Understanding Gases

Propane

C_3H_8

Propane is a gas with a low boiling point (at minus 42 degrees centigrade at atmospheric pressure) and is commonly used for heating purposes, as it burns more cleanly than most other fossil fuels.

It is mainly a by-product of natural gas processing, although some propane can be created from the refinement of crude oil.

It is often stored and compressed as a liquid, propane is colourless and almost without smell, as well as being non-toxic, making it difficult to detect.

It is also used for cooking, as fuel for engines like forklifts, farm irrigation engines, fleet vehicles, and buses to name a few.

What are the dangers of Propane?

Propane is hazardous for a number of reasons. As it is often stored as a liquid at cold temperatures, it can cause frostbite when vaporised and consequently it has a refrigerant number R290. It is heavier than air and can displace it causing dizziness for personnel working in the area, and at lower concentrations causes more severe health impacts, including at worst, asphyxiation through oxygen deficiency.

But, as well as the associated health impacts, propane is also a fire hazard and explosion risk. As the vapour is denser than the air, it can travel long distances to reach an ignition source. It is highly flammable and so is very dangerous when exposed to heat or flames.

What should you do if you are exposed?

Medical attention should be sought in the event of frostbite to the eyes, face or extremities. If frostbite has not occurred but you have been briefly exposed to liquid propane then thorough washing with large amounts of water for up to 15 minutes is very important to reduce the impact.

After exposure to room temperature propane, a subject should be put in a well ventilated area to recover, unless there are signs of asphyxiation or oxygen deprivation – when medical help should be sought.

How do you detect Propane?

Adding a smell to propane is an approach often used to identify the virtually odourless gas. Companies tend to put the chemical mercaptan into propane, which creates its infamous “rotten egg” smell.

Alongside this technique, ensuring the appropriate placement of reliable and effective gas detectors throughout a facility where propane is used is a must to ensure the safety of those in the space.

Portable gas detectors utilise flammable gas detection technology including catalytic, infrared and other sensor technologies and therefore are able to detect potentially explosive gases such as propane.

Commonly used for heating purposes, as it burns more cleanly than many alternative fossil fuels

Highly flammable can also gather in spaces and cause oxygen deficiency

For issues related to the respiratory system, caused through inhalation of propane, fresh air and rest are required

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