Hazard Communication & Chemical Safety Right-to-Know

Miami-Dade County Public Schools

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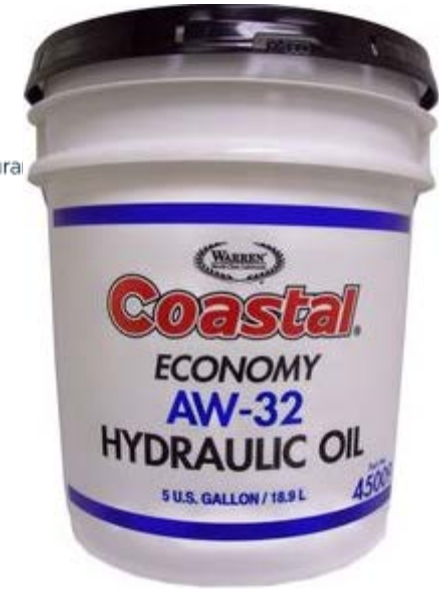
We use many chemicals…



We want you to know how to use them safely

Our learning objective today…

- ✓ **The Hazards of Chemicals**
- ✓ **Written Program**
- ✓ **How Chemicals are Labeled**
- ✓ **Safety Data Sheets**
- ✓ **Safe use of Chemicals**
- ✓ **Training requirements**

Hazards of Chemicals…

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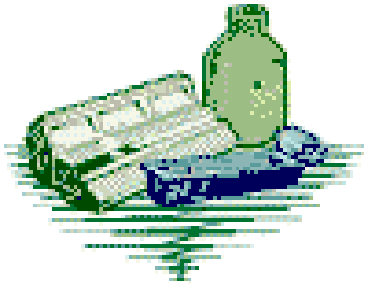
There are 2 basic types of chemical hazards

A. Physical Hazards

B. Health Hazards

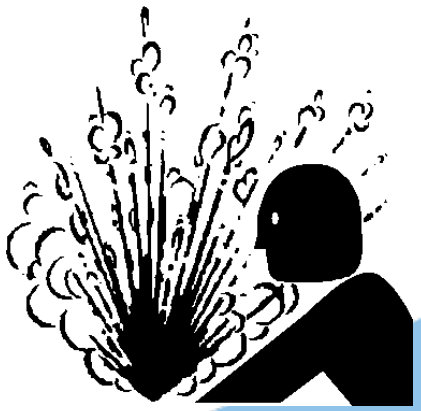
The first rule of Chemical safety is… "Know what you are working with and how to protect yourself and others“

Physical Hazards…



Chemicals are classified as having **Physical Hazards** if they are

- ✓ **Explosive**
- ✓ **Compressed Gas**
- ✓ **Flammable**
- ✓ **Unstable**
- ✓ **Water Reactive**
- ✓ **Oxidizers**



Physical Hazards
Flammables

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I. **Flammable liquid has flashpoint at or below 199.4 F**

Four categories:

Cat 1: flashpoint ≤ 73.4 F and a boiling point ≤95 F

Cat 2: flashpoint < 73.4 F and a boiling point > 95 F

Cat 3: flashpoint ≥ 73.4 F and ≤ 140 F

Cat 4: flashpoint ≥ 140 F and ≤ 199.4F

Physical Hazards
When working with explosives

I. **Explosives** are materials which release a tremendous amount of energy in the form of heat, light and expanding pressure within a very short period of time

II. **Water Reactive** react with water and may explode, or they may release a gas which is flammable

III. **Unstable Reactive** are chemicals that can react or can become self-reactive when subjected to shock, pressure or temperature.

Physical Hazards
When working with oxidizers

I. Oxidizers cause other substance to burn more easily through a chemical reaction or change

II. **Organic Peroxides** contain oxygen and act as powerful oxidizers.

Physical Hazards…

Some chemicals may be safe by themselves, but become dangerous when in contact with other substances.

