

Hazard Communication & GHS

2022

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

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.



What is GHS?

Globally **H**armonized **S**ystem of Classification and Labeling of Chemicals – an initiative to improve employee safety by standardizing: chemical labels, Safety Data Sheets and pictograms.

☐ 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



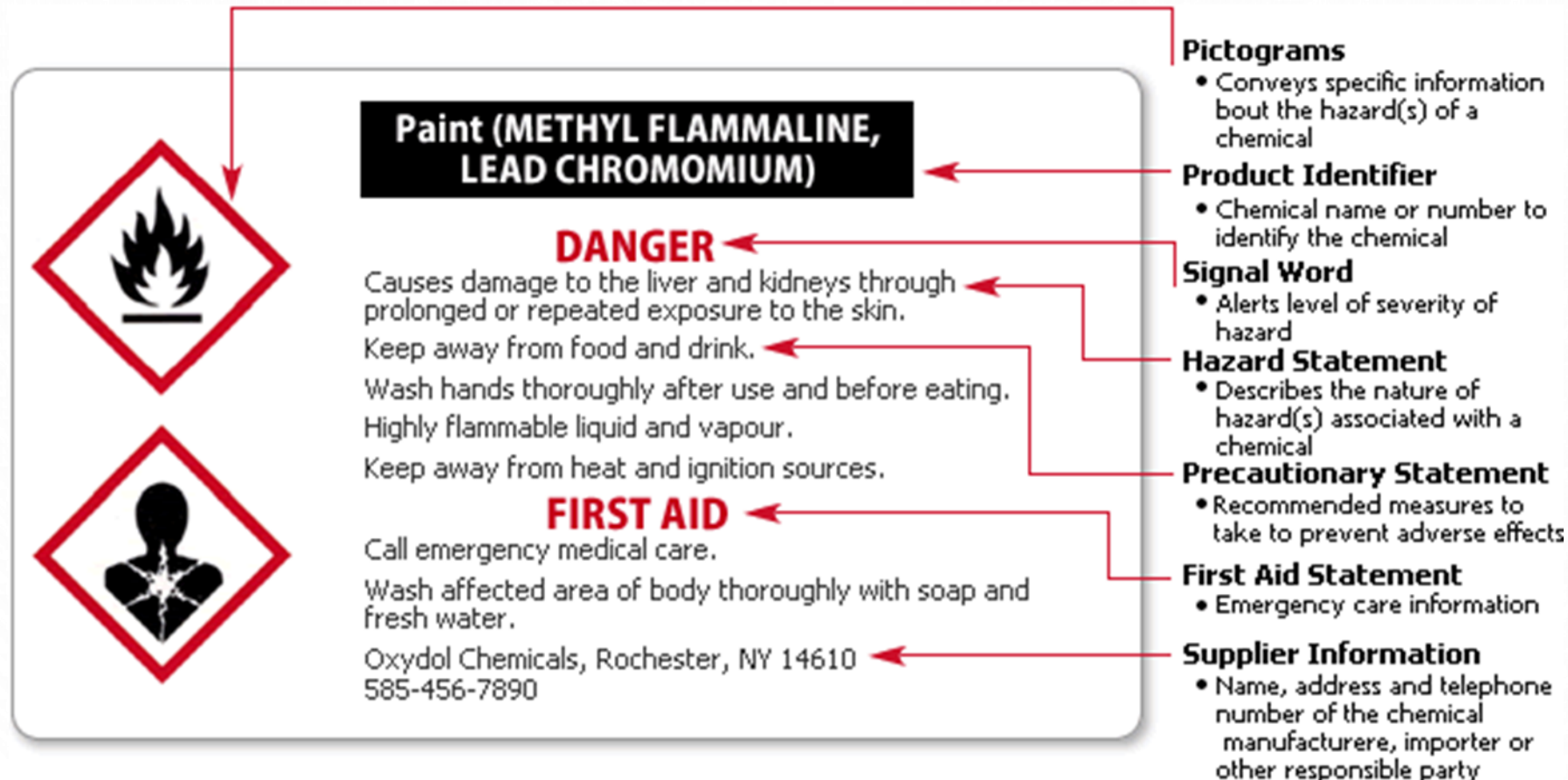
All employees must be trained, at hire, on the following:

- 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.



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 Label



HMI Label



GHS LABELING

United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

GHS Label Elements

PENTANE
CAS 109-66-0

DANGER

Extremely flammable gas. Contains gas under pressure. May explode if heated. Gas may reduce oxygen in confined spaces.

Keep away from heat/spark/open flames/hot surfaces. No smoking. Protect from sunlight. Store in a well-ventilated place. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Eye contact: For liquefied gas, flush eyes with lukewarm water. Seek immediate attention.

Skin contact: Liquefied gases may cause cryogenic burns. Treat burned or frostbitten skin by flushing or immersing the affected area(s) in lukewarm water. Do not rub affected area.

Inhalation: If respiratory system develops, move victim away from source of exposure and into fresh air. Seek medical attention.

