



## Flammable Gases

Flammable gases are any substance that exists in the gaseous state at normal atmospheric temperature and pressure and is capable of being ignited and burned when mixed with the proper proportions of air, oxygen or other oxidizers.

Examples of flammable gases include Acetylene and Hydrogen.



## Personal Protective Equipment & Personnel Monitoring



**Lab Coat**

Flame resistant lab coat.



**Gloves**

For proper glove selection, review the chemical safety data sheet and consult glove manufacturer recommendations with your PI or supervisor.



**Eye Protection**

ANSI Z87.1-compliant safety glasses or safety goggles.

## Labeling & Storage

Store flammable gases away from oxidizing materials. Fire code requires that cylinders of flammable gases in storage be separated from oxidizing gas cylinders or other oxidizing materials by a minimum distance of 20 feet unless separated by a noncombustible barrier at least five feet high and with a fire resistance rating of least one-half hour.

Compressed gas cylinders should be individually anchored to a stable structure such as a wall with a chain or strap approximately  $\frac{1}{2}$  to  $\frac{3}{4}$  of the way up the cylinder. Additionally, cylinders should be tagged as full, in-use, or empty. Untagged cylinders are assumed to be full. Cylinders not in use should have regulators removed and safety caps in place.

## Engineering Controls, Equipment & Materials

### Fume Hood

Typically a fume hood is not feasible for the handling of these materials. If you have a question about a lab-specific protocol or procedure involving the use of flammable gases and proper engineering controls, please contact the Office of Research Safety at 706-542-5288.

## Cautions & Considerations

### Static Electricity

There have been cases of static buildup igniting cylinders of flammable gases. Consequently, use spark proof equipment to attach or disconnect regulators and consider using an intrinsically safe pressure-gauge should your protocol require it.

## First Aid & Emergencies



**Fire**

Do not attempt to extinguish a leaking gas fire unless the leak can be stopped. Use a dry chemical or CO2 extinguisher. If the fire is beyond the capabilities of the lab, immediately evacuate the area and contact 911. Stay near the scene to answer questions once first responders arrive.

**Skin or Eye Contact**

Remove contaminated clothing and accessories; flush affected area with water. If symptoms persist, get medical attention.

**Inhalation**

Move person into fresh air. If symptoms persist, get medical attention.