

## Compressed gases

<b>Reason</b>	Compressed gases, if used safely, are a convenient and useful source of energy. If you know how to use them safely you can prevent serious accidents and injury.
<b>Outline</b>	This talk covers the hazards, use, storage and transportation of compressed gases.



*Store compressed gas appropriately*



*Smoking is prohibited near compressed gas storage areas*



*Uncontrolled use or storage of explosive materials can have fatal consequences*



**Compressed gas and LPG are useful sources of energy, but are potentially lethal.**



## Compressed gases

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### Hazards

1. Treat every cylinder as being full and handle it carefully.
2. Keep cylinders away from sun, artificial heat, flammable materials, corrosive chemicals and fumes.
3. Avoid damage to valves and fittings. Don't pick cylinders up using the valves or fittings as handholds.
4. When using mixed gases (such as in welding activities), flashback arrestors must be fitted.
5. Don't smoke when using compressed gases.
6. Don't use cylinders as rollers for moving equipment.
7. If there is a fire on site and gas cylinders are in the area, inform the emergency services so that they can react accordingly and evacuate the area.

### Safe use

1. Regular inspection of hoses, cylinders and valves should be undertaken before use.
2. Open cylinder valves slowly and close sufficiently to shut off gas – never use force.
3. Keep valves and fittings of oxygen cylinders free from oil and grease, as this can create an explosive atmosphere.
4. Ensure that gloves (if worn) are free from oil and grease.
5. Keep gas hoses clear of traffic and sharp surfaces to prevent them being damaged.
6. Know what to do in an emergency.
7. Ensure a fire extinguisher is always available for hot work but only try to fight small fires (no bigger than a wastepaper bin).
8. If there's a hot-work permit or procedure, follow it.

### Storage and transportation

1. Always secure acetylene cylinders in an upright position.
2. Store all cylinders so that they cannot fall or roll (such as in a secure, lockable cage with a flat surface).
3. Always lift cylinders from trucks – don't drop or slide them.
4. Move full-sized cylinders using a trolley. If one is not available, get assistance.
5. Transport cylinders in vehicles with secure storage and good ventilation.
6. Do not store liquefied petroleum gas (LPG) cylinders in basements. LPG is heavier than air and will sink to the lowest point available.



**What should not be used for carrying a cylinder?**  
**What is the hazard if a cylinder is being heated by a fire?**  
**What should be done before using compressed gases?**  
**How should cylinders be stored and transported?**  
**What cylinder must be kept free of oil and grease?**  
**How must cylinder valves be opened?**



**Now inform your workers of the company policy on hot-work permits and procedures for the safe storage and use of compressed gases.**