

LiVSafe is a conscious safety initiative of Liberty Videocon to help people live safer, secure lives through an educational series of proactive and preventative suggestions in the safety arena. This document does not purport to promote any product, directly, or indirectly. A cautious approach can save many lives indeed.

Understanding Compressed Gases

Compressed gases are necessary and serve a variety of purposes. If not treated correctly, they can pose serious hazards. Mishandled compressed gas cylinders can rupture violently and release hazardous contents or become dangerous projectiles.

We at Liberty Videocon General Insurance value the importance of safe handling of Compressed Gas Cylinders for preventing accidents; and intend to suggest some useful measures to augment the same. We sincerely hope that the measures suggested in this document will help follow better practices when it comes to safe Storage and Handling of Compressed Gas Cylinders



Threats & Hazards

Industrial gases are manufactured for use in a wide range of industries. Compressed gases are stored in heavy-walled metal cylinders designed, produced and tested for use with compressed gases. Cylinders are made in a wide variety of sizes and shapes. They range from small lecture bottles, often used for demonstration purposes, to large cylinders over 3 meters long.

Compressed gases can be toxic, flammable, oxidizing, corrosive or inert. In the event of a leak, inert gases such as nitrogen or helium can quickly displace air in a large area creating an oxygen-deficient atmosphere. Toxic gases (e.g. carbon monoxide, ammonia) can create poisonous atmospheres. Flammable, oxidizing or reactive gases such as acetylene, ethylene and vinyl chloride can result in fire and exploding cylinders.

There have been many cases in which damaged cylinders have ruptured, making sharp metal pieces fly throughout the area. Falling cylinders have been known to become missile-like projectiles, causing severe injury and damage.



Case Study

A 25 year old lorry driver was loading a large oxygen cylinder onto his lorry along with two others, at an oxygen cylinder production factory. He accidentally kept it slanted with the pressure valve facing his abdomen. The pressure valve came off and the compressed oxygen within the cylinder burst out through the outlet, hitting his abdomen directly. He flew 20 feet and died on the spot.

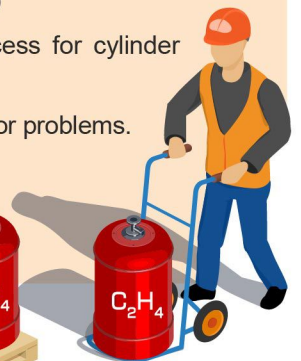
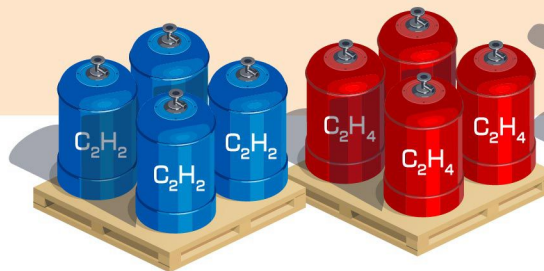
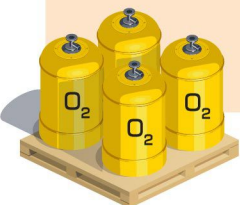
Safety Guidelines

Precaution while handling:

- Move cylinders using a suitable hand truck or cart. Never drag or slide cylinders, even for short distances.
- Leave the valve protection cap and valve seal outlet in place until the cylinder has been secured in place and is ready to be used.
- All compressed-gas cylinders must be stored in a secured, upright position. A clamp and belt or chain securing the cylinder to a wall about two-thirds of the cylinder's height is generally suitable for this purpose.
- When returning cylinders to the supplier, properly close the cylinder valve, replace and secure any valve outlet seals, and properly install the cylinder cap.
- Never drop cylinders or permit them to strike each other violently that may cause damage to their valves.
- Never use cylinders as rollers for moving material or other equipment.
- Never lift a cylinder by its cap using a sling or a magnet nor attempt to catch a falling cylinder.

Precaution during Storage:

- Store cylinders upright with valve outlet seals and valve protection caps in place.
- Gas cylinders must be stored in a separate storage area outside the building. Segregate full and empty cylinders.
- Store cylinders in a dry, cool, well-ventilated, secure area protected from the weather and away from combustible materials.
- Separate cylinders according to their contents. Place oxygen cylinders at least 20 feet from any flammable gas cylinders or combustible materials; or by a noncombustible barrier at least five feet high and with a fire-resistant rating of at least 30 minutes. (NFPA 51)
- Ensure all cylinders are labeled to identify their contents. Do not trust the cylinder color code as identification method for cylinder content (Medical gas cylinders are to be color coded, but check the label to be certain.)
- Store cylinders away from heavily traveled areas and emergency exits. Provide adequate access for cylinder handling.
- Visually inspect stored cylinders on a routine basis, or at least weekly, for any indication of leakage or problems.



Important Tips

- Know and understand the gases and associated equipment you will be using. Refer to the supplier's MSDS to determine the proper PPE and any other special requirements for the gas being used.
- Know that, In the event of impact or leak the user should not attempt to make unauthorized repairs or adjustments of regulators, remove the equipment from the service and have it repaired by an authorized person.

GASMAN
— IS HERE! —



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IRDA Registration No. 150
CIN : U66000MH2010PLC209656

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