



Hazardous Materials

University Facilities

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Approved by: Bob Wells

1.0 Program Objective

UF has implemented this program to ensure that employees are informed of any chemical hazards and hazardous or toxic substances in their workplace. UF will provide employees and new hires at their initial assignment effective information and training on hazardous chemicals in their work area that will include:

- 1.1 Requirements of this program.
- 1.2 Any operations in their work area where hazardous chemicals are present.
- 1.3 Location of written hazard communication program, listing of hazardous chemicals present & SDS.
- 1.4 Methods and/or observations that may be used to detect the presence or release of hazardous chemicals by use of monitoring devices, visual appearance, or odor.
- 1.5 The physical & health hazards of chemicals in the work area.
- 1.6 Protection measures to be utilized to prevent exposure, appropriate work practices, emergency procedures, and proper PPE to be used.
- 1.7 Details of the hazard communication program, explanation of the labeling system and the SDS and how employees can obtain & use the appropriate hazard information.

2.0 Purpose and Scope

2.1 General Policy Statement

UF is committed to preventing accidents and ensuring the safety and health of our employees. We will comply with all applicable federal and state health and safety rules and provide a safe, healthful environment for all our employees.

2.5 The Hazard Communication Process

The hazard communication begins when chemical manufacturers and importers evaluate their products to determine each product's chemical hazards. Next, they prepare a Safety Data Sheet – known by the abbreviation SDS – for each product. An SDS includes detailed information about the product's hazards. Manufacturers and importers must include an SDS and a warning label with each container of product that they ship to a customer.

2.6 Chemicals that are physical hazards

Chemicals that are physical hazards are unstable and, when handled improperly, can cause fires or explosions. A chemical that is a physical hazard has one of the following characteristics:

- 2.6.1 Is a combustible liquid.
- 2.6.2 Is a compressed gas.
- 2.6.3 Is explosive.
- 2.6.4 Is flammable.
- 2.6.5 Is water-reactive.
- 2.6.6 It starts or promotes combustion in other materials.
- 2.6.7 It can ignite spontaneously in air.

2.7 Commonly used hazardous chemicals

Hazardous Chemical	Harmful Effects
1,1,1 Trichloroethane	- May cause mutations in cells; can irritate the skin and eyes and cause unconsciousness and death. High exposures may damage the liver and kidneys.
Acetone	Can irritate the skin, eyes, nose, and throat. High concentrations can cause dizziness and loss of consciousness.
Aluminum oxide	Can irritate the eyes, nose, and throat. Repeated high exposure can cause scarring of the lungs and shortness of breath.
Ammonia	Can irritate the lungs and burn the eyes and skin. Long-term exposure can cause irritation of the eyes, nose, mouth, and throat.
Benzene	A cancer-causing agent that has been shown to cause leukemia. May also cause headaches and irritation of the eyes, nose, and throat. High exposure can cause convulsions and death.

Ethylbenzene	Can irritate the eyes, nose, and throat. Repeated contact can cause drying and scaling of skin and may cause liver damage. High concentrations may cause dizziness and loss of consciousness.
Ethylene glycol	Can irritate the eyes, nose, or throat and cause nausea, vomiting, and headaches. Repeated or high exposure levels can cause kidney damage or stones and brain damage. May cause birth defects.
Freon 113	May cause skin irritation and rashes as well as drowsiness.
Glycol ethers	Can irritate the eyes, nose, and throat and may cause birth defects. Repeated or high exposure can cause kidney damage or stones. Brain damage also may occur.
Hydrochloric acid	Can irritate the lungs. High exposure can cause buildup of fluid in the lungs, which can cause death.
Lead	Can cause weakness and insomnia. Higher exposure can result in damage to the nervous and reproductive systems.
Methanol	Irritates the eyes, nose, mouth, and throat and can cause liver damage.
Methyl ethyl ketone	Can cause dizziness, headaches, blurred vision, and loss of consciousness. May cause birth defects.
Methyl isobutyl ketone	Irritates the skin, eyes, nose, and throat, and may cause dizziness, nausea, diarrhea, and loss of consciousness. Long-term exposure may damage the liver and kidneys.
Phenol	Can irritate the mouth, nose, throat, and eyes. Long-term exposure may damage the liver and kidneys and lead to genetic damage. May be a cancer risk. Major skin contact or inhaling it can cause death.
Sodium Hydroxide	Breathing the dust or droplets can irritate and burn the lungs. Contact can cause severe skin burns.
Sulfuric acid	Can severely burn the skin and eyes. Repeated long-term exposure can cause bronchitis, shortness of breath, and emphysema.
Tetrachloroethylene	A suspected human carcinogen that has caused liver cancer in animals. It may damage the liver and kidneys after low but repeated exposure. It can cause dizziness and loss of consciousness.
Xylene	Can irritate the eyes, nose, and throat; high levels can cause loss of consciousness and death. It may damage fetuses. Repeated exposure may damage bone marrow and eyes and cause stomach problems.

