Understanding Gases

Methane

CH_4

Methane is a greenhouse gas that is also encountered in normal atmospheric conditions at a rate of approximately 2.2 parts per million (ppm).

Methane is a colourless, highly flammable gas that is the primary component of natural gas, also referred to as biogas. It can be stored and/or transported under pressure as a liquid-gas.

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What are the applications of Methane?

Domestic gas in the UK is mostly composed of methane and is used for cooking, and heating. In industry, methane is also used to refine petrochemicals and to produce plastics, fertilisers, anti-freeze and fabrics.

As a primary component of natural gas, methane is a relatively common gas, and it is especially prevalent in the petroleum extraction and refining industries. It is also found in landfills, coal mines, livestock facilities, and wastewater treatment facilities.

What should you do if you are exposed?

Eye contact: immediately flush with large amounts of water for a minimum of 15 minutes.

Skin contact: immerse affected area in warm water and seek medical attention.

Inhalation: remove the person from exposure and begin rescue breathing if breathing has stopped and CPR if the heart has stopped. Seek medical attention.

What are the dangers?

Methane also occurs naturally in wetland areas through the anaerobic decomposition of animal and plant matter. Methane is highly flammable and can ignite at a relatively low temperature. It is combustible, and if pressurised, it also poses an explosion risk even at low concentration levels between 5% and 15%.

High exposure to methane can reduce the amount of oxygen inhaled, resulting in mood changes, slurred speech, vision problems, memory loss, nausea, vomiting, facial flushing and headache. In severe cases, there may be changes in breathing and heart rate, balance problems, numbness, and unconsciousness. With extremely high or continuous exposure methane can kill.

There's about 1,800 parts per billion of methane gas in the atmosphere

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