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TRUSTED WORLDWIDE

Hazard Communication & GHS

2023

Agenda

- What is GHS?
- Hazard Communication Program
  - Training
  - Labeling
    Pictograms & GHS Hazard Classes
  - Safety Data Sheets

What is GHS?

GHS stands for **Globally Harmonized System** for classifying and labeling chemicals.

GHS is a system that defines and classifies the hazards of chemical products and communicates health safety information on labels and Safety Data Sheets, or SDSs.

The goal is that the same set of rules for classifying hazards, and the same format and content for labels and safety data sheets (SDS) will be adopted and used around the world.

Hazard Communication

❑ Training

- ✓ When hired
- ✓ When a new hazard has been introduced
- ✓ Annually

❑ Labeling

- ✓ Must contain required information and pictograms

❑ Safety Data Sheets

- ✓ Must meet standardized format
- ✓ Must be readily available to all employees and contractors

HAZCOM

Hazard Communication Training

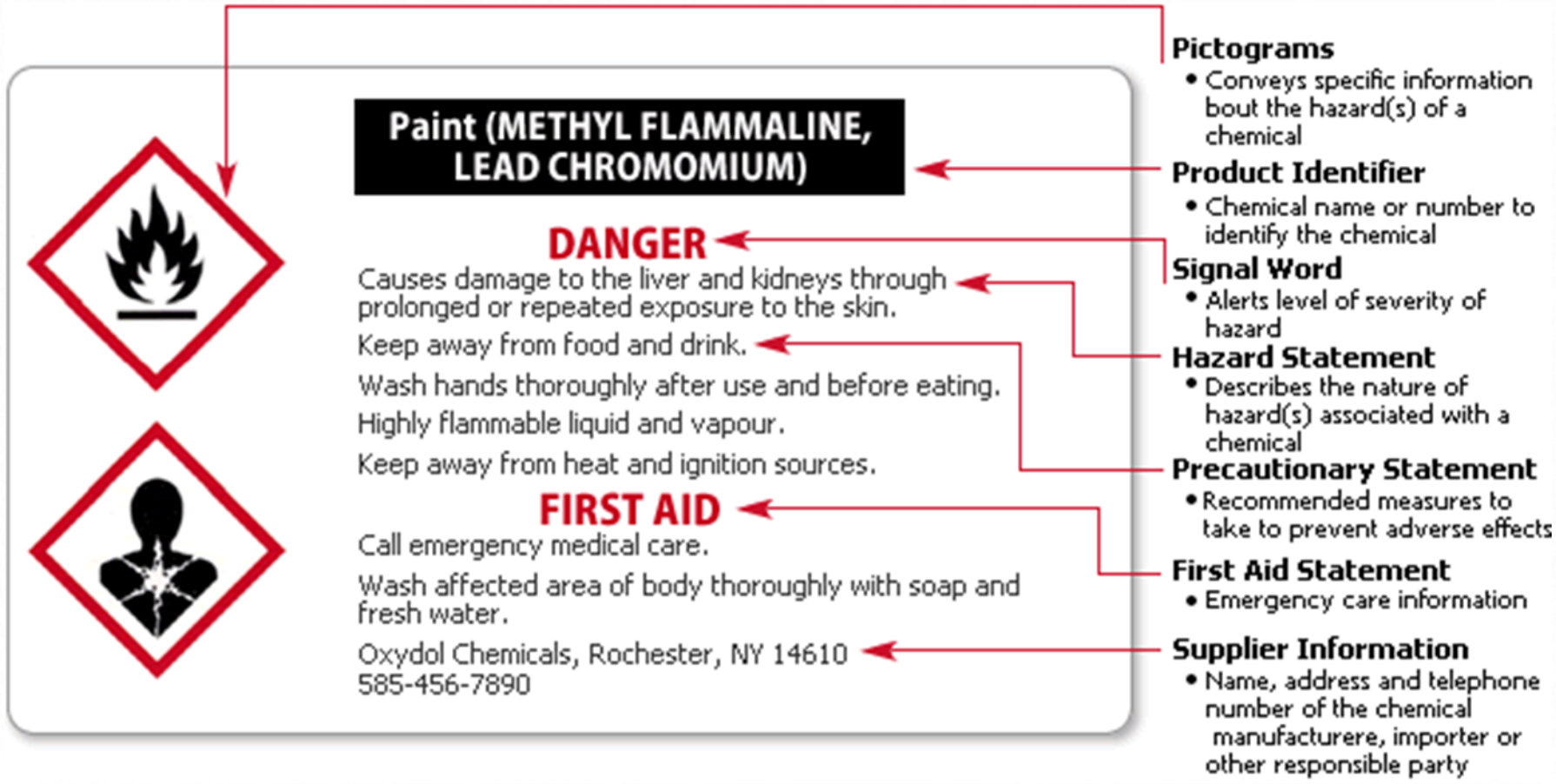
All employees must be trained, at hire, on the following:

- Requirements of OSHA Hazard Communication Standards
- Project Hazard Communication Program
- Labelling system and requirements
- Location and availability of SDS files
- PPE
- Non-routine tasks

Training must reoccur when a new hazard has been introduced to the workplace, and on an annual basis.

