

Total Safety

Safe Cylinder Storage

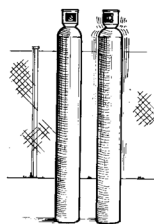
All gas cylinders have the potential to cause injury and damage if stored incorrectly.

This leaflet gives the guidelines for storing cylinders safely. For further advice and information, **ask your supervisor or contact Air Products.**

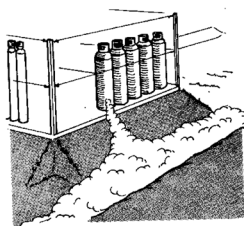


As well as the physical hazards, gas cylinders contain various hazards and therefore many factors must be considered when storing cylinders, even for short periods of time. The following principles should be applied wherever gas cylinders are stored.

Most cylinders are tall and thin. This makes them inherently unstable, therefore the storage area must have a level flooring with a slight fall to prevent water from collecting around the base of the cylinders and the associated hazards of ice in cold weather. Good housekeeping is essential to prevent debris collecting in the area and affecting the stability of the cylinder.



Since many gases are heavier than air, care must be taken to ensure any leaks cannot accumulate in ditches, drains or low lying areas. The size and layout of the area must leave sufficient room for access, especially if any handling equipment is being used.

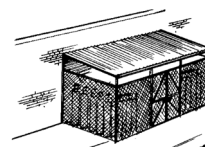


Storage area design

There must always be an emergency exit from all areas of the compound and escape gates must open outwards. They must not be obstructed either inside or outside of the compound.



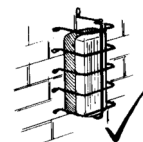
All compounds must be well ventilated. Where a covered area is essential at least two sides should be open to allow sufficient air-flow to prevent any build-up of gas.



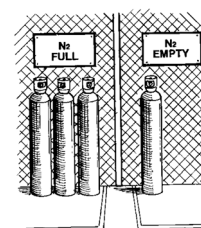
Additionally, where artificial lighting is required, emergency lighting must also be provided in case of failure of the main system.



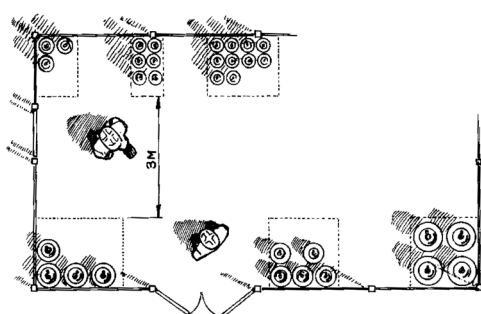
Where flammable gases are stored, all lighting and any other electrical equipment including tools used in that area must be flameproof and suitable for a hazardous area.



The area should be clearly marked for the different gases. Full and empty cylinders should be stored separately and each area clearly identified.



Pyrophoric gases must be stored away from all other gases.



Separation distances

BCGA is the reference for industrial, EIGA. Distances are dependent upon hazard category of gas i.e. boundary for inerts is 1 metre.

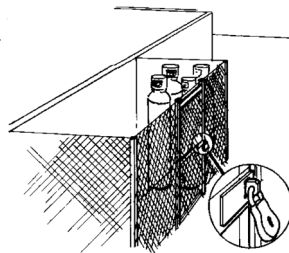
Boundary fence	3 metres
Ventilation inlets	3 metres
Cryogenic storage tanks	5 or 8 metres depending on size

Separation between oxygen and flammables We like but do not impose 3 metres. Separation distances are dependant on many factors. For definitive guidance refer to LPGA Code of Practice No. 7. Additionally, to allow ease of access, a walkway of a least half a metre between every six rows of cylinders should be made.

Security

Where the perimeter of the whole site is not secure, security must be provided for a cylinder store to prevent access by the public to the cylinder area. The store should be restricted to authorised persons

When toxic cylinders are involved, the site or store should be kept locked and secure when not being supervised.



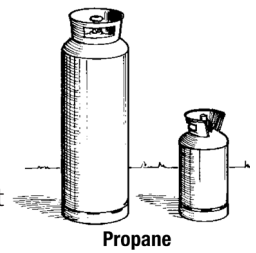
Stock control

Continuous cylinder rotation is important to prevent deterioration of the cylinder, its paintwork and labelling and also, particularly for p.p.m. mixtures of speciality gases, of the product itself.

Liquefied gases

All liquefied gas cylinders with relief devices fitted **must always** be stored upright to prevent large liquid

escapes, should the relief device operate.



Special rules apply to liquefied petroleum gases, because of their wide use both industrially and domestically, for cooling and heating.

N.B.: LPG must not be stored in rows of more than six cylinders.

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