

## Storage Locations

- Small quantities of cylinders may be stored in a variety of locations, provided Dangerous Goods and local government regulations and the principles given in the following paragraphs are followed.
- Larger quantities of cylinders should be kept in a secure ventilated purpose-designed store or storage area, following the same principles.

## Ideal Storage

Full or empty compressed gas cylinders should be stored:

- In a well ventilated area,
- Preferably in the open,
- With protection from the elements & if possible direct sunlight.

Most cylinders are made from steel so the bases are susceptible to corrosion if the floor of the storage area is not dry/well drained.

Storage areas need to be low risk with regards to fire and not near ignition sources.

Store cylinders standing vertically and restrain them.

The general practice is to store cylinders vertically for access to carry handles & guards where fitted. As a consequence, cylinders must always be secured or restrained when they are free standing prevent them falling should they be bumped as they can or will topple over.

Avoid uneven, sloping, slippery or unstable areas & in particular “shaley” or loose surfaces when ‘walking’ cylinders (i.e. by rotating them on the vertical axis by holding & spinning them with one hand on the cylinder valve protective cap and the other hand on the barrel of the cylinder) as unrestrained cylinders are a potential hazard.



Whenever possible use a cylinder trolley for transporting cylinders that are higher than one’s waist.

## Emergency Planning

Free and clear access to cylinder storage areas is essential.

Staff or workers storing or using of gas cylinders must be familiar with the hazards and emergency procedures.

Store layouts and emergency procedures need to be in place to cater for potential incidents.

Ideally, cylinders should be stored in dedicated cylinder-only areas.

Do not store any other products in a cylinder store. e.g. flammable liquids such as petrol, oil, paint, paint thinners or corrosive liquids.

## Gas Cylinder Rotation

Simple but often not followed!

- First in, first out.
- Ensure adequate turn around of stock.
- Return empty cylinders ASAP to PURE GAS.

Wear the correct Personal Protective Equipment (PPE) when handling gas cylinders.

Namely suitable:

- Safety shoes,
- Safety glasses,
- Ear plugs.

Safety signs highlighting the need for PPE will reinforce this & remind personnel.

NB: Loose clothing and long hair can be a trap!

Staff need to be aware of this & take appropriate precautions & zip up, tuck loose clothing in & wear hair bands!

## Storage & Segregation of Cylinders

### GOOD HOUSEKEEPING & ACCESS IS ESSENTIAL.

- Oxygen stored in a compound needs to be stored away from other fuel gas cylinders such as Acetylene & LPG (at least 3 metres).
- Full gas cylinders must be stored separately from the empty cylinders.  
Note that the coloured plastic cap fitted to the cylinder valve outlet is a visual indication showing the cylinder is full.
- Cylinders containing different gases (whether full or empty) must be grouped separately.

Where security is an issue, there are a wide variety of Gas Cylinder Storage Systems available which satisfy the cylinder storage requirements of AS 4332 (The storage and handling of gases in Cylinders).

Contact PURE GAS on 1300 733 097 for details.

### Storing your Cylinders Safely

Always give cylinders the benefit of the doubt! i.e. Assume they are full or part full until proven otherwise!

- Keep cylinders away from heat sources (e.g. flames or heaters).
- DO NOT store cylinders near combustible materials, flammable liquids or incompatible materials.
- Keep flammable gases away from sources of ignition.
- Keep cylinders in well drained areas that do not pond or pool.
- The storage area needs to be well ventilated & kept clean at all times.



- DO NOT store gas cylinders in confined spaces & particularly below-ground storage rooms if at all possible.

Where impractical, atmospheric monitoring or other risk control measures need to be considered.

- Good clear access for delivery vehicles is essential & the road base & its surface needs to be reasonably level and firm & preferably concrete.
- The storage area needs to be secure to prevent access by unauthorised or untrained people & also to prevent theft.
- Different types of gases must be stored separately and in accordance with relevant Dangerous Goods legislation.

### Also refer to AS 4332 titled; The Storage and Handling of Gases in Cylinders.

- Stores must be signposted in accordance with respective state Dangerous Goods regulations.
- Full and empty cylinders should be kept separate.
- Store cylinders away from heavy traffic and emergency exits.
- Rotate stock of full cylinders, and use cylinders on a 'first in, first out' basis.
- Stores should provide sufficient protection to keep cylinder temperatures in the range of 0°C to 45°C.

This will enable the gas cylinders can be handled safely and also this range is well within the specified design range specified in the Australian & Overseas Standards.