

# Compressed Gas Safety

Various types of compressed gases are used in laboratories and workspaces across campus. When handled properly compressed gas cylinders are safe. If handled improperly, the same cylinders can present several severe hazards to yourself, others, and the surrounding area.

**You must go through Specific In-Lab Training for any compressed gas to learn about proper handling and storage requirements.**

**Safe Science =  
 Good Science**  
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## Using Toxic Gases?

Contact DEHS for guidance on special safety procedures at 502-852-2956.

## Flammable & Oxidizing Gases!

Flammable and oxidizing materials cannot be stored together! Per OSHA standards flammable and oxidizers must be separated by at least 20 feet.

## Storage

- Minimize number of cylinders stored in the same space.
- Do not store in hallways or unprotected areas.
- Transport cylinders secured to an appropriate cylinder dolly.
- Consider oxygen-monitoring devices when storing large quantities of cylinders in a small space.

## Hazard Awareness

### Chemical Hazards

- *Flammable gases* can burn or explode when the concentration of the gas is within flammable range, between its lower flammable limit and upper flammable limit. For flammable gas to ignite an ignition source must be present such as an open flame, spark, and/or heat.
- *Oxidizing gases* can react rapidly and violently with combustible materials such as organic substances, flammable materials, finely divided metals, and other oxidizable substances.
- *Inert gases* can cause serious injury or death. Leaking gas can displace the oxygen levels in the space causing asphyxiation.
- *Reactive gases* are chemically unstable, if exposed to slight temperature or pressure increases, or mechanical shock, they can undergo certain types of chemical reactions such as depolymerization or decomposition. The reactions may become violent resulting in a fire or explosion.
- *Corrosive gases* can burn and destroy body tissues on contact. Corrosive materials can also corrode metals.

### Physical Hazards

A damaged cylinder or valve can become an uncontrolled projectile causing severe injury and damage. This danger can occur when unsecured, uncapped cylinders are knocked over causing the valve to break and high-pressure gas to escape rapidly.

## Safety Practices

