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Hazard Communication

GHS

Globally Harmonized System

Purpose

In order to ensure chemical safety in the workplace, information about the identities and hazards of the chemicals must be available and understandable to workers. OSHA's Hazard Communication Standard requires the development and dissemination of such information.

The Standard applies to

- Chemical Manufacturers
- Employers
- Employees

Chemical Manufacturers

- Must determine the physical and health hazards of the products they make and provide that information to users.

Employers - MSU

- Must determine which workplace materials are hazardous and provide employees with the information, training, and equipment they need to protect themselves and others.

Employees

- Must use their Right-to-Understand knowledge to stay safe and healthy on the job.

Why learn about chemicals?

- Chemicals have many valuable uses and are used often.
- But many chemicals also have hazards that can present risks to health and safety when they're used on the job.

Chemical Hazards

- Health
- Physical

Health Hazards

- **Acute Health Problems**
  - symptoms show up immediately after exposure
- **Chronic Health Problems**
  - problems develop gradually from prolonged or repeated exposure

Health Hazards- Routes of Entry

- Inhalation
- Ingestion
- Injection
- Skin Contact or Absorption

Physical Hazards

- Sudden release of pressure (explosion)
- Flammable (catches fire easily)
- Reactive (unstable chemicals)

What is GHS?

- The Globally Harmonized System (GHS) is an international approach to **chemical labels and safety data sheets** (SDS).
- OSHA's Hazard Communication standard has adopted the GHS to improve safety and health of workers through more effective communications on chemical hazards.

Labeling

- Every container of hazardous chemicals is labeled by the manufacturer.
- Labels make it easy to find at a glance the chemical's possible hazards and basic steps to take to protect yourself against those risks.

Requirements of a GHS Label

Pictograms

- A symbol plus a red diamond border intended to convey specific information about the hazards of a chemical.
- 4 Health Hazard Pictograms
- 5 Physical Hazard Pictograms

Health Hazard Pictogram- **Corrosion**

- Skin Corrosion/Burns
- Eye Damage

Health Hazard Pictogram- **Exclamation Mark**

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

Health Hazard Pictogram-
Health Hazard

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

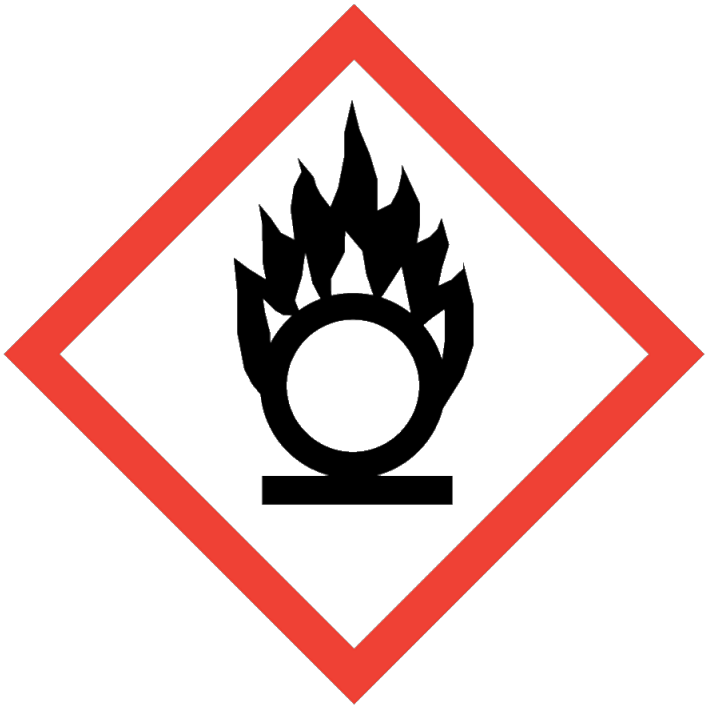
Health Hazard Pictogram- **Skull & Crossbones**

- Acute Toxicity (fatal or toxic)

Physical Hazard Pictogram- **Flame**

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

Physical Hazard Pictogram- **Flame Over Circle**



- Oxidizer –

  a substance that is not necessarily combustible, but may, generally by yielding oxygen, cause or contribute to the combustion of other material

Physical Hazard Pictogram- **Gas Cylinder**

- Gases under pressure

Physical Hazard Pictogram- **Exploding Bomb**

- Explosives
- Self-Reactives
- Organic Peroxides

Physical Hazard Pictogram- **Corrosion**

- Corrosive to Metals

Non-mandatory Pictogram- **Environment**

- Aquatic Toxicity

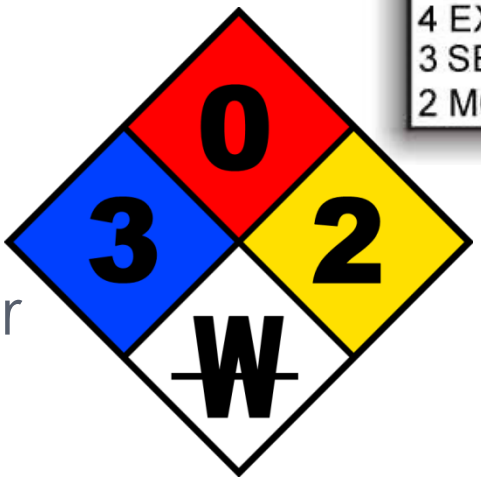
Signal Words

- "Danger" – more severe hazards
- "Warning" – less severe hazards

HMIS/NFPA Labeling Systems

- **Blue** - Health
- **Red** – Flammability
- **Yellow** – Reactivity
- **White** – Protective Equipment and Other

- Scale 0-4
  - 0 = No danger
  - 4 = Highest danger



OSHA Classification System

- Scale 1-4

  1= Most severe hazard

  4 = Least severe hazard

- Numbers are used to CLASSIFY hazards to determine what label information is required
- Hazard category numbers are NOT on labels, but are found in Section 2 on SDS

Safety Data Sheets (SDS)

- SDS are multi-page documents that contain more detailed information about a chemical than the container label.
- The revised HazCom standard requires that the information on the SDS is presented using consistent headings in a specific order.

Safety Data Sheets

- Detailed information sheet prepared by manufacturer or importer
- Available for every hazardous chemical or substance
- Contains information that:
  - Enables you to prepare for safe day-to-day use
  - Enables you to respond in emergencies

16-Section SDS Format

1. Identification
2. Hazard(s) Identification
3. Composition/Information on Ingredients
4. First-Aid Measures
5. Fire-Fighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Controls/Personal Protection

16-Section SDS Format

9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Information
12. Ecological Information
13. Disposal Considerations
14. Transport Information
15. Regulatory Information
16. Other Information

Location of SDS

- In your work area
  - Your supervisor will inform you of the specific location
- Office of Environmental Safety and Health

Written Program

- Hardcopy available upon request from ESH
- Available on MSU website

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Conclusion

- Workers have the right to *know* and *understand* the hazardous chemicals they use and how to work with them safely.
- Always read the chemical label and make sure you understand the information before working with a chemical in the workplace.
- For more information, refer to the Safety Data Sheet.