



Chemical Safety Information

Hazard Communication

University Of Central Florida

Five Stages of HazCom

1. Safety Data Sheets (SDSs)
2. Labeling and Marking Systems
3. Employee Training
4. Written Plan
5. Chemical Inventory



Safety Data Sheets

(formerly Material Safety Data Sheets)

Safety Data Sheets

The format of the 16-section SDS should include the following sections:

- Section 1. Identification
- Section 2. Hazard(s) identification
- Section 3. Composition/information on ingredients
- Section 4. First-Aid measures
- Section 5. Fire-fighting measures
- Section 6. Accidental release measures
- Section 7. Handling and storage

Safety Data Sheets

- Section 8. Exposure controls/personal protection
- Section 9. Physical and chemical properties
- Section 10. Stability and reactivity
- Section 11. Toxicological information
- Section 12. Ecological information
- Section 13. Disposal considerations
- Section 14. Transport information
- Section 15. Regulatory information
- Section 16. Other information, including date of preparation or last revision

Sections 12-15 may be included in the SDS, but are not required by OSHA.

Safety Data Sheets: Your Rights

1. Your employer must have an SDS for every hazardous substance you use as part of your job.

Safety Data Sheets: Your Rights

2. If you request to see a copy of an SDS or MSDS for a product you use, and your employer cannot provide it after one working day, you may refuse to use that product or work in an area where it is being used.

Safety Data Sheets: Your Rights

3. These SDSs must be available to you the entire time you are in the workplace.
 - SDS are available on location and online at:
MSDSonline.com
Username: UCFLab
Password: UCFhazcom#2020

Safety Data Sheets: Your Rights

4. If you request your own personal copy of an SDS or MSDS, your employer has 15 days to provide it.



Labeling and Marking Systems

Labeling and Marking Systems

- NFPA Diamonds
- HMIS Labels
- Uniform Laboratory Hazard Signage
- HCS Pictograms and Hazards in the Global Harmonization System

