

# **wellcare<sup>®</sup> information for you about Methane Gas & Groundwater**

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## **What is Methane Gas?**

Methane gas can enter groundwater through natural or industrial processes. In its natural form, methane gas (commonly known as natural gas) is colorless, odorless, and tasteless. One natural source of methane is the decomposition of plant and animal waste.

Other sources of methane gas include coal mines, wastewater treatment, landfills, natural gas and petroleum systems, and certain agricultural and industrial processes. Before being used as a fuel, methane gas is mixed with an odorant, as a safety measure to help detect leaks.

## **What are the health effects of Methane Gas?**

There are no health effects from ingesting water that contains methane gas. However, methane gas can become harmful if it escapes from water and builds up in poorly ventilated or confined areas, causing an explosive hazard. Methane typically forms an explosive mixture in the air at concentrations of 5 to 15 percent by volume. Other factors such as water temperature, ventilation of the well, air movement inside the home, and the percent composition of the gas determine the exact concentration that is capable of producing an explosive hazard.

If your well water contains methane concentrations above 28 milligrams per liter (mg/L), the U.S. Department of the Interior, Office of Surface Mining suggests that you take immediate action to reduce this concentration. Methane concentrations below 10 mg/L are generally considered safe. Wells with levels between 10 and 28 mg/L should be monitored routinely, and well owners may wish to consider treatment to lower the methane level.

## **Should I test my water for Methane Gas?**

If you suspect your water may contain methane gas, you should have your water tested. Contact your state or local health department for a list of state-certified laboratories in your area. Methane can be difficult to detect in water, so it is important that a certified laboratory perform the test. In some instances, you may also be advised to test your air for methane gas.

## **What can be done to remove methane gas from drinking water?**

Methane can be vented from some wells. A well driller in your area can provide and install a well vent, usually at a low cost. Aeration is another method that can be used to eliminate methane from well water. Contact a water well professional to determine the best treatment method for your situation.

## For more information about Methane Gas

Penn State College of Agricultural Sciences, Cooperative Extension, School of Forest Resources. (2006). Methane Gas and Its Removal from Wells in Pennsylvania. Retrieved May 16, 2007 from [pubs.cas.psu.edu/FreePubs/pdfs/XH0010.pdf](http://pubs.cas.psu.edu/FreePubs/pdfs/XH0010.pdf)

U.S. Environmental Protection Agency (EPA). Methane. Retrieved May 17, 2007 from <http://www.epa.gov/methane/>

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## For more information on your drinking water

Contact your local water well professional or health department for information on ground water in your area. The following websites provide up-to-date information on efforts to protect drinking water supplies and steps you can take as a private well owner. In addition, you may contact the **wellcare®** hotline at **1-888-395-1033**.

Underwriters Laboratories Inc. Drink Well™ Well Water Testing	<a href="http://www.uldrinkwell.com">www.uldrinkwell.com</a>
U.S. Environmental Protection Agency	<a href="http://www.epa.gov">www.epa.gov</a>
Water Quality Association	<a href="http://www.wqa.org">www.wqa.org</a>

## For more information about wells and other wellcare® publications

**wellcare®** is a program of the **Water Systems Council (WSC)**. WSC is a national nonprofit organization dedicated to promoting the wider use of wells as modern and affordable safe drinking water systems and to protecting ground water resources nationwide. This publication is one in a series of **wellcare®** information sheets. There were more than 60 available at the time this document was published. They can be downloaded FREE from the WSC website at [www.watersystemscouncil.org](http://www.watersystemscouncil.org). Well owners and others with questions about wells or ground water can also contact the **wellcare®** hotline at **1-888-395-1033** or visit [www.wellcarehotline.org](http://www.wellcarehotline.org)



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