PAPER

GHS HAZCOM LABELS

Understanding those SCARY little pictures

Understanding those scary little pictures.

You see them everywhere. Bright red diamond shapes surrounding a little picture of a hazard. These markings are on (or should be on) containers for every hazardous chemical you have in your plant or lab. These markings usually depict a "really bad day" scenario that could happen if the chemicals are mishandled. They are intended to provide instant recognition that there is a hazard and what that hazard is. But, what goes into those hazard pictogram designs? Can anybody just create their own label based on their understanding or experience with the risks involved? Is there a standard to follow? Is there more than one standard to follow? How do we know what the proper haz marking should be?

This Pig Paper will provide the answers to the above (and other) questions to help get you a working understanding of Hazcom labels, and how and where to use them.

Hazard Communication Standard, Updated

The Occupational Safety and Health Administration's (OSHA) first Hazard Communication (Hazcom) Standard was created in 1983 and became effective in 1986. The premise of this regulation was that every employee has the right to know about the hazardous chemicals that they encounter in their workplace. For this reason, Hazcom is sometimes called the "Worker Right to Know Law."

The Hazcom Standard [29 CFR 1910.1200] establishes guidelines for:

- Making hazard determinations
- Labeling chemicals
- Providing and using safety data sheets (SDS)
- Creating written implementation plans
- Conducting employee training
- Managing trade secrets

Other than a few technical amendments in 1994, the rule remained pretty much unchanged until 2012 when the standard was updated to align with the provisions of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

The incorporation of GHS into the Hazcom Standard facilitates global movement of chemicals by reducing barriers to commerce. More importantly, incorporating GHS creates a framework for greater understanding of chemical hazards through the use of standardized formats for SDS and chemical labels that take demographics and varying levels of understanding into account.

Standardizing hazard classification rules means that every chemical supplier will use the same standards and methods to classify chemicals, creating more useful and accurate information. The information obtained from classifying hazards allows chemical manufacturers to create labels that will contain standardized verbiage, pictograms and messages to convey hazards consistently across brands and geographic borders. This standardization in labeling helps to remove ambiguity, eliminate confusion and improve worker safety.

According to David Michaels, OSHA Assistant Secretary, "With the new, globally harmonized standard, workers are now getting the right to understand. That means not only knowing about potential hazards, but also better understanding what the warning means, what to do if exposed and how to protect oneself."

By June 1, 2015, chemical manufacturers, importers, distributors and employers must be in compliance with all elements of the new rule (except that chemicals with "old" labeling may be shipped until December 1, 2015), including container labeling within a facility.

Workers are now getting the right to understand.

The New Look of Labels

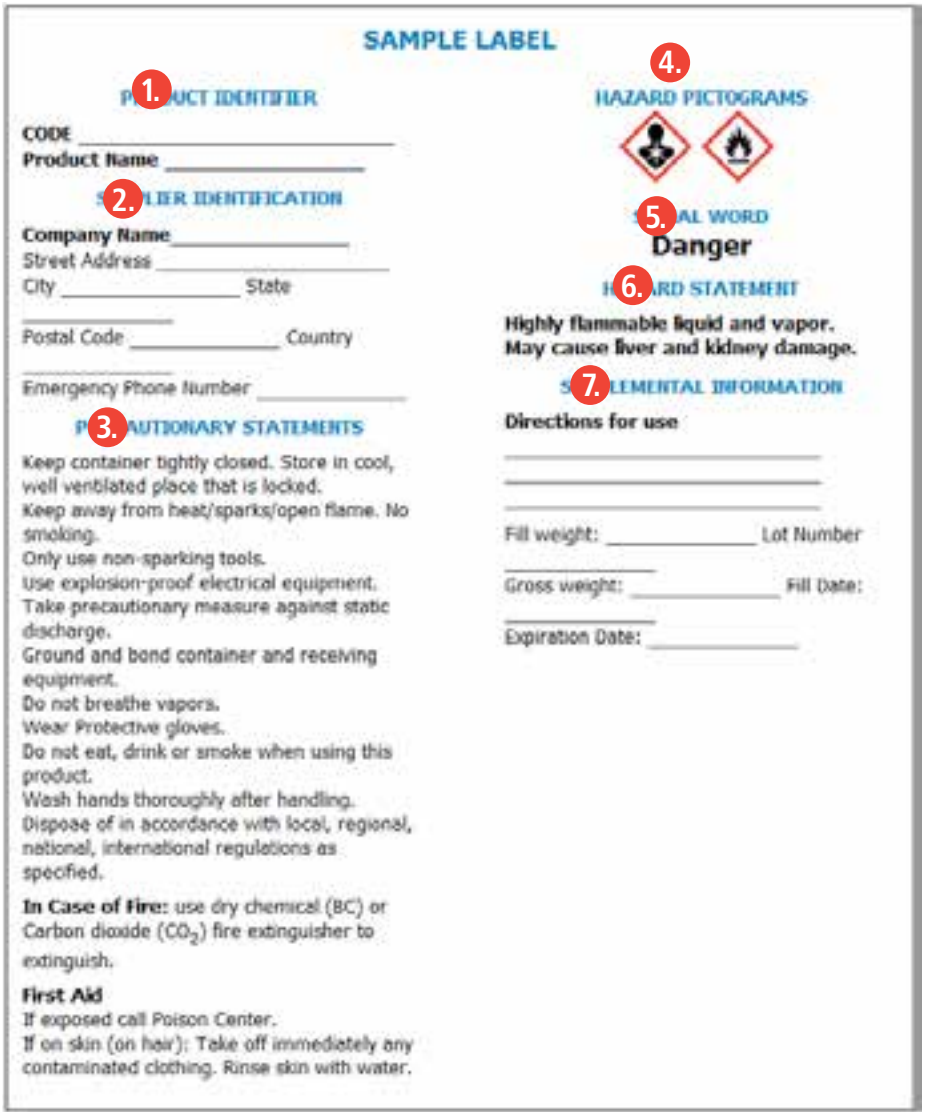
Prior to the adoption of GHS, there were no clear specifications for container labeling. Two common labeling systems used in the United States were National Fire Protection Association (NFPA) and Hazard Materials Identification System (HMIS). Both conveyed hazards using a numeric system, but the numbers used and the guidelines for using those numbers were not consistent between the two standards. These systems are still permitted to be used, but containers must also bear the appropriate GHS label. The use of these systems must also not create confusion or contradict information on the GHS label.

