

Compressed Gas & Cryogenic Liquid Cylinder Safety

Dangers of Compressed Gas & Cryogenic Liquid Cylinder

All compressed gases and liquids are potentially hazardous due to oxygen displacement and the high pressure in the cylinder. If a cylinder is not secured properly and falls over, that cylinder can become a rocket

Transportation and Storage of Cylinders

- Only use carts for the transportation of cylinders. Never use carts for storage.
- Always secure cylinders to structural supports that are permanently affixed to the floor, wall, or ceiling.
- It is permissible to store up to 3 capped cylinders together, however, if uncapped the cylinders should be secured individually.
- Do not secure cylinders near any heat source such as incubators, water baths, hot plates, or burners
- Never store cylinders in poorly ventilated rooms.
 - Because compressed gases and liquids rapidly displaces oxygen in a room, suffocation is a possibility in a poorly ventilated room
 - Oxygen cylinders opened in a poorly ventilated room can quickly enrich the atmosphere creating an atmosphere where a small spark can cause an explosion and a deadly fire

Hazardous Gases

Hazardous gases include both toxic gases and gases that create fire hazard. Hazardous gases must be stored in vented cabinets, fume hoods, or specially designed vented equipment. Fuel cylinders should be stored in vented cabinets separate from oxygen cylinders.

Some examples of hazardous gases include: O₂, H₂, HCl, HF, H₂S, NH₃, NO, NO₂, SO₂, acetylene and halogen gases (Cl₂, Br₂, F₂).

Safety Tips

- Choose piping and fittings appropriate for the chemical and pressure used.
 - Do not use adaptors
 - Only use compatible regulators
- Before using a cylinder, verify that the correct gas is selected.
- When installing a cylinder check for leaks around the valve connections.
- When a cylinder is empty, close the valve, check for leaks, and remove the cylinder.
 - Securely recap the cylinder and attach a tag/sticker to identify the cylinder is empty