Chemicals with Physical Hazards

1) Used only by trained employees

2) Stored in a safe manner

3) Never mixed with other chemicals unless by an approved procedure

Health Hazards

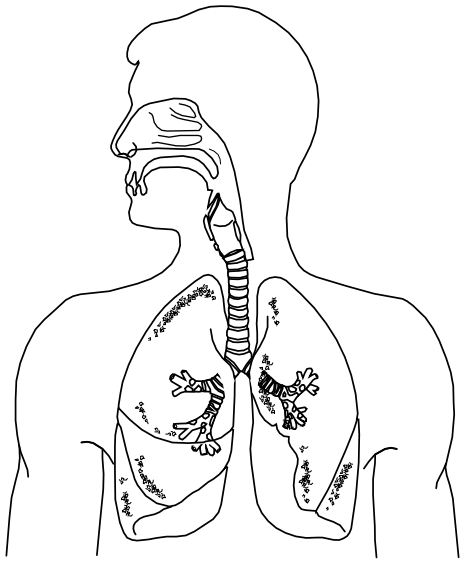
Chemicals are classified as being a health hazard if they:

- ✓ Reproductive Toxicity
- ✓ Eye Effects
- ✓ Aspiration Toxicity
- ✓ Sensitization
- ✓ Target Organ Systemic Toxicity:
  - ✓ Single Exposure and Repeated exposure
- ✓ Acute toxicity
- ✓ Germ Cell Mutagenicity
- ✓ Skin Corrosion
- ✓ Carcinogenicity
- ✓ Skin Irritation

Health Hazards

ROUTES OF EXPOSURE:

- **your lungs** if you breathe fumes, mists or dust (inhalation)
- **your skin** if liquid or dust touches or spills on you or splashes in your eyes (skin exposure)
- **your mouth** if you eat after handling chemicals (ingestion)
- **accidental swallowing** of a chemical



Health Hazards

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Exposure can occur through the eye membrane

I. Rubbing/touching your eyes
I. Splash

****WASH YOUR HANDS immediately after working with any chemical and periodically throughout the day.

Health Effects…

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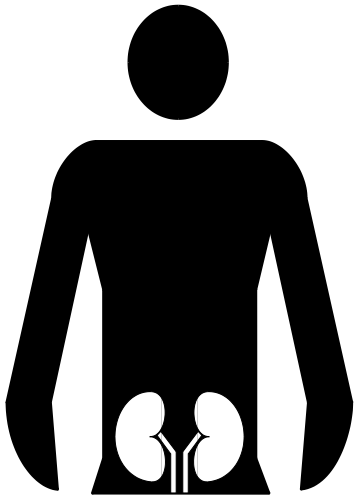
Some chemicals affect specific organs such as your kidneys, liver, reproductive or nervous system.



Health Hazard Effects

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RESPIRATORY HAZARDS

ACUTE: Effects of an exposure are notice immediately or soon after an exposure. *(sudden onset)*

Example: Welding fumes may cause Metal Fume Fever

CHRONIC: Effects of exposure likely to develop over time, instead of having a sudden onset.

Example: Asbestos exposure may cause lung cancer

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Written Hazard Communication Program (HAZCOM) provides…

- ✓ Written information about the different hazards
- ✓ How to maintain chemical inventories
- ✓ System for ensuring chemicals are labeled
- ✓ Means to ensure we have a Safety Data Sheet (SDS) for each chemical

Written Hazard Communication Program…

- ✓ Training requirements
- ✓ Tells you where to find chemical safety information

You can see a copy of the written program by asking your supervisor.

Labeling of Chemicals…

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Chemical Labels provide:
Identity, Pictograms, Signal Word, Hazard Statement, Precautionary statement and supplier identification.