The purpose of the label is to convey information and provide an immediate visual reminder of a chemical's hazards in a clear, consistent manner. Where an SDS contains all of the hazard information for a chemical, the label condenses that document and serves as an immediate reminder of **vital safety information** at the point of use.

Labeling chemicals in accordance with GHS improves hazard communication because the hazard information provided on the label is conveyed in more than one way. The combination of colors, pictures and words addresses different learning styles and even allows certain labeling elements to be comprehended in circumstances where language may be a barrier to understanding.

To comply with GHS, labels must contain the elements listed below:

1. Product identifier
2. Supplier identification
3. Precautionary statements
4. Hazard Pictograms
5. Signal words
6. Hazard statements
7. Supplemental information



Although the actual label format is not specified in GHS, the standard clarifies that signal words, pictograms and hazard statements should be located "together" on the label. The size of pictograms should also be proportional to the size of the text on the label.

Let's take a closer look at each of the seven elements of the GHS label.

1. Product Identifier

Chemical suppliers, shippers, warehouse crews and workers must all be able to accurately identify chemicals – especially in the case of accidental exposure. Because many different chemicals can look the same, the product identifier is a required labeling element that simply lists the name of the chemical so that it can be readily identified.

The name of the chemical listed on the container should exactly match the name that is used on the SDS. In addition to this name, specific ingredients may also be listed as well as Chemical Abstract Service (CAS) or United Nation (UN) numbers.

2. Supplier Information

In an emergency, the supplier's name, address and telephone number on a chemical's label helps workers, employers, shippers and emergency responders obtain critical information that may be needed if an SDS is not readily available. Because this information can be vital to someone's safety, the phone number listed should be one that is accessible 24/7.

Each chemical, as well as all secondary packaging (e.g. crates or boxes), must be labeled with the supplier's name, address and telephone number.

3. Precautionary Statements

Annex 3 of The Globally Harmonized System of Classification and Labelling of Chemicals, commonly known as "The Purple Book," contains over 60 pages of different precautionary statements that describe the recommended measures for preventing exposure, responding to spills, storing and disposing of chemicals.

These statements relate specifically to the pictograms that are also present on labels and are intended to help minimize exposure and prevent the risks or adverse effects of using the chemical. The five types of precautionary statements are:

- **General**
- **Prevention**
- **Response**
- **Storage**
- **Disposal**

In addition, firefighting and basic first aid information is also provided with these statements.

4. Pictograms

Using a single set of standardized symbols with the same color coding that is recognized and used worldwide helps to ensure that anyone, anywhere can recognize and understand a chemical's hazards. Because pictograms contain no words, barriers created by different languages or by illiteracy are overcome and almost anyone can prevent accidental or uninformed exposure.

Pictograms make warnings more noticeable, are easy to understand, quickly convey information and draw attention to the other information on a label. The specific pictogram that is required for a chemical is determined by its hazard classification.

For GHS labels, pictograms are white squares set at point, with red frames and one of nine black symbols inside the frame. Because pictograms draw people's attention, no empty or blank frames may be present on a product label. This also helps to avoid possible confusion or questioning as to whether another hazard might be present.