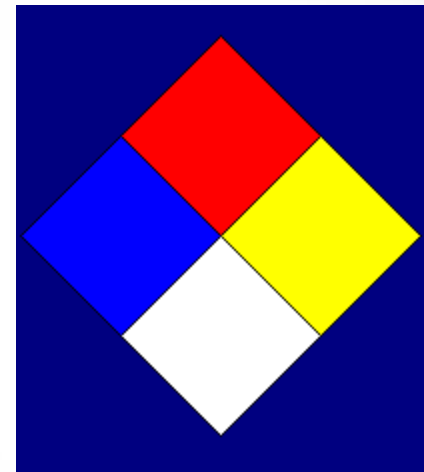


Labeling and Marking Systems

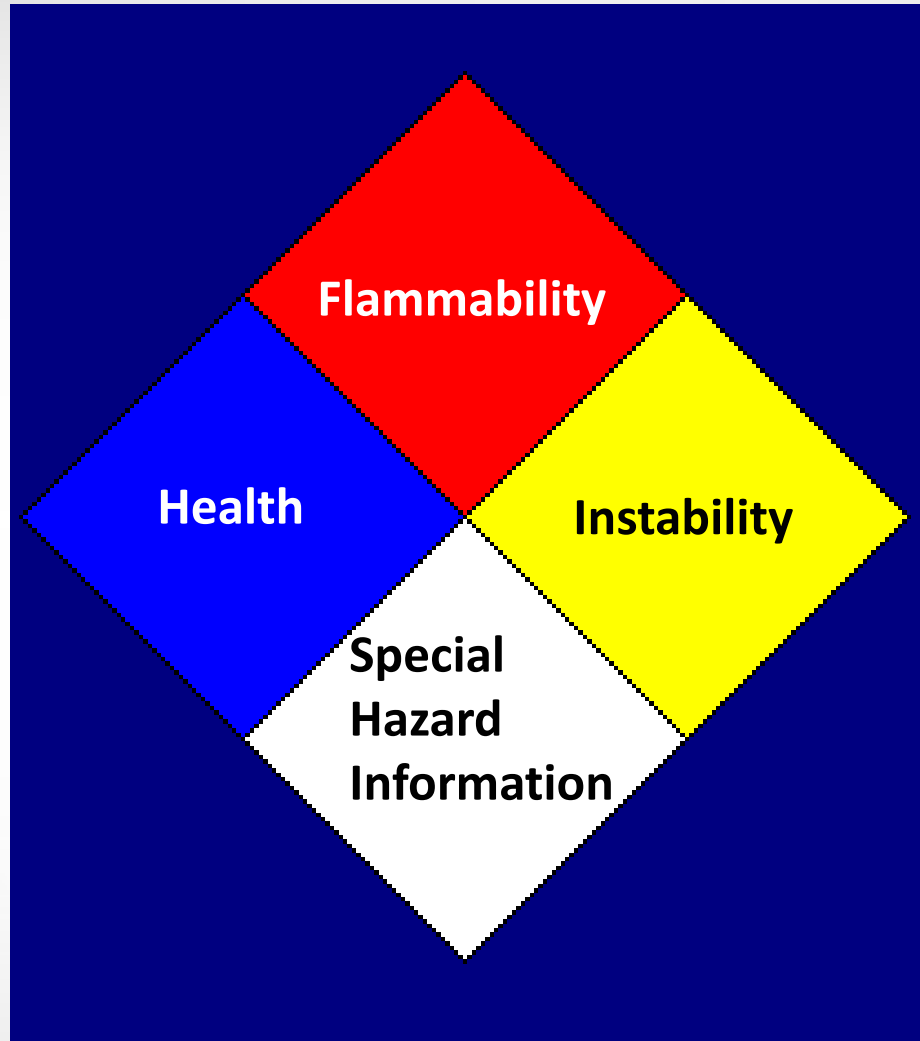
NFPA DIAMONDS

NFPA Diamonds

- Color coded, numerical rating system
- Located near main entrances, fire alarm panels, on outside entrance doors, or on shipping containers
- Provide at-a-glance hazard information



NFPA Diamonds



NFPA Diamonds

- 4= Deadly Hazard
- 3= Severe Hazard
- 2= Moderate Hazard
- 1= Slight Hazard
- 0= No Hazard
- OX = Oxidizer
- **W** = Water Reactive





Labeling and Marking Systems

HMIS LABELS

HMIS Labels

- Designed to go on individual containers of products that don't have the manufacturer's labels
- Same color code/numerical rating system as the NFPA diamonds

Chemical Name	
CAS#	
HEALTH	<input type="checkbox"/>
FLAMMABILITY	<input type="checkbox"/>
INSTABILITY	<input type="checkbox"/>
SPECIFIC	<input type="checkbox"/>

HMIS Labels

- **Blue = Health**
- **Red = Flammability**
- **Yellow = Instability**
- White = Personal Protective Equipment or special protection information

Numerical Rating of 0-4

Chemical Name	
CAS #	
HEALTH	<input type="checkbox"/>
FLAMMABILITY	<input type="checkbox"/>
INSTABILITY	<input type="checkbox"/>
SPECIFIC	<input type="checkbox"/>



