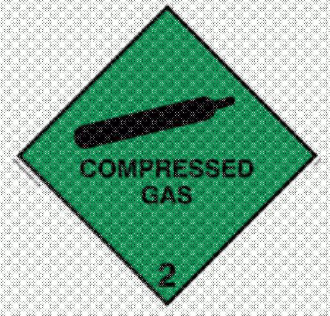


# COMPRESSED GAS IN CYLINDER TANK



**C**ylinder tank presents a unique hazard. Gases are contained under high pressure. Thus, gas container could explode if dropped, puncture or heated.

## Parts of cylinder tank

Cylinder tank consists of 4 parts; safety cap (optional), valve, contents label, and cylinder tank.



1. Safety cap
2. Valve
3. Contents label
4. Cylinder tank

All parts shall be present in good condition.

## Hazards of cylinder tank

Basic physical hazard of cylinder tank is explosion. Another hazard is the flying cylinder. Cylinder tank is commonly made of metal. When cylinder valve broken, it may fly like missile due to high pressure inside it. Flying cylinder may create damage by hitting property nearby, or serious injury when hit people.

Depending on the particular gas, there is a potential for simultaneous exposure to both mechanical and chemical hazards. Gases may be:

- Flammable
- Explosive
- Corrosive
- Poisonous
- Inert

Gas may also a combination of hazards above <sup>[1]</sup>.

## Safety storage and handling <sup>[1] [2] [3] [4]</sup>

- Do not allow abusive treatment such as rolling, sliding, or dragging cylinders, or lifting them by their caps.
- Individual compressed gas cylinders shall be marked or labeled in accordance with DOT requirements or those of the applicable regulatory agency.
- Cylinders storage areas should be prominently poster with the names of the gases to be stored.
- Storage room should be dry, cool, and well ventilated.
- Charged and empty cylinders should be stored separately
- Never leave cylinder unchained or unsecured to a fixed object with one or more restraints, unless the cylinder is under process of examination, filling, transport, or servicing.



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- Where gases of different types are stored at the same location, cylinders should be grouped by types of gas, and the groups arranged to take into account the gases contained, e.g. flammable gases should not be stored near oxidizing gases.
- Always put on the safety cap to prevent valve from physical damage, unless when the cylinders are in use or are being serviced or filled.
- Ensure only authorized personnel are given access to cylinders.
- Conduct regular and recorded inspections to identify visible external damage to cylinders. Promptly return damaged cylinders to the supplier.

- Cylinders containing flammable gases shall not be stored near highly flammable solvents, combustible material, gas flames or other sources of ignition.
- Do not store reserve stocks of cylinders containing flammable gases with cylinders containing oxygen. They should be segregated, or separated by a minimum of 20 feet, or separated by fire-resistive partition.

### Reference:

- [1] NFPA 55 Compressed Gases and Cryogenic Fluids Code (2013)
- [2] FMDS 0750 Compressed Gases In Portable Cylinders (2014)
- [3] OSHA Standards 29 CFR 1910.101 Compressed Gases (General Requirements)
- [4] CGA P-1 Standard for Safe Handling of Compressed Gases (2015)

### **Disclaimer**

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