All chemical containers are labeled by the manufacturer

Chemical labels must be in English

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Hazard Communication Labels

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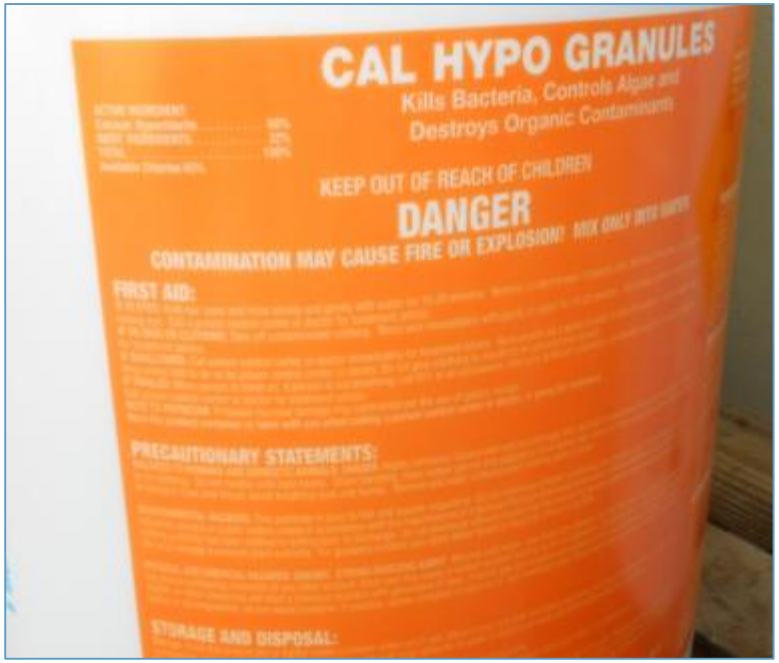
Signal Words (there are only 2)

Danger –
for more severe hazards

Warning –
for less severe hazards



Hazard Communication Labels

There will only be one signal word on the label no matter how many hazards a chemical may have.

Hazard Communication Labels

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- **Hazard Statements**:

Indicates the nature and degree
of risks posed by the product

Example:

“Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin”

“ Extremely Flammable Aerosol”

Hazard Communication Label Pictograms

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There are 9 pictograms to convey Health, Physical and Environmental hazards.

The environmental hazard is not required as is not within OSHA's jurisdiction.

Hazard Communication Label Pictograms

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Flame	Flame Over Circle	Exploding Bomb

I. Flammable
II. Self Reactive
III. Pyrophoric
IV. Self-Heating
V. Emits Flammable Gas
VI. Organic Peroxide

- Oxidizers
- Organic Peroxides

- Explosives
- Self Reactive
- Organic Peroxide

Hazard Communication Label Pictograms

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Skull Cross bone	Health	Corrosion

Acute Toxicity (Severe)

- Carcinogen
- Respiratory Sensitizer
- Reproductive Toxicity
- Target Organ Toxicity

- Corrosives

Hazard Communication Label Pictograms

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Gas Cylinder	Environment	Exclamation Mark

- Gases under pressure

- Aquatic Hazard

- Irritant
- Dermal Sensitizer
- Narcotic Effects
- Respiratory Tract Irritation

Hazard Communication – Nomenclature

GHS Nomenclature

Cat 1 severe hazard
Cat 2 serious hazard
Cat 3 moderate hazard
Cat 4 slight hazard
Cat 5 minimal hazard

Hazard Communication Label Precautionary Statement

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Statement :

A phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to hazardous chemicals, or improper storage or handling of a hazardous chemical.

Hazard Communication Labels
Precautionary Statement

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Precautionary Statements : 4 types

- **Prevention** "Do not breath dust/fume/gas/mist/vapors/spray"
- **Response** "If exposed call Poison Center"
- **Storage** "Store in cool, well ventilated place that is locked."
- **Disposal** "Dispose of in accordance with local, regional, national, international regulations as specified"

Precautionary statements describe recommended measures to minimize or prevent adverse effects