Labeling and Marking Systems

LABELING YOUR CONTAINERS

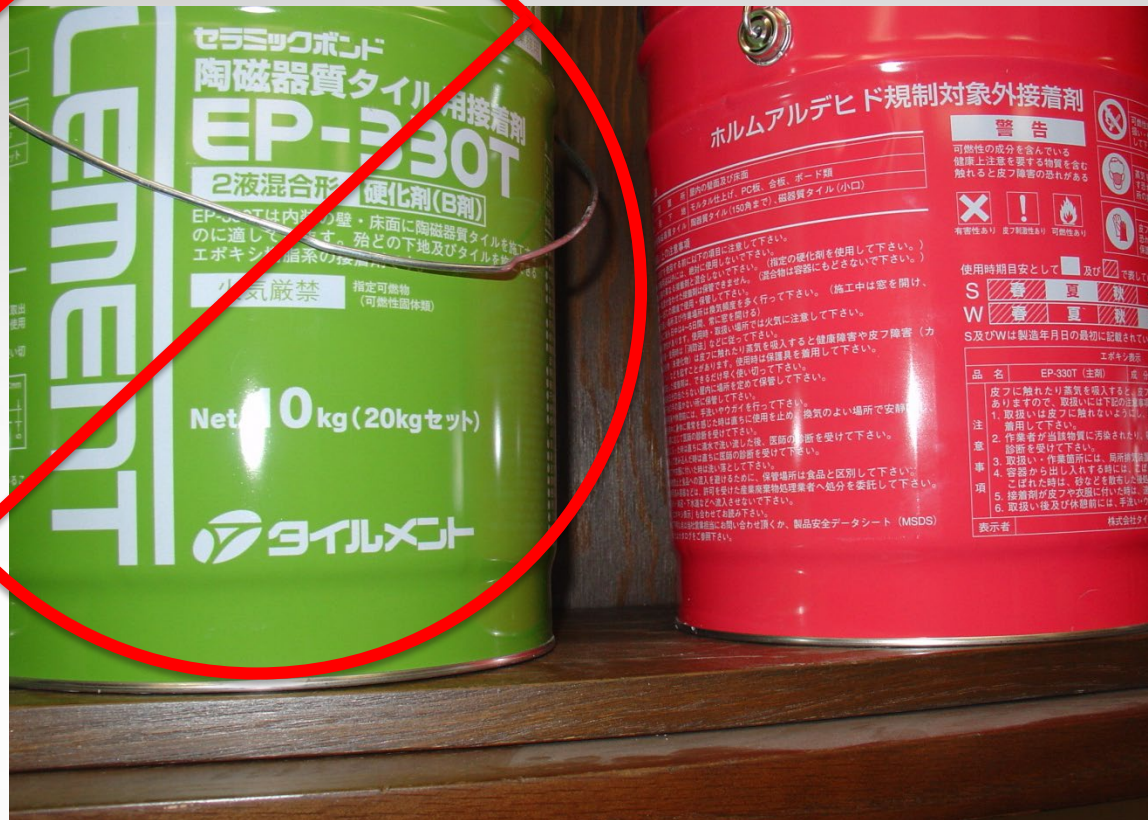
Labeling Your Containers

You should never have any
unattended, unlabeled containers
in your workplace!



Unlabeled Containers that are Unattended Can Create Hazards...

Always label containers before leaving your work area.



Labels should be in English and understandable to someone not familiar with your work.

A properly labeled container has the following information:

1. Chemical name
2. Manufacturer, Distributor or Importer Information
(Address)
3. NFPA diamond

A properly labeled container has the following information:

If the container is larger than 250 grams / milliliters:

4. GHS pictograms
 - Physical and Health hazards associated with the chemical

A properly labeled container has the following information:

If in a **Secondary** Container:

5. Date transferred or prepared
6. Name of person who prepared or transferred chemical



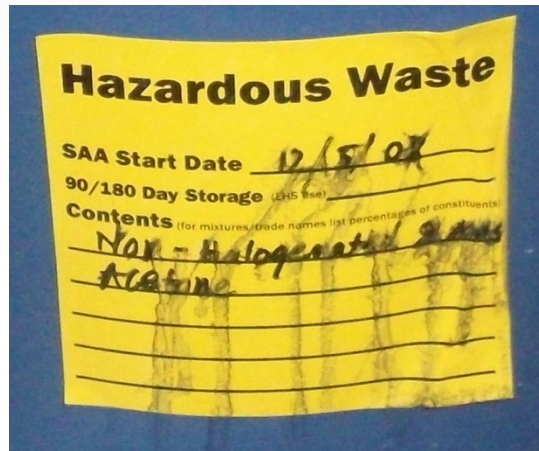
Improperly Labeled Containers are Dangerous to Everyone...

Make sure your labels are in good condition and legible.

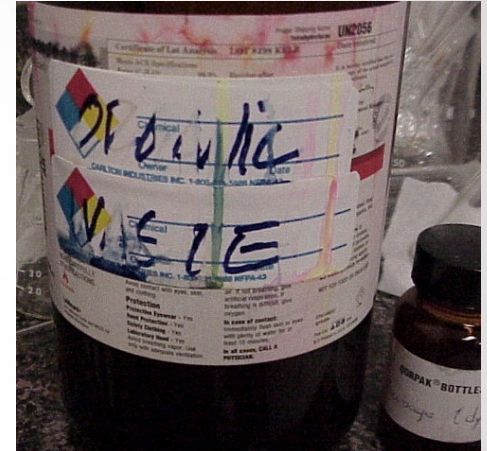
Labels should **not** be:



Corroded

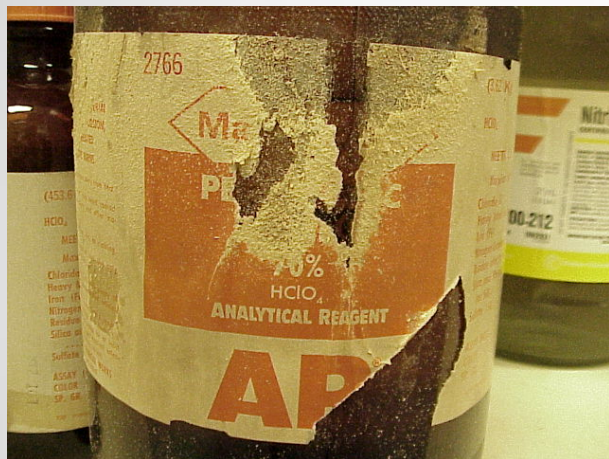


Smeared



Illegible

Labels should **not** be:



Peeling



Chemical Formulas



Numbers



Labeling and Marking Systems

UNIFORM LABORATORY SIGNAGE

Uniform Laboratory Signage

Before performing work or maintenance in a laboratory, always check with the appropriate personnel (lab manager, chemical hygiene officer, professor, etc.) that it is safe to do so!

Uniform Laboratory Signage



- Located on laboratory and chemical storage area doors
- Pictographs depict worst hazards present in lab or area



Labeling and Marking Systems

HAZARD COMMUNICATION STANDARD PICTOGRAMS

Hazard Communication Standard

Pictograms

Health Hazard



- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Target Organ Toxicity
- Aspiration Toxicity

Hazard Communication Standard

Pictograms

Flame



- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self Reactives
- Organic Peroxides

Hazard Communication Standard

Pictograms

Exclamation Mark



- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

Hazard Communication Standard Pictograms

Compressed Gas Cylinder



- Gases Under Pressure

Hazard Communication Standard Pictograms

Corrosion



- Skin Corrosion / Burns
- Eye Damage
- Corrosive to Metals

Hazard Communication Standard

Pictograms

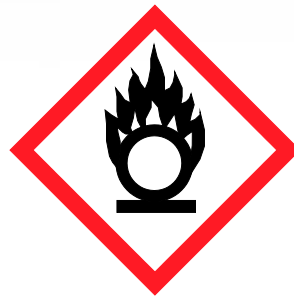
Exploding Bomb



- Explosives
- Self-Reactives
- Organic Peroxides

Hazard Communication Standard Pictograms

Flame Over Circle



- Oxidizers

Hazard Communication Standard

Pictograms

Environmental Hazard (Not Mandatory)



- Aquatic Toxicity

Hazard Communication Standard Pictograms

Skull and Crossbones



- Acute Toxicity (fatal or toxic)



Employee Training

Employee Training

Training is required:

- Within the first 30 days of employment
- Whenever new hazards are introduced
- Annually



Employee Training

The training must cover:

- Requirements of regulations
- Location and availability of SDSs and MSDSs
- Hazardous chemicals used in the workplace
- Methods to detect release
- Physical and health hazards
- Measures for personal protection
- Details and location of the written plan



Hazard Communication: The Written Plan

The Written Plan

- You have a right to possess your own copy of UCF's written hazard communications plan, which is UCF Policy.
- It is available from EHS (ext. 3-6300)
 - or online: <http://www.ehs.ucf.edu>



The Written Plan

- If you are exposed to a hazardous substance at work, you should report it to your supervisor who will complete an “Accident Investigation Form.”



Chemical Inventory

Chemical Inventory is required from
your department.

Chemical Inventory

- This list is used to determine correct signage for rooms and buildings, and is made available to the fire department for their use during emergencies.
- Federal law requires an inventory of all chemicals on the UCF campus and that it be updated annually.

Chemical Inventory

Must have the following information:

- Item / Chemical Name
- Manufacturer Name
- Manufacturer Catalog Number
- Chemical Abstract Services Number (CAS#) for all ingredients
- Quantity on hand/Amount and Unit of Measure
- Building
- Room Number (storage location)

Chemical Inventory

Special Permits are required to possess:

- Tax Free Alcohol
- Explosives
- Controlled Substances



STAY SAFE,
UCF