The nine symbols that have been chosen for pictograms broadly address health, fire, explosion and environmental hazards.

Exploding Bomb

Used with explosives, self-reacting substances and organic peroxides

Flame

Used with flammable gasses, aerosols, liquids and solids; self-reactive substances, pyrophoric liquids and solids, self-heating substances and organic peroxides

Flame Over Circle

Use with oxidizing gases, liquids and solids

Gas Cylinder

Use with compressed, liquefied, refrigerated liquefied and dissolved gasses

Corrosion

Use with any chemical that is corrosive to metals

(when used, the exclamation mark should not appear where it is used for skin or eye irritation)

Health Hazard

Used for respiratory sensitization, germ cell mutagenicity, carcinogenicity, reproductive toxicity, specific organ toxicity, aspiration hazards

(if this symbol is used for respiratory sensitization, the exclamation mark should not appear if it is used for skin sensitization or for skin or eye irritation)

Exclamation Mark

Used to identify acute toxicity, skin or eye irritation, skin sensitization, respiratory tract irritation, narcotic effect, or specific target organ toxicity

(not used with "skull and crossbones" pictogram or for skin or eye irritation when "corrosion" or "health hazard" pictograms also appear)

Environment

Identifies acute or chronic hazards to the aquatic environment

Skull and Crossbones

Used for any chemical that is acutely toxic

(when used, the exclamation mark should not appear)

5. Signal Words

Signal words communicate the severity of the risk posed by the chemical. Each hazard category has a signal word assigned to it, and can be found in Appendix C of The Purple Book.

Two signal words have been chosen for GHS labeling:

- **DANGER** – communicates severe hazards
- **WARNING** – used for less serious hazards

Only one signal word may be used on a label. (If "DANGER" appears on a label, "WARNING" should not.) If a chemical has multiple hazards, the signal word for the highest hazard should be used.

6. Hazard Statements

Hazard statements are phrases that are assigned according to the hazard class and category. They describe the degree and nature of a hazard.

When multiple hazards are present, multiple hazard statements must be included on the label. To avoid duplication, some statements are permitted to be combined in accordance with the provisions in Table A3.1.2 of Annex 3.

7. Supplementary information

Any additional information that the supplier wishes to include on a label and any information that is required by a competent authority is included in supplementary information. Any statements made in this section may not conflict with information provided in the other six sections.

The purpose of supplemental information is to, "provide further detail…and information about hazards not yet incorporated into GHS. It should not lower standards of protection," according to the standard. Often, this information will provide further detail. For example, it may include storage and handling information, specific PPE or shipping information.

Built to Last, Designed for Safety

Because labels are such an important part of hazard communication, they need to be designed to last. To accomplish this, labels need to be resistant to:

- **Chemicals**
- **Abrasion**
- **UV light**
- **Weather**

They should also have a strong adhesive to help avoid delaminating over the chemical's lifecycle. International transportation standards also require labels to be able to withstand three (3) months of exposure to saltwater without fading, while maintaining adhesion to the container.

The diversity of today's workforce combined with the global commerce of goods are two factors that make chemical safety an ongoing challenge for employers, transporters and first responders. Complying with globally harmonized standards for chemical labeling helps to bridge gaps created by language and other barriers by providing information that is clear, concise and easy to understand. As more and more people become familiar with this labeling system, chemicals can be used more safely and accidental exposures can be avoided.

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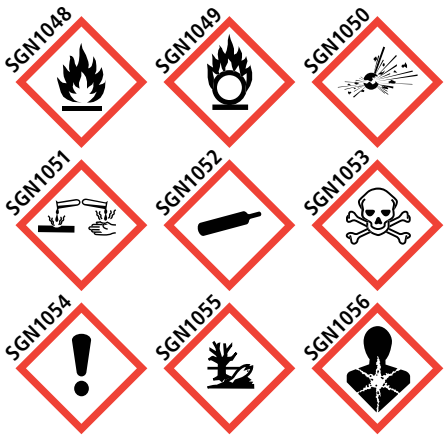

GHS Labels

Identify the specific hazards of your chemicals with these GHS pictogram labels. Choose from two sizes.

SGN1043
Poster

SGN1042
Wallet Card

GHS Poster

Put GHS label and pictogram guidelines on display with this colorful laminated poster.

GHS Wallet Card

Handy wallet card serves as a visual reminder of GHS label and pictogram requirements.

SGN1044

GHS Sign

Brightly colored projection signage is easy to see from any angle so workers can quickly locate SDS documents.

RTK511

RTK504

Deluxe Hazard Communication Center (RTK511)

Right-to-Know SDS Center (RTK504)

Centers are highly visible to help you meet regs and protect employees in the event of an emergency.

RTK500
3" Ring Size
1.75" x 10.5" x 11.5"

RTK501
3" Ring Size
3.5" x 12.0" x 11.5"

SDS Binders

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