Manufacturer Chemical Label

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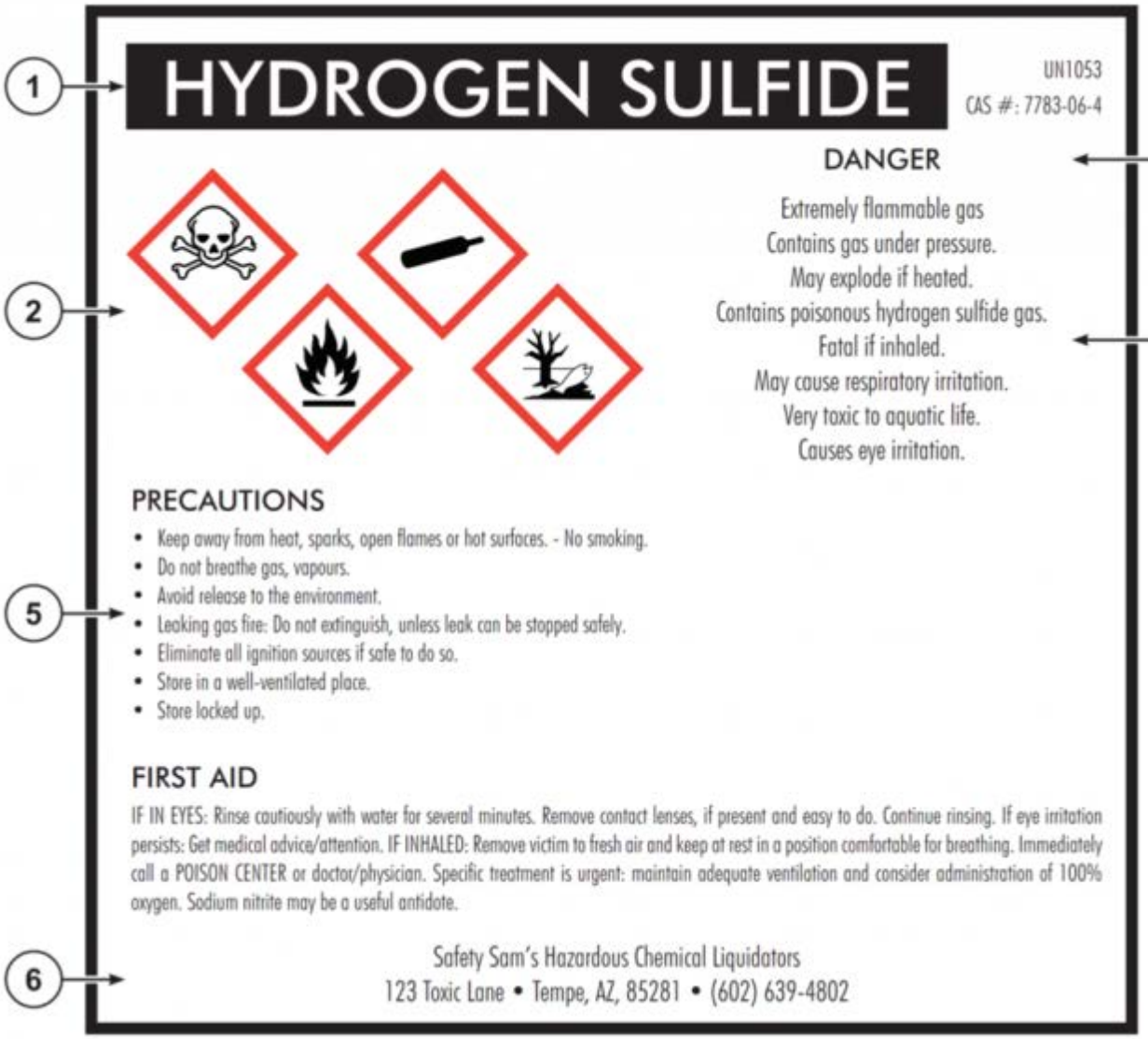
Identifier

Pictograms

Precautionary Statement

Supplier Identification



Labeling of Chemicals…

- If chemicals are placed in another container, this new container must have a label placed on it.
  - Identifier and Hazard must be included
- All containers must be properly labeled

Label exception

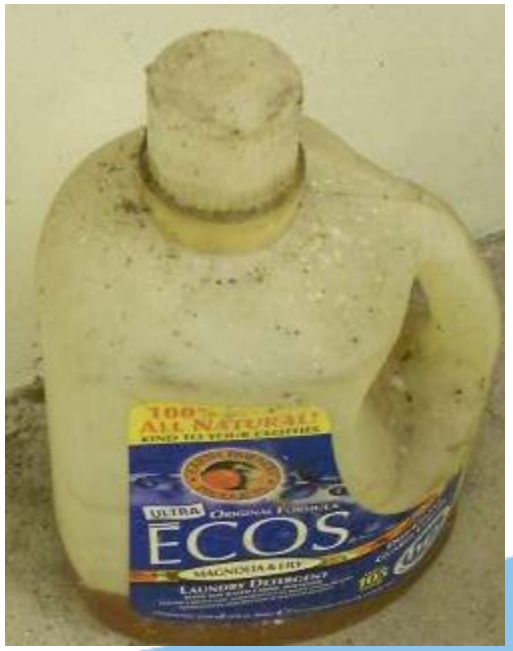
If you transfer a chemical into a smaller container and are going to use it immediately and it will stay under your control, you don’t have to label it.