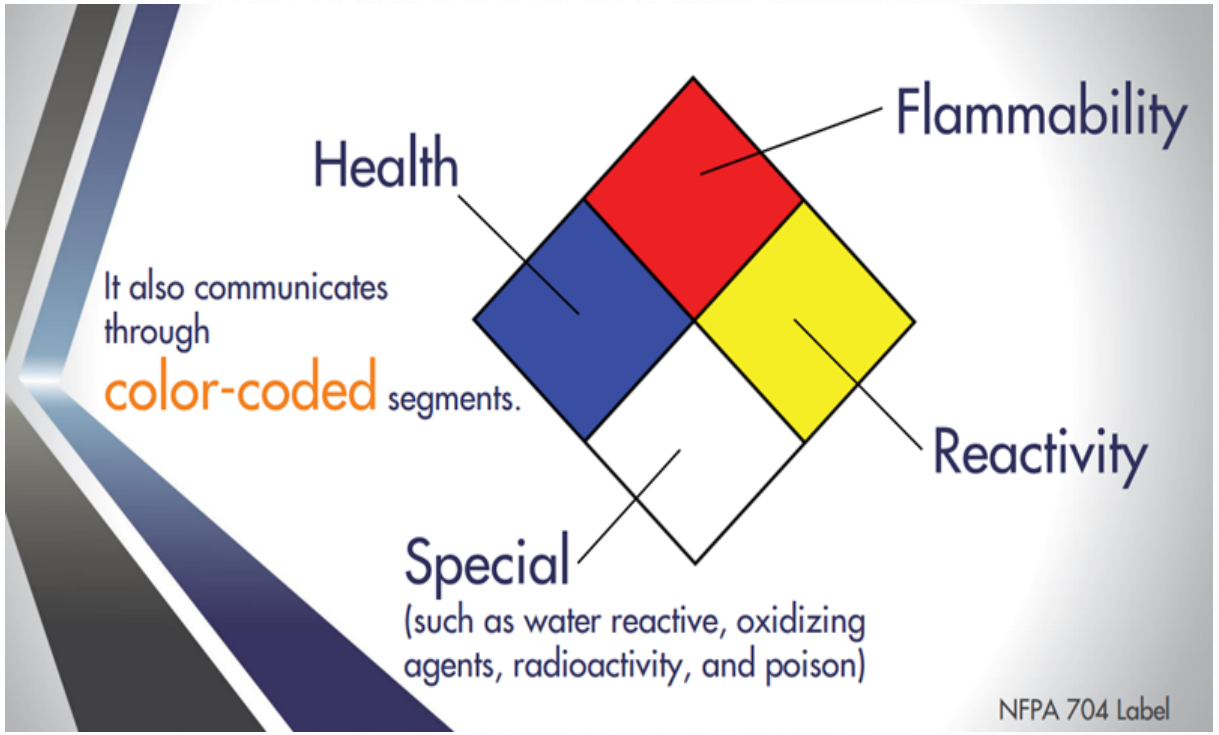
Hazard Communication Labeling

The original manufacturer's label includes: a product identifier, an appropriate signal word, hazard statement(s), pictogram(s), precautionary statement(s) and the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.



NFPA 704 Label

The NFPA 704 label uses a **numerical rating** of 0 to 4 to indicate the severity of a hazard. While 0 indicates no or minimal hazard, 4 indicates the most severe hazard!



HMI Label

The Hazardous Materials Identification System label, or HMIS, is another common labeling system.

The HMIS includes a rectangle that is divided by color segments – red, blue, orange and white.

The HMIS label differs from the NFPA 704 label that includes the type of **PPE** needed in the white segment and must be decoded using a reference chart.

