

METHANE GAS & WELL WATER

What is Methane Gas?

In its natural form, methane gas is colorless, odorless, and tasteless chemical compound. Methane is abundant on Earth and because of that, methane is the main component of natural gas. Prior to being used as a fuel, methane gas is mixed with an odorant, as a safety measure to help detect leaks.

Methane can be created through geological, biological, or industrial routes. Methane may enter groundwater through any of these ways.

Geological:

- Due to the breakup of organic matter at high temperatures and pressures in deep sedimentary rock layers.
- As a result of inorganic processes such as: magmatic processes or by chemical reactions between water and rock that occur in crystalline bedrock at low temperatures and pressures.

Biological:

- By organisms that are capable of producing methane for energy conservation. This can occur in but is not limited to landfills, soils, and plant eating mammals that graze (e.g. cattle).
- Wetlands

Industrial:

- Methane can be produced in plants or synthesized in laboratories. However, given its abundance, these methods are not as common.

Other sources of methane gas include coal mines, wastewater treatment, natural gas and petroleum systems, and certain agricultural processes.

What are the health effects of Methane Gas?

Since it evaporates out of water, methane is not usually considered a health threat in drinking water. However, methane gas can become harmful if it evaporates from water and builds up in poorly ventilated or confined areas.

When present at high concentrations, methane gas acts as an asphyxiate. Asphyxiates displace air and can cause breathing and other health problems.



At higher concentrations, methane gas presents an explosion risk. Methane typically forms an explosive mixture in the air at concentrations of 5% to 15% 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 regularly monitored, 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 or use [our interactive map](#). Methane can be difficult to detect in water, so it is important that a certified laboratory perform the test. You may also be advised to test the ambient air in your home for methane gas.

What can be done to remove Methane Gas from well water?

Methane can be vented from some wells. A well contractor in your area can provide and install a well vent, usually at a low cost. Contact a licensed well contractor to determine if a well vent is the best treatment method for your situation. For a list of licensed well contractors in your area, use our [interactive map on our website](#).

An aeration device can also be used to eliminate methane from well water. Before installing a treatment device, contact a certified water treatment professional for guidance. To locate a certified water treatment professional in your area, visit [WQA's](#) website. Treatment systems should be certified by NSF or Water Quality Association (WQA) when available. To find treatment systems that are certified visit [NSF](#) or [WQA](#) websites. It is necessary to maintain treatment devices as specified by the manufacturer or your water treatment professional. You should also retest your water after treatment is installed and after maintenance to confirm the effectiveness of the device.

For More Information on Methane Gas & Well Water

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



Information to help maintain and protect your water well system:

[wellcare®](#) is a program of the [Water Systems Council \(WSC\)](#). WSC is the only national organization solely focused on protecting the health and water supply of an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 [wellcare®](#) information sheets available FREE at www.watersystemscouncil.org.

Well owners and others with questions about wells and well water can contact the [wellcare®](#) Hotline at 1-888-395-1033 or visit www.wellcarehotline.org to fill out a contact form or chat with us live!

JOIN THE WELLCARE® WELL OWNERS NETWORK!

By joining the FREE [wellcare®](#) Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit www.wellcarehotline.org to join!