

Understanding Gases

Butane



Butane is a compound of hydrogen and carbon, commonly known as a hydrocarbon gas, which is flammable and colourless.



It is commonly utilised across a range of manufacturing and industrial processes, as well as in cigarette lighters and stoves, aerosols, heating fuel, and occasionally as a refrigerant.



C_4H_{10} is produced from natural gas processing and oil refining.



It has a faint smell.

What are the dangers of Butane?

Recognised as a dangerous substance to human health when ingested, butane can cause considerable harm. When inhaled, C_4H_{10} gas can lead to sudden death by causing a heart attack in those who have high blood pressure or do exercise soon after ingestion.

Ingestion of C_4H_{10} also affects the central nervous system, the respiratory system and can cause the larynx to spasm, as well as affect breathing capacity when swallowed. Consumption of high levels of butane can lead to loss of consciousness, choking and vomiting.

As well as being dangerous to human health, butane also poses environmental dangers because it is highly flammable. It is an explosion hazard and can create fires when ignited by a variety of sources, such as heat, spark or open flame. As it is far heavier than air, there is also the risk that butane could travel long distances, flowing downhill or across the floor, where it could ignite and create an explosion or fire.

How do you detect Butane?

As mentioned before, butane does not have a strong pungent smell. In fact its odour is faint. Butane gas can only be reliably traced via the implementation of a gas detector which will trigger in the presence of butane. This usually comes in the form of a combustible gas meter, which can accurately measure concentrations of this gas.

What should you do if you are exposed?

As noted, butane is dangerous to human health and therefore immediate action is required in the case of exposure. If an individual's skin comes into contact with liquid butane, then the affected area should be flushed with water for a quarter of an hour. This should happen immediately after exposure, and the area should not be rubbed to avoid further damage.

A similar response is required in the case of eye exposure. Large amounts of cool to tepid water should be administered by lifting the upper and lower lids, and eye contacts should be taken out.

As inhalation poses the greatest danger, it is important that when an individual is exposed to butane in this way, they should vacate the area immediately. In the case of breathing complications, rescue breathing or CPR should begin, before transferral to a medical facility.



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