs naturally and is produced by the breakdown of uranium in soil, rock, and water. It can also dissolve into the water supply.

### Where and how does radon get into drinking water?

While most radon-related deaths are due to radon gas accumulated in houses from seepage through cracks in the foundation, 30 to 1,800 deaths per year are attributed to radon from household water. High levels of dissolved radon are found in the groundwater in some areas flowing through granite or granitic sand and gravel formations. If you live in an area with high radon in groundwater it can get into your private well. Showering, washing dishes, and laundering can disturb the water and release radon gas into the air you breathe.

### How can I find out whether there is radon in my drinking water?

If you suspect a problem and your drinking water comes from a private well, you may contact AMERICAN ENVIRONMENTAL LABORATORIES to perform tests on drinking water for a fee.

### How do I remove radon from my drinking water?

Radon can be removed from water by using one of two methods:

**Aeration treatment** - spraying water or mixing it with air and then venting the air from the water before use, or

GAC (Granular Activated Carbon) treatment is the filtering of water through granular activated carbon. Radon attaches to the carbon and leaves the water free of radon. Disposing of the carbon may require special handling if it is used at a high radon level or if it has been used for a long time.

In either treatment, it is important to treat the water where it enters your home (point-of-entry device) so that all the water will be treated. Point-of-use devices such as those installed on a tap or under the sink will only treat a small portion of your water and are not effective in reducing radon in your water. It is important to maintain home water treatment units properly because failure to do so can lead to other water contamination problems. Some homeowners use a service contract from the installer to provide carbon replacement and general system maintenance.

Remember to have your well water tested annually after installing a treatment system to make sure the problem is controlled.

### Definitions:

## **What is ACTIVATED CARBON?**

A highly porous adsorbent material, produced by heating organic matter, such as coal, wood and coconut shell, in the absence of air, which is then crushed into granules.

Activated carbon is positively charged and therefore able to remove negative ions from the water such as ozone, chlorine, fluorides and dissolved organic solutes by absorption onto the activated carbon.

The activated carbon must be replaced periodically as it may become saturated and unable to absorb.

*Activated carbon is also used to lower radon levels in water.*

Activated carbon is not effective in removing heavy metals.

Activated carbon is often used as a filter in water treatment systems, where water is directed downwards through a stationary bed of activated carbon, leaving organic material to accumulate at the top of the bed. In some cases the filter bed is reverse flushed to clear the bed of organic material and therefore lengthen the effectiveness of the activated carbon.