But once you set it down and walk away…..

Improper Labeling of Chemicals

I. Secondary container?
   A. When you transfer a chemical from it's original container into another container.

II. As a minimum: secondary container shall be labeled with the name of the product and associated hazard(s).



Safety Data Sheets (SDS)

- ✓ Show chemical safety information
- ✓ Information shall be presented using specific headings in a specific sequence.
- ✓ SDS is written by the chemical manufacturer
- ✓ Each chemical has a separate SDS
- ✓ SDS are kept in the workplace for your use

If you can't find an SDS, ask your supervisor

Safety Data Sheets (SDS)

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The time to read the SDS is now…

Before something happens.

Safety Data Sheets

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Section 1: Identification

Section 2: Hazard(s) Identification

Section 3: Composition/information regarding ingredients

Section 4: First-Aid measures

Section 5: Fire-fighting measures

Section 6: Accidental release measures

Section 7: Handling and storage

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

What do I do…

if there is no label or I cannot read the label?

STOP - do not use the chemical

TELL your supervisor

READ the SDS and have another label put on the container

Chemicals can be safely used if…

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- ✓ you know the hazards and how to protect yourself
- ✓ they are used only for approved purposes
- ✓ they are stored properly
- ✓ use correct personal protective equipment

Chemicals can be safely used if…

- ✓ you do not eat in areas where chemicals are used

- ✓ you wash immediately if you come in contact with chemicals

Chemical Disposal…

- ✓ Each chemical and container must be disposed of properly
- ✓ No container is truly "empty" unless properly cleaned
- ✓ Follow SDS requirements for container disposal

Chemical Disposal…

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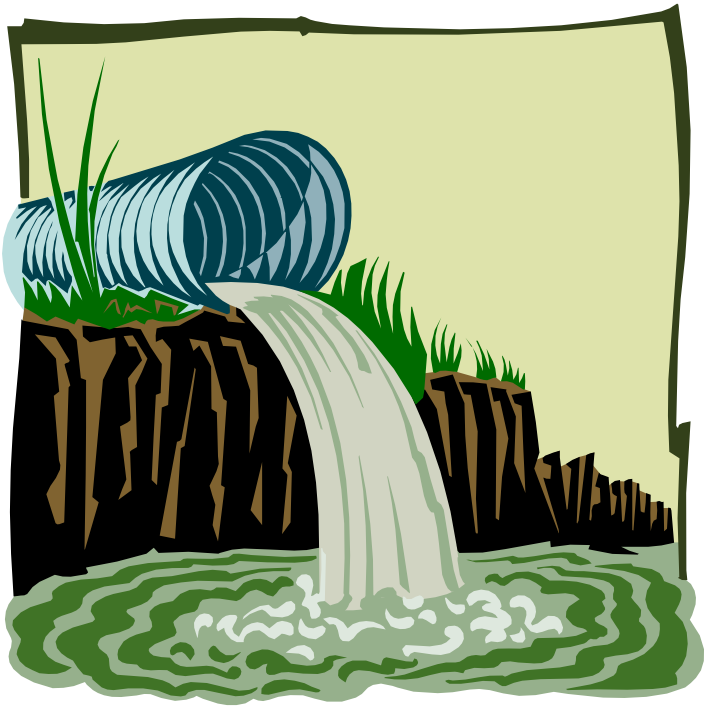
- ✓ Do not place hazardous chemicals in normal trash receptacles.
- ✓ **Do not pour chemicals into sinks, onto the ground or in storm drains**



Stay Safe…

- ✓ Make sure all containers are properly labeled
- ✓ Use the proper protective equipment
- ✓ Store chemicals only in approved areas
- ✓ Immediately report leaks and spills
- ✓ Dispose of used chemicals and containers properly

Training is required

I. Employees shall be trained at the time they are assigned to work with a hazardous chemical.

II. Does not need to be on each specific chemical, but rather on hazard classifications in the work area.

III. Additional training is to be done whenever a new physical or health hazard is introduced into the work area.

Questions?

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Thank You!

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