

METHANE

Also known as: Natural Gas, Marsh Gas, LNG
Chemical reference number (CAS): 74-82-8

WHAT IS METHANE?

Methane is an odorless, colorless flammable gas. It is used primarily as fuel to make heat and light. It is also used to manufacture organic chemicals. Methane can be formed by the decay of natural materials and is common in landfills, marshes, septic systems and sewers.

Methane can form an **EXPLOSIVE** mixture in air at levels as low as 5 percent. You can smell leaking methane only when commercial gas utility companies add a chemical smell to it or when it mixes naturally with hydrogen sulfide, causing a “rotten egg” smell. If you can smell it, the level may be too high to be safe.

Methane can also be found in coal gas. Pockets of methane exist naturally underground. In homes, methane may be used to fuel a water heater, stove and clothes dryer.

Methane evaporates quickly. Therefore, most of the methane that ends up in lakes, streams, or soil is eventually released into the air. However, methane that is formed underground and moves through soil can remain unchanged for many years.

HOW ARE PEOPLE EXPOSED TO METHANE?

Breathing: Most exposures occur when people inhale methane. Methane can go into homes through sewer traps or foundation cracks. People can be exposed by inhaling the chemical at work, cooking on a gas stove, or entering confined spaces such as manholes, silos, animal waste pits, septic tanks and sewers.

Drinking/Eating: Because methane evaporates quickly, it is usually not found in food or drinking water. Very low level exposure can occur when contaminated water is used for drinking and/or for food preparation or when children eat contaminated soil.

Touching: Methane gas does not pass readily through intact skin. Methane in its extremely cold liquefied form can, however, cause burns to the skin and eyes.

DO STANDARDS EXIST FOR REGULATING METHANE?

Water: There is currently no state or federal drinking water standard for methane. Contact your local public health agency for more information specific to your situation.

Air: Since it's a “simple asphyxiant,” methane can displace available oxygen. There are no workplace limits for methane allowed in the air. No standards exist for the amount of methane allowed in the air of homes. The limiting factor is the amount of oxygen available. The minimum oxygen content in the home or workplace should be 18%.

The Wisconsin Department of Natural Resources regulates the amount of methane that can be released by industries.

WILL EXPOSURE TO METHANE RESULT IN HARMFUL HEALTH EFFECTS?

Immediately or shortly after exposure to oxygen levels of less than 15 percent in air, a person may feel tired, dizzy, and have a headache.

The following health effects can occur after several years of exposure to methane:

Cancer: Methane is not suspected of causing cancer.

Reproductive Effects: The reproductive and developmental effects of methane are not known.

Organ Systems: No long term health effects are currently associated with exposure to methane.

In general, chemicals affect the same organ systems in all people who are exposed. However, the seriousness of the effects may vary from person to person.

A person's reaction depends on several things, including individual health, heredity, previous exposure to chemicals including medicines, and personal habits such as smoking or drinking.

It is also important to consider the length of exposure to the chemical; the amount of chemical exposure; and whether the chemical was inhaled, touched, or eaten.

CAN A MEDICAL TEST DETERMINE EXPOSURE TO METHANE?

Methane is rapidly eliminated from the body. Although methane can be measured in exhaled breath, urine, blood, and other tissues, no reliable method exists to determine the level of exposure. There are currently no tests available to evaluate the health effects of methane exposure.

Seek medical advice if you have any symptoms that you think may be related to chemical exposure.

This fact sheet summarizes information about this chemical and is not a complete listing of all possible effects. It does not refer to work exposure or emergency situations.

FOR MORE INFORMATION

- Poison Control Center, 800-222-1222
- Your local public health agency
- Division of Public Health, BEOH, 1 West Wilson Street, Rm. 150, Madison, WI 53701-2659, (608) 266-1120 or Internet: <http://dhfs.wisconsin.gov/eh>



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