Company XYZ | 7131 SW Warren Ave., Bangor ME 04401 | (207) 212-4815

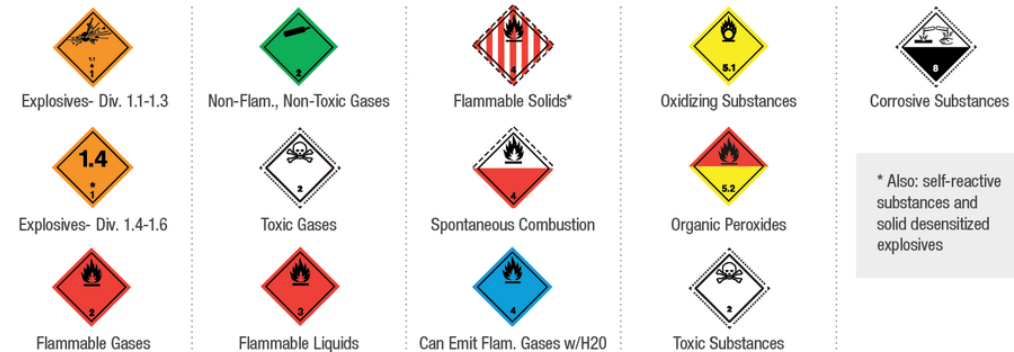
- Product Identifier**
Name or number used for a hazardous product on a label or in the SDS
- Signal Words**
"Danger" or "Warning" are used to emphasize hazards and indicate the relative level of severity of the hazard assigned to a GHS hazard class and category
- Hazard Statements**
Standard phrases assigned to a hazard class and category that describe the nature of the hazard
- Precautionary Statements**
Measures to minimize or prevent adverse effects
- GHS Pictograms**
Standardized set of symbols which convey health, physical, and environmental hazard information
- Supplier Identification**
Company name, address, and phone number should be listed on the label

The prescribed symbols, signal words, and hazard statements can be readily selected from Annex 1 of the GHS Purple Book. These standardized elements are not subject to variation, and should appear on the GHS label as indicated in the GHS for each hazard category or class in the system. The use of symbols, signal words, or hazard statements other than those that have been assigned to each of the GHS hazards would be contrary to harmonization.



GHS Pictograms

Transport Pictograms



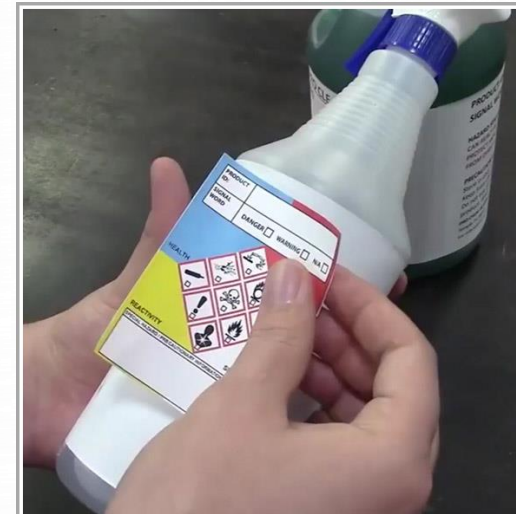
* Also: self-reactive substances and solid desensitized explosives

Hazard Communication Labeling

- 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 ratings 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

HMIS Hazard Ratings		ORDER REVERSES ↓ ↑	GHS Hazard Ratings	
0	Minimal Hazard		1	Severe Hazard
1	Slight Hazard	2	Serious Hazard	
2	Moderate Hazard	3	Moderate Hazard	
3	Serious Hazard	4	Slight Hazard	
4	Severe Hazard	5	Minimal Hazard	



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.

<p>Health Hazard</p>  <ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<p>Flame</p>  <ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<p>Exclamation Mark</p>  <ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (Harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none"> • Gases Under Pressure 	<p>Corrosive</p>  <ul style="list-style-type: none"> • Skin Corrosion/Burns • Eye Damage • Corrosive to Metals 	<p>Exploding Bomb</p>  <ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
<p>Flame Over Circle</p>  <ul style="list-style-type: none"> • Oxidizers 	<p>Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> • Aquatic Toxicity 	<p>Skull and Crossbones</p>  <ul style="list-style-type: none"> • Acute Toxicity (Fatal or Toxic)

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

- 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



**Skin
Corrosion**

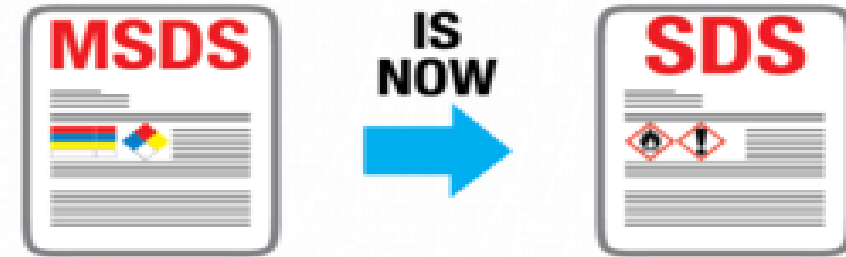
Substances that are hazardous to either the aquatic environment or to the ozone layer.

- 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 Safety Data Sheet Elements

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

16 Safety Data Sheet Elements

- 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.



10.0 ACKNOWLEDGEMENT OF RECEIPT OF HAZARD COMMUNICATION TRAINING

My signature below acknowledges I have received training concerning Hazard Communications. I understand that this training fulfills the employee training requirement of the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard.

The jobsite and classroom training included the following:

- 10.1** Understanding the purpose and scope of the OSHA Hazard Communication Standard.
- 10.2** Explanation of the existence of federal, state and local right-to-know laws.
- 10.3** Definition of the classification "hazardous chemical."
- 10.4** Explanation of situations and elements that must be present for a material to be considered a health hazard.
- 10.5** Explanation and interpretation of labels, what is required on all containers, and the Hazard Materials Identification System (HMIS).
- 10.6** Understanding and interpretation of Safety Data Sheets and pictogram(s).
- 10.7** My responsibilities as an employee of Airswift .
- 10.8** Policies and procedures to follow in case of exposure.

Employee Name: _____

Employee Signature: _____ **Date of Training:** _____

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-Hwlfqicf-aZYot3noVOrngpiHPPQkFURFRNODhHMFkzMlhYVUdXU0hGT0NEWkdTVC4u>





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