Hazard Communication Reference Chart

- NFPA/HMIS systems and the GHS system are inverse
- NFPA/HMIS recognizes 0 as a minimal hazard up to 4 for severe hazard
- Under the GHS classification 5 is considered a minimal hazard, category 1 is a severe hazard
- No 0 category under GHS
- GHS hazard category rating are not typically shown on a label and will be only seen on the Safety Data Sheet
- All containers must be labeled, including secondary containers

Hazard Communication Labeling & Pictograms

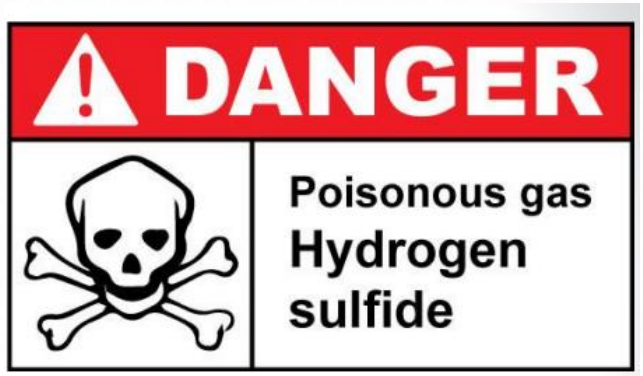
- Convey health, physical and environmental hazard information, assigned to a GHS hazard class and category.
- The GHS symbols have been incorporated into pictograms for use on the GHS label.
- Pictograms will have a black symbol on a white background with a red diamond frame.

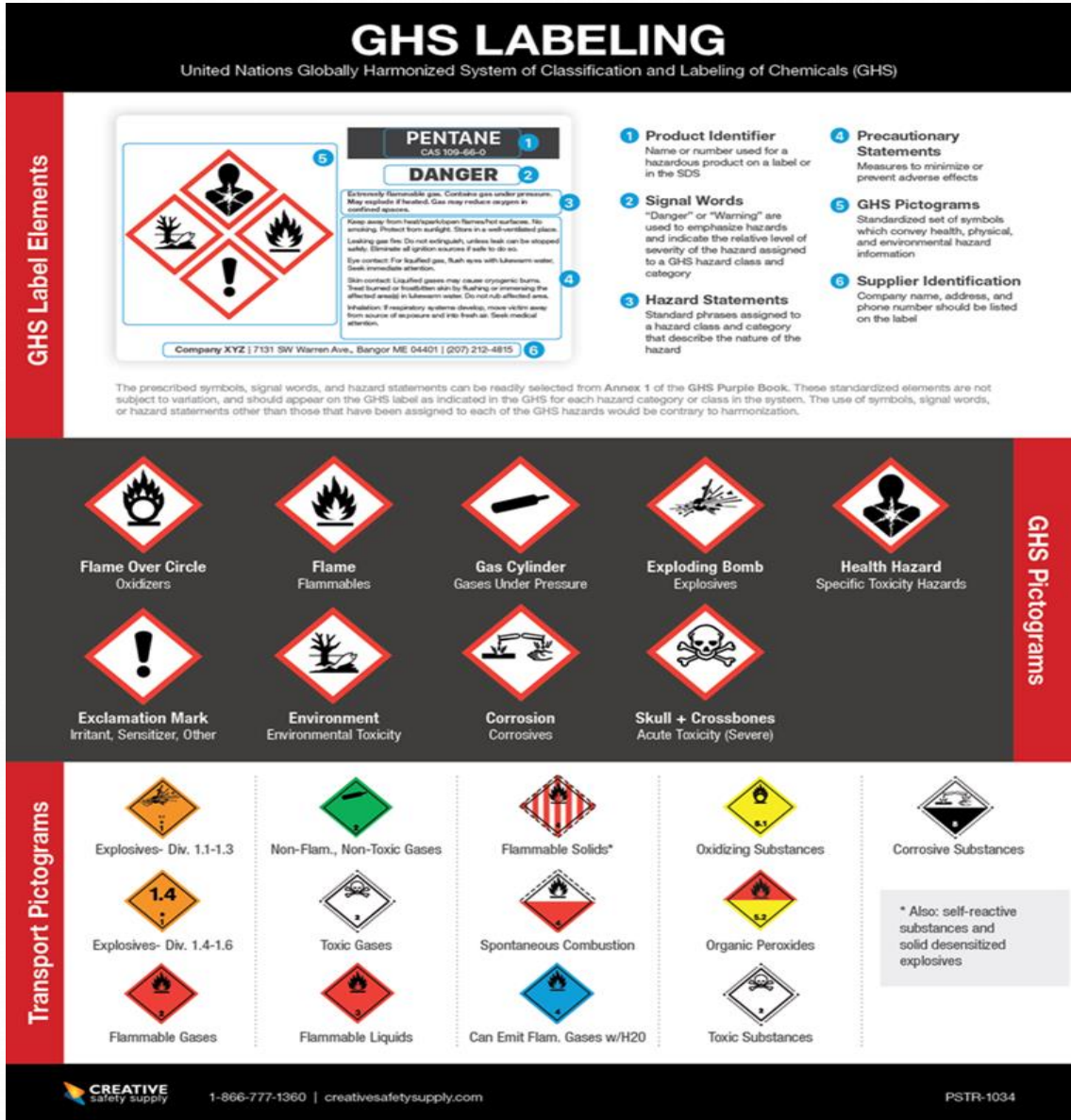
Health Hazard	Flame	Exclamation Mark
		
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (Harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosive**	**Exploding Bomb**
		
