SEPTEMBER, 2015	PUBLIC UTILITIES DEPARTMENT TOOLBOX TRAINING

Hazcom & the GHS of Classification, part I

OSHA 1910.1200

Final Rule Published March 2012

New changes to OSHA's Hazard Communication Standard are bringing the United States into alignment with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS), further improving safety and health protections for America's workers. Building on the success of OSHA's current Hazard Communication Standard, the GHS is expected to prevent injuries and illnesses, save lives and improve trade conditions for chemical manufacturers.

WHAT'S NEW IN HAZCOM?

The new hazard communication standard requires chemical manufacturers and importers to evaluate the chemicals they produce or import and provide hazard information to employers and workers by putting *standardized* labels on containers and preparing safety data sheets (SDS) that are *harmonized* with GHS.

BENEFITS OF THE GHS

During the development of the new Hazcom standard, OSHA has determined that the changes will:

- Enhance worker comprehension of hazards, reduce confusion in the workplace, facilitate safety training, and result in safer handling and use of chemicals;
- Provide workers quicker and more efficient access to information on the safety data sheets;
- Result in cost savings to American businesses due to productivity improvements, fewer safety data sheet and label updates, and simpler hazard communication training; and
- Reduce trade barriers by harmonizing with systems around the world.

MAJOR CHANGES TO HAZCOM

- **Hazard classification:** Chemical manufacturers and importers are required to determine the hazards of the chemicals they produce or import. Hazard classification under the new, updated standard provides specific criteria to address health and physical hazards as well as classification of chemical mixtures.
- **Labels:** Chemical manufacturers and importers must provide a label that includes a signal word, pictogram, hazard statement, and precautionary statement for each hazard class and category.

- **Safety Data Sheets:** The new format requires 16 specific sections, ensuring consistency in presentation of important protection information.
- **Information and training:** To facilitate understanding of the new system, the new standard requires that workers be trained by December 1, 2013 on the new label elements and safety data sheet format, in addition to the current training requirements.

WHAT YOU NEED TO DO AND WHEN

- **Chemical Users:** Continue to update chemical lists and safety data sheets as new ones become available; provide training on the new container label elements and update the hazard communication program to reflect the GHS changes.
- **Chemical Producers:** Review hazard information for all chemicals produced and imported; classify chemicals according to the new classification criteria, and update labels and safety data sheets.

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and SDS format.	Employers
June 1, 2015	Comply with all modified provisions of this final rule, except: Distributors may ship products labeled by manufacturers under the old system until December 1, 2015.	Chemical manufacturers, importers, distributors and Employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers

The Department of Transportation (DOT), Environmental Protection Agency, and the Consumer Product Safety Commission actively participated in developing the GHS. The new system is being implemented throughout the world by countries including Canada, the European Union, China, Australia, and Japan.

References:

http://www.osha.gov/dsg/hazcom/global.html

OSHA's Hazard Communication Standard Final Rule - Fact Sheet

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New GHS - Safety Data Sheets (SDS)

The OSHA Hazcom rule requires manufacturers of chemicals to develop and provide SDS's to employers that purchase or use these materials. The Hazcom standard requires that an SDS include information about physical and chemical characteristics, fire and reactivity, symptoms of exposure, safe handling procedures, and emergency procedures.

NEW!

SAFETY DATA SHEET FORMAT

The OSHA *Hazard Communication Standard* was revised in early 2012 requiring manufacturers, importers and suppliers to provide ***Safety Data Sheets*** **(SDS)** for all chemicals. The new SDS must comply with an OSHA mandated 16-section format, and must include the following information:

1. **Identification** – product ID, including synonyms; information for recommended uses; and manufacturer, importer or supplier information
2. **Hazard(s) identification** – hazard classification and assigned hazard symbols
3. **Composition/ information on ingredients** – chemical name and synonyms, CAS number and list of other ingredients
4. **First-aid measures** – health effects and symptoms of exposure; first aid measures and special treatment
5. **Fire-fighting measures** – extinguisher media, special hazards when exposed to fires, and precautions when fighting fires
6. **Accidental release measures** – personal precautions, PPE, containment, and emergency procedures
7. **Handling and storage** – precautions for safe handling and storage, including incompatibility warnings
8. **Exposure control/ personal protection** – OSHA-PEL, ACGIH-TLV, PPE, and recommended engineering controls
9. **Physical and chemical properties** – list of relevant physical and chemical characteristics; including pH, flash point, LEL/UEL, vapor pressure, solubility, decomposition temperature, viscosity…
10. **Stability and reactivity** – hazardous reactions, stability, incompatible materials, and decomposition products
11. **Toxicological information** – routes and symptoms of exposure; acute and chronics effects of exposure
12. **Ecological information** – environmental impact related to degradability, mobility, and accumulation (optional)
13. **Disposal considerations** – spent product and residue handling and disposal (optional)
14. **Transport information** – DOT hazardous material labeling, packaging and shipping requirements (optional)
15. **Regulatory information** – other safety, health, and environmental information (optional)
16. **Other information** – date SDS was prepared or changed

NEW!

EMPLOYER RESPONSIBILITIES AND LABELS

When OSHA finalized the proposed Hazcom rule changes, employers were given **three years** to fully comply with all changes in the rule. The most significant changes will include the new Safety Data Sheet requirements, and container labeling changes. Container labeling will include the use of standardized phrases, hazard descriptions, and pictograms to communicate information about the chemical.

Explosives, Organic peroxides…

Corrosive to metals, Skin corrosion

Acute hazards, Chronic hazards to the aquatic environment

Employers have **10 months** to provide training to all of its employees in the Hazard Communication standard changes. Employers may begin implementing many of the changes at this time, including updating all of the existing MSDS records with the new SDS documents that meet the new 16-section requirement. Existing MSDS records that do not meet the new format will be archived and saved for future reference.

The **Globally Harmonized System of Classification and Labeling of Chemicals** (**GHS)** is an internationally agreed upon system set to replace the various different classification and labeling standards used internationally. This standard includes mandating the 16-section **Safety Data Sheet**.

References:

http://www.osha.gov/dsg/hazcom/global.html

http://edocket.access.gpo.gov/2009/pdf/E9-22483.pdf

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Hazcom & the GHS of Classification, part III

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Container Labeling and Pictograms

OSHA has updated the requirements for labeling of hazardous chemicals under its Hazard Communication Standard. As of June 1, 2015, all hazardous container labels will be required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. The following information identifies the standardized label elements that are required by the ***Globally Harmonized System of Classification and Labeling (GHS).***

New Label Requirements

Under the current Hazard Communication Standard (HCS), the label preparer must provide the identity of the chemical, and the appropriate hazard warnings. Under the revised HCS, once the hazard classification is completed, the standard specifies what information is to be provided for each hazard class and category. Labels will require the following elements:

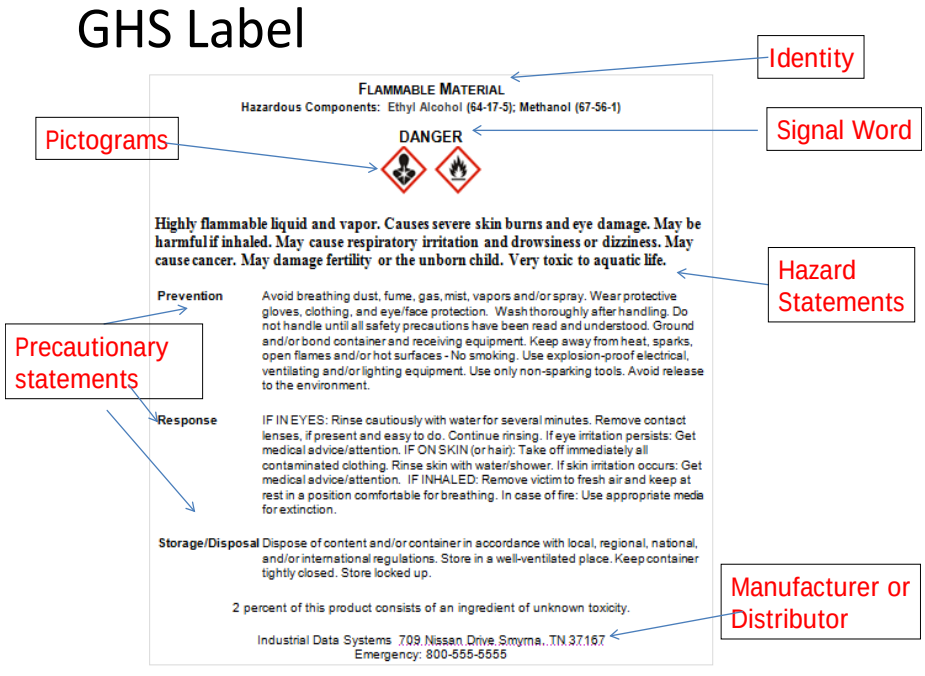
Pictogram: a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazards of a chemical. Each pictogram consists of a different symbol on a white background within a red square frame set on a point (i.e. a red diamond). There are nine pictograms under the new GHS.

Signal words: a single word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used are "danger" and "warning". "Danger" is used for the more severe hazards, while "warning" is used for less severe hazards.

Hazard Statement: a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

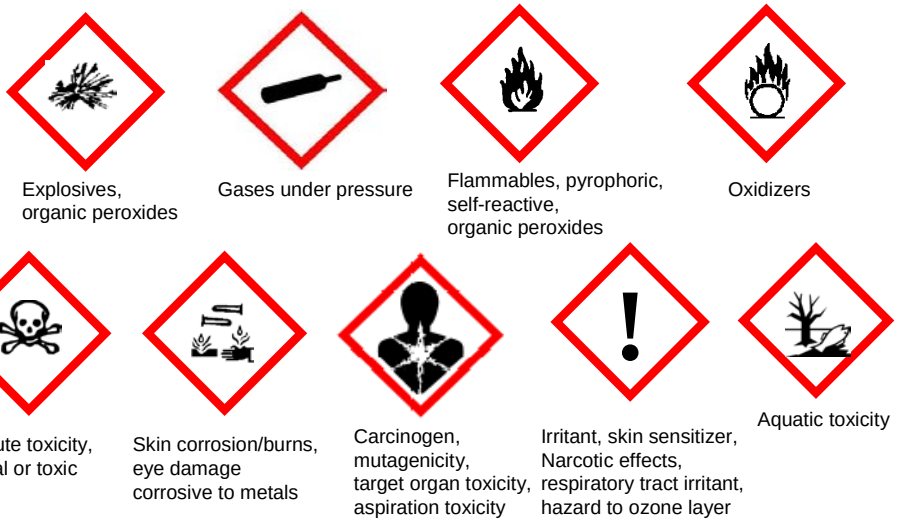
Precautionary Statement: a phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling of a hazardous chemical.

Example of the New GHS Label



New GHS Pictograms

GHS Pictograms



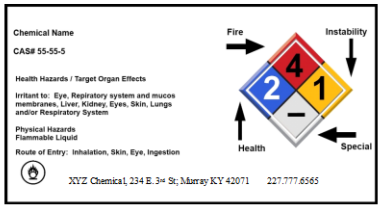
The appropriate pictogram must appear on the container label for a material or chemical that exhibits one, or more, of the above health, physical, or environmental hazards.

What are the Primary Differences from the Current Hazcom?