2.8 Information required on Material Safety Data Sheet

Required Information	Description
Identity of the chemical	Typically, a common chemical name. (The identity of the chemical on a safety data sheet must match its identity on the container label.)
Physical & chemical characteristics	For example: vapor pressure, flashpoint, and solubility.
Physical hazards	For example: potential for fire, explosion, or reaction with water or other chemicals.
Health hazards	For example: signs and symptoms of exposure, and medical conditions that might be aggravated by exposure.
Primary routes of chemical entry	How the chemical enters the body.
Permissible Exposure limit (PEL)	The maximum amount of the chemical that one can be exposed to during an eight-hour work shift.
Carcinogenicity	Based on findings in the National Toxicology Program Annual Report on Carcinogens or the International Agency for Research on Cancer Monographs (latest editions).
Precautions for safe use	How to handle the chemical safely, hygiene and protective practices, and clean-up procedures for spills and leaks.
Control measures	The engineering controls, safe work practices, and personal protective equipment necessary to control exposure.
Emergency and first aid procedures	How to respond to spills, leaks, contamination, and overexposure.
Preparation date	The date the material safety data sheet was prepared or updated.
Name, address, and phone number	Who to contact for more information on the chemical's hazards and emergency-response procedures.

2.9 Using Container Warning Labels

The purpose of a container warning label is to warn employees about the container's contents and to refer employees to an appropriate safety data sheet for more information about the chemical's physical and health hazards. Manufacturers, importers, and distributors must ensure that each hazardous chemical product sold to you has a label that includes the chemical's identity, hazard warning, and a name and address for additional information about the product. If you use hazardous chemicals at your workplace, you must ensure that each hazardous chemical container has a legible label, in English, that identifies the chemical and warns of its hazards.

2.10 Content of a Warning Label

A warning label must identify the chemical – a common chemical name or a code name is acceptable – and display a hazard warning such as DANGER or the familiar skull and crossbones.

- 2.10.1 The identity of the chemical on the label, on its safety data sheet, and on your hazardous chemical list must match.
- 2.10.2 If you are not sure that a hazardous chemical container is properly labeled, contact the manufacturer or supplier.
- 2.10.3 Make someone at your workplace responsible for ensuring that all hazardous-chemical containers are properly labeled.

2.11 Training Employees

Required hazard-communication training

- 2.11.1 If you have employees who may be exposed to hazardous chemicals, you must inform them about the chemicals and train them when they are hired and whenever they are exposed to a new chemical hazard or a process change.
- 2.11.2 Where to find and how to read the hazard-communication plan, the list of hazardous chemical, and safety data sheets.
- 2.11.3 The operations in which hazardous chemicals are used.
- 2.11.4 The physical and health hazards of hazardous chemicals used by employees.
- 2.11.5 The meaning of warning labels on hazardous-chemical containers and on pipes that contain hazardous substances.
- 2.11.6 How to recognize emergencies involving hazardous chemicals.
- 2.11.7 How to use personal protective equipment.

2.12 Who can train employees?

UF will choose someone who understands the above topics and has the skills to conduct the training. What is important is that employees are taught which hazardous chemicals they may be exposed to and understand how to use the information on container warning labels and safety data sheets to protect themselves.

OSHA's hazard-communication rules affect all workplaces that have employees who may be exposed to hazardous chemicals. Following are rules that affect general industry and construction workplaces.