• Gases Under Pressure	• Skin Corrosion/Burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle	**Environment** (Non-Mandatory)	**Skull and Crossbones**
		
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (Fatal or Toxic)

Hazard Communication Labeling & Pictograms

Signal words indicate the level of severity of a hazard and alert workers to a potential hazard

Labels will have one or two signal words – “**Danger**” or “**Warning** ”





GHS Physical Hazards

1. Explosives
2. Flammable Gases
3. Flammable Aerosols
4. Oxidizing Gases
5. Gases Under Pressure
6. Flammable Liquids
7. Flammable Solids
8. Substances which, in contact with water emit flammable gases

9. Self-Reactive Substances
10. Pyrophoric Liquids
11. Pyrophoric Solids
12. Self-Heating Substances
13. Oxidizing Liquids
14. Oxidizing Solids
15. Organic Peroxides
16. Corrosive to Metals

GHS Health Hazards

- Acute Toxicity
- Skin Corrosion/Irritation
- Serious Eye Damage/Eye Irritation
- Respiratory or Skin Sensitization
- Germ Cell Mutagenicity
- Carcinogenicity
- Reproductive Toxicology
- Target Organ Systemic Toxicity
  - Single Exposure
  - Repeated Exposure
- Aspiration Toxicity

GHS Environmental Hazards

Substances that are hazardous to either the aquatic environment or to the ozone layer.

- Hazardous to the Aquatic Environment or to the O-zone layer
- Acute aquatic toxicity
- Chronic aquatic toxicity
  - Bioaccumulation potential
  - Rapid degradability

Hazard Communication
Safety Data Sheets (SDS)

- SDS's provide critical information for use in workplace chemical management
- Source of information about hazard to obtain advice of safety precautions
- Source of information for transporting dangerous goods
- Enables employers to develop active programs for workers protection measures
- 16 Section format provides clarity of data used to identify the hazards

The SDS's shall be readily available to all employees during their work shifts.

16 Elements to a Safety Data Sheet

1. **Identification**: Includes product identifier, manufacturer or distributor name, address, phone number, emergency phone number, recommended use, restrictions on use.
2. **Composition/Ingredient**: Information on chemical ingredients, trade secret claims.
3. **First-Aid Measures**: Includes important symptoms/effect, acute delayed, required treatment.
4. **Fire-Fighting Measures**: Lists suitable extinguishing techniques, equipment; chemical hazards from fire.
5. **Accidental Release Measures**: lists emergency procedures, protective equipment, proper methods of containment and clean up.
6. **Handling and Storage**: lists precautions for safe handling and storage, including incompatibilities.
7. **Exposure Control/Personal Protection**: lists OSHA's Permissible Exposure Limits (PELs), Threshold Limit Values (TLVs), appropriate engineering controls, personal protective equipment (PPE).

16 Elements to a Safety Data Sheet

9. **Physical and Chemical Properties**: Lists the chemical characteristics.
10. **Stability and Reactivity**: Lists chemical stability and possibility of chemical reactions.
11. **Toxicological Information**: Includes routes of exposure, related symptoms, acute and chronic effects, numerical measures of toxicity.
12. **Ecological Information**: Includes ecotoxicity, persistence and degradability, bio accumulative potential and mobility in the soil.
13. **Disposal and Consideration**: Describes waste residues and information on their safe handling and methods of disposal, including disposal of contaminated packaging.
14. **Transport Information**: Included UN number and proper shipping name, transport hazard class(s), packaging group, environment hazards.
15. **Regulatory Information**: Includes safety, health and environmental regulations specific to the product.
16. **Other Information**: as needed.

Conclusion

Always follow the Hazard Communication policy specific to the client site you are working at. The SDS information made available to you will be based on the recognized hazards at that site.

A chemical's pH, vapor density, and specific gravity determine how chemicals will "behave" or react with other chemicals and their surroundings. These properties are helpful during hazardous waste and emergency response operations, such as when workers attempt to clean up an oil spill.

Permissible exposure limits, or PELs, and threshold limit values over a time-weighted average, or TLV-TWAs, indicate the average amount you can be safely exposed to a hazard for 8 hours a day, 5 days a week.

Communication and preparation is vital in today's diversified workforce. Knowing the hazards, you may be exposed to and how to protect yourself from them will allow you and your coworkers to get back to what matters most, staying safe!

Training Roster

Please complete the training roster by either, scanning the QR code on your cellphone or clicking the link below. Thank you for your time and stay safe!

https://forms.office.com/Pages/ResponsePage.aspx?id=-8h9YWiPvEqU-HwIfqicf-aZYoT3noVOrngpiHPPQkFURFRNODhHMFkzMlhYVUdXU0hGT0NEWkdTVC4u

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