- Written program – mostly unchanged
- Training – Regarding new definitions, hazard classifications, labeling systems, and SDS requirements
- Labels - new standards
- SDS – extensive changes

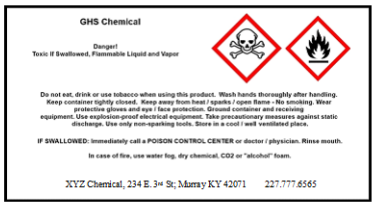
New Label Requirements

Current Workplace Label



- **Current OSHA Standard**
  - Material identity
  - Hazard warnings
  - Supplier information

New GHS Label



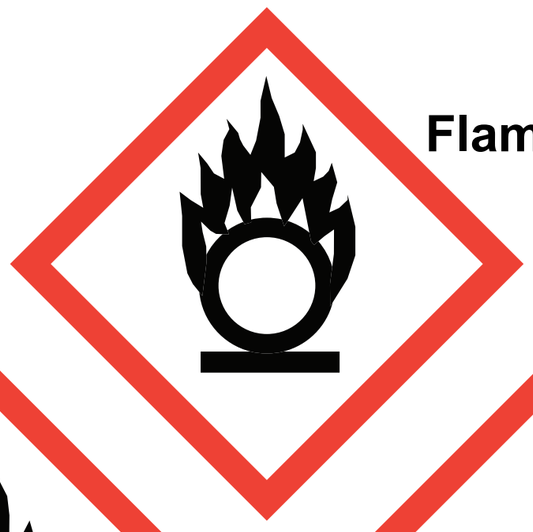
- **Updated OSHA GHS Standard**
  - Product identifier
  - Signal word
  - Hazard statements
  - Precautionary statements
  - Pictograms
  - Supplier information
  - Supplemental information

The Department of Transportation (DOT), Environmental Protection Agency, and the Consumer Product Safety Commission actively participated in developing the GHS. The new system is being implemented throughout the world by countries including Canada, the European Union, China, Australia, and Japan.

References:

http://www.osha.gov/dsg/hazcom/global.html

GHS PICTOGRAMS

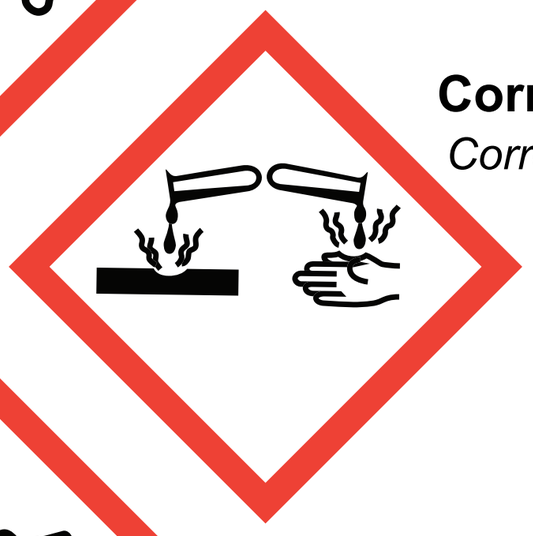


Flame Over Circle
Oxidizers

Flame
Flammables, Self Reactives
Pryophorics, Self-heating
Emits Flammable Gas
Organic Prexoides

Exploding Bomb
Explosives, Self Reactives,
Organic Peroxides

Skull and Crossbones
Acute Toxicity-Fatal or Toxic



Corrosion
Corrosives

Gas Cylinder
Compressed Gases
Liquefied Gases
Refrigerated Liquefied Gases
Dissovlved Gases

Environment
Aquatic Toxicity

Health Hazard
Respiratory Sensitization, Germ Cell Mutagencity
Carcinogencity, Reproduction Toxicity
Target Organ Toxicity, Aspiration Hazard

Exclamation Mark
Acute Toxicity, Skin Irritation
Eye Irritation, Skin Sensitization
Target Organ Toxicity

Public Utilities Safety Office