





Chemical Safety Information

Description

Many chemicals used in research at the University of Florida pose a wide range of health and physical hazards. Before using any chemical, it is important to understand what the hazards may be and how to work with it safely. Always review the [UF's General Chemical Hygiene](#) prior to beginning any work with hazardous chemicals.

Hazard Identification

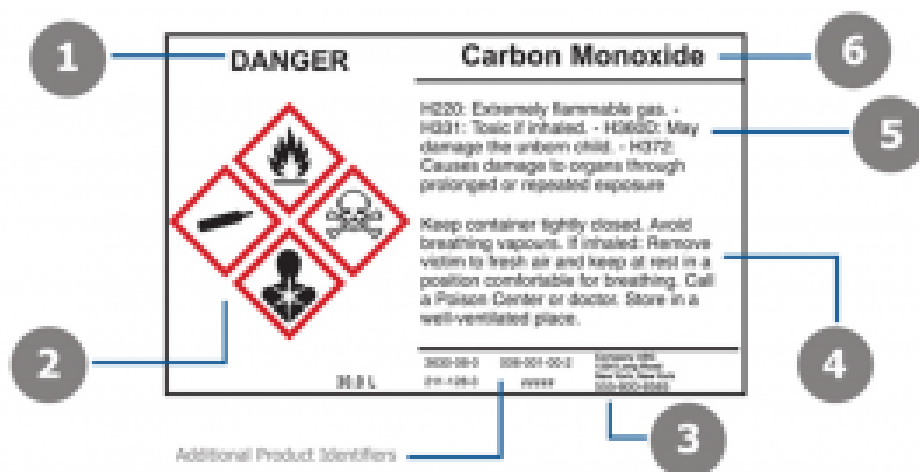
The Globally Harmonized System (GHS) of the Classification and Labeling of Chemicals was developed by the UN, and adopted by OSHA in 2012, to ensure the safe production, transport, handling, use and disposal of hazardous materials. The system provides a simplified approach of communicating hazards in a uniform way through the use of 9 pictograms, 2 signal words, 72 hazard statements and 116 precautionary statements.

| GHS PICTOGRAMS | | |
|--------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Health Hazard Carcinogens, respiratory sensitizers, reproductive toxicity, target organ toxicity, germ cell mutagens |  | Flame Flammable gases, liquids, & solids; self-reactives; pyrophorics |
| Gas Cylinder Compressed gases; liquefied gases; dissolved gases |  | Corrosion Skin corrosion; serious eye damage |
| Flame Over Circle Oxidizers gases, liquids and solids |  | Exclamation Mark Irritant, dermal sensitizer, acute toxicity (harmful) |
| Environment Aquatic toxicity |  | Exploding Bomb Explosives, self-reactives, organic peroxides |
| | | Skull & Crossbones Acute toxicity (severe) |

Labels

Chemical manufacturers are required to use the GHS labeling system for the primary chemical container labels. There are six elements required in a GHS label:

1. The signal word 'Danger' or 'Warning' indicating the hazard level
2. Applicable GHS pictograms
3. Manufacturer information
4. Precautionary statements describing general preventative, response, storage or disposal precautions
5. Hazard statements that describe the nature of the hazardous products and the degree of hazard
6. Product name



Safety Data Sheets

The Hazard Communication Standard requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products. OSHA's Occupational Exposure to Hazardous Chemicals in Laboratories states that employers must provide the "location and availability of known reference material on the hazards, safe handling, storage and disposal of hazardous chemicals found in the laboratory including, but not limited to, safety data sheets received from the chemical supplier."

Please review UF's General Chemical Hygiene Plan for more information on SDSs. Supervisors must review SDSs for chemicals/products used in the workplace to determine if control measures and personal protective equipment (PPE) are needed. Additionally, SDSs must be readily available to all personnel working with hazardous chemicals.

Personal Protective Equipment (PPE)

The PI or laboratory supervisor must determine the required PPE by conducting a hazard assessment and the department or supervisor shall provide all necessary PPE as identified in the assessment. PPE is not a substitute for engineering or administrative controls, or good work practices, but should be used in conjunction with these controls.

Risk Assessment and PPE Selection

The completed hazard assessment in LATCH will identify the minimum PPE required for each activity. The lab may modify the PPE as needed based on the risk of the activity.

Cleaning and Maintenance

- All PPE will be appropriate for the work to be performed and maintained in a clean condition. PPE must meet American National Standards Institute (ANSI) standards.
- It is the employee's responsibility to ensure their PPE is clean and properly maintained. PPE

- should be inspected, cleaned and maintained at regular intervals as instructed by the supervisor.
- It is also important to ensure that contaminated PPE, which cannot be decontaminated, is disposed of in a manner that protects employees from exposure to hazards.

Training

Training shall be provided by the supervisor or a qualified designee prior to the employee working in an area requiring the use of PPE.