Tailgate Safety Talk

Information You Can Use to Prevent Accidents & Injuries

Safe Use of LPG

Liquid Petroleum Gas (LPG), or Propane, is commonly used as a fuel for forklifts, manlifts, certain types of heaters and lighting. When pressurized and/or chilled, the propane gas contained within a cylinder turns into a liquid state. A liquefied gas is much more "concentrated" than gas which is simply compressed. For example, one gallon of liquid propane will produce about 245-275 gallons of gas. The primary dangers created by LPG are fire/explosion, carbon monoxide poisoning, asphyxiation, and extreme cold.

If a gas is liquefied, the pressure can increase rapidly when the gas is heated. Heating can come about from purely natural sources, such as the sun. Under normal circumstances, a relief valve on the cylinder will release the gas in a controlled manner to prevent the cylinder from exploding due to over-pressurization. However, if the cylinder and valve are not properly maintained and/or the pressure build-up is very rapid, such as when the cylinder may be directly exposed to fire, a cylinder failure and subsequent explosion can occur.

There are several ways to prevent this. Always make sure the cylinder and relief valves are not damaged in any way. Damaged cylinders should never be used. Store cylinders out of the direct sun and away from other heat sources. A properly filled cylinder will not be full of liquid-some space should remain to accommodate gas that may be driven off due to heating. In this case, the gas will be retained in the cylinder rather than being released into the atmosphere where it could create a hazard. Other important safety measures to remember are as follows:

- **LPG cylinders must be in good condition.** Often cylinders have been damaged by impact or have corroded over a period of time. Inspect your equipment often and keep it in good condition. Just because a LPG dealer will fill your cylinder, this is no guarantee it is safe. If in doubt ask for the equipment to be inspected by a qualified technician.

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- **LPG is heavier than air.** If it leaks it will tend to spread along the ground. You may even see a visible fog of gas. Be aware that ignitable mixtures can extend beyond the visible area. LPG cylinders should be stored in well vented areas and away from sources of ignition, especially those at floor level. Never store LPG below ground level or in a confined space.
- **LPG leak detection is serious**! If you smell or notice leaking LPG, immediately extinguish all flames and cigarettes in the area. Do not use electrical switches or even telephones. Evacuate the area and report an emergency to 911 or other emergency number. Phone from a safe distance away.
- **When LPG is released it is extremely cold**. If you physically contact escaping gas, or anything around it, you could suffer frost bite. Whenever refilling or connecting an LPG cylinder, wear gloves to protect yourself from direct contact with the gas and cold surfaces.
- **Burned LPG creates deadly carbon monoxide emissions**. Never use LPG appliances indoors without approved ventilation. Be cautious of LPG powered lifts while working in areas like warehouses, freezers, container vans or any other environment with limited ventilation.

LPG is a popular and safe form of energy-as long as it is used and stored with care!

Users of this tailgate talk are advised to determine the suitability of the information as it applies to local situations and work practices and its conformance with applicable laws and regulations.