

HAZARD COMMUNICATION, THE GHS & YOU

PROGRAM SYNOPSIS:

This training program features four real-life scenarios that underscore the importance of being able to quickly obtain health, safety and hazard information related to hazardous chemicals and substances in the workplace. As mandated by OSHA, chemical safety data must be conveyed through the use of the standard communication elements found in the Globally Harmonized System for the Labeling and Classification of Chemicals, commonly called the GHS for short. The program explains each of these communication elements in detail so your employees will understand how chemical hazards are communicated and how to use this information to ensure their safety when storing, handling and using hazardous substances.

Topics include container label information, signal words, hazard and precautionary statements, physical and health hazard pictograms, the 16 sections of the GHS Safety Data Sheet and the written Hazard Communication Program.

PROGRAM OUTLINE:

INTRODUCTION

- Bruce has been informed of a new chemical in his work area and would like to learn about its hazards and what precautions he should take to protect himself.
- Frank is feeling dizzy after inhaling a chemical's fumes. A co-worker helps him get to a safe place and then wonders what else he should do to help him recover.
- A spill response team works quickly to contain a spill. The team's leader needs to quickly