

## In case of fire involving cylinders

In the event of a fire your safety and the safety of all patients and personnel must be first priority.

- Observe local protocols relating to a fire.
- Warn emergency services that compressed gas cylinders are stored on site.
- Notify BOC Customer Service Centre that cylinders have been involved in a fire.

## General Information

### Safety Data Sheets (SDS)

SDS give further information on each of the different medical gases and are available from [www.bochealthcare.com.au](http://www.bochealthcare.com.au) or [www.bochealthcare.co.nz](http://www.bochealthcare.co.nz)

### Personal Protective Equipment

It is good practice to use appropriate safety equipment. All personnel handling gas cylinders should have knowledge of the properties of the gas, precautions to be taken, and the correct operating procedures.

### Returning Faulty Cylinders

Any faults should be reported to BOC Customer Service Centre immediately. Faulty cylinders should be quarantined and labelled with the tags provided by BOC.

### Further Information

This document is provided as an overview only and under no circumstances should be considered a complete and formal guide to the practice of handling medical gas cylinders safely. Further detailed information may be found in Commonwealth, State and Territory Dangerous Goods Legislation and the appropriate Australian and New Zealand Standards (AS4332).



## Always move cylinders with the correct type of trolley.

Use of the correct trolley will reduce the risk of property damage or personal injury.



## Keep free of sources of ignition.

Eliminating ignition sources will reduce the risk of fire. Ensure signage is displayed in storage areas.



## Never knock violently or allow to fall.

This may cause the valve to shear and the cylinder may become a projectile, with the potential to cause damage or injury.



## Keep free of oil and grease.

Spontaneous combustion can occur when high pressure gas mixes with hydrocarbons such as grease or lubricants.



## Do not use force when opening or closing valves.

If you cannot open the valve with the cylinder key or handwheel provided, contact BOC for advice.

Should you have any queries or would like more information on the safe handling and storage of medical gases, please contact your BOC Territory Manager or call the BOC Customer Service Centre on:

**Australia:** BOC Limited ABN 95 000 029 729,  
BOC Healthcare 10 Julius Ave, North Ryde NSW 2113  
**Hospitalcare: T:** 1300 363 109 **F:** 1300 363 438  
**E:** [hospital.care@boc.com](mailto:hospital.care@boc.com) **W:** [www.bochealthcare.com.au](http://www.bochealthcare.com.au)

**New Zealand:** BOC Limited WN007748,  
BOC Healthcare NZ, 988 Great South Rd, Penrose Auckland  
**Hospitalcare: T:** 0800 656 334  
**F:** 0800 275 275 **E:** [HealthcareNZ@boc.com](mailto:HealthcareNZ@boc.com)  
**W:** [www.bochealthcare.co.nz](http://www.bochealthcare.co.nz)

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# Handle medical gases safely

Store in well ventilated areas

Secure upright with restraint

Check cylinder for unique barcode

Read labels before use

Keep full and empty cylinders separate

Wear safety clothing

Always move cylinders with the correct type of trolley

Keep free of sources of ignition

Never knock violently or allow to fall

Keep free of oil and grease

Do not use force when opening or closing valves

## Use of cylinders

### Preparation for use

1. Cylinders should be restrained at all times by using: cylinder trolleys, wall or bed brackets, or cylinder carry bags.
2. Always confirm the gas type by checking the cylinder label, the cylinder label must be used as the primary means of gas identification.
3. Check cylinder is free of oil, grease and other lubricants.
4. Check plastic heat detection tag. Contact BOC if deformed.
5. Always remove disposable cylinder security seal and discard.
6. Ensure the valve opening is clean and free from foreign matter. Do not 'crack' open the valve prior to use as the cylinder may move unpredictably.
7. Always attach a pressure regulator before opening cylinder, ensuring pin indexing of valve and regulator match. Check regulator is within service period.
8. Take care when fitting a pressure regulator to avoid bumping the valve into the open position.
9. Ensure connection face on the yoke, manifold or regulator is clean, and that a Bodok seal is in place and in good condition, if in doubt replace.
10. The yoke, manifold or regulator yoke can now be attached. Hand tighten the connection to the valve.
11. Open cylinder valve SLOWLY. Valve should be opened fully and then closed one quarter turn to enable subsequent users to distinguish between open or closed.
12. Check cylinder contents prior to active use, via the reading on the pressure gauge, to ensure you have sufficient gas for your application.

### Leaks

- Should a leak occur it may be evident by a hissing noise.
- Leaks may occur at the connection between valve and yoke. These leaks can be verified by closing cylinder valve and noting any fall in the reading of the pressure gauge attached to equipment.
- Leaks may be remedied by gently tightening regulator to valve connection or by replacing Bodok seal.
- Sealing or jointing compounds must NEVER be used to fix leaks.
- Leaking cylinder valves should be segregated from other cylinders in a well ventilated area and BOC notified immediately.

### Storage

- Ensure good stock rotation by selecting the 'oldest' cylinder first.

### Precautions

- Eye protection is recommended when connecting and disconnecting equipment.
- Cylinders must only be used in conjunction with a pressure regulator unless the cylinder has an integrated valve regulator.
- Only use the correct regulator for the gas type.
- Never use force when opening or closing valves.
- Keep ammonia based leak detection solutions, oil and grease away from cylinders, valves and associated equipment.

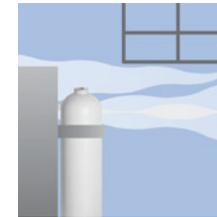
### Cylinders in use

- Should always be orientated vertically with valve uppermost if contents are liquefiable e.g. nitrous oxide and carbon dioxide, otherwise liquid may be discharged when the valve is opened.
- Medical gases should only be used for the purpose for which they are supplied e.g. medical oxygen should not be used for industrial applications such as welding or in place of compressed air for powering tools.

- Cylinder contents for permanent gases (gases which do not liquefy) are directly related to pressure and temperature. At room temperature the contents can be read from the pressure gauge on the regulator. Cylinder contents for the liquefiable gases can only be measured accurately by weighing the cylinder and deducting its tare weight.

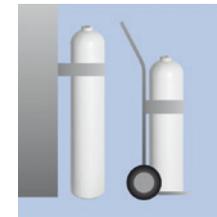
### After use

1. Cylinder valves should be closed directly after use and when cylinders are empty.
2. Release remaining pressure in regulator, provided there are no sources of ignition present.
3. Cylinder valves only need to be hand tightened to close. Excessive force will result in damage to the valve.



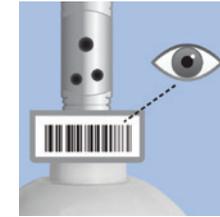
### Store in well ventilated areas.

Gas accumulated in an enclosed environment is a potential fire hazard or an asphyxiation risk. Ensure appropriate dangerous goods signage is displayed.



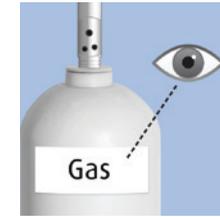
### Secure upright with restraint.

Falling cylinders may cause personal injury.



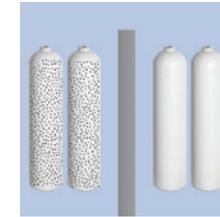
### Check cylinder for unique barcode.

This will allow for traceability. If there is no barcode, put cylinder aside and contact BOC Customer Service Centre.



### Read labels before use.

Always use the label as the primary means of identification.



### Keep full and empty cylinders separate.

This is a good stock management practice. Please refer to Australian Standard AS4332 (The Storage and Handling of Gases in Cylinders).



### Wear safety clothing.

It is good practice to wear appropriate clothing when handling gas cylinders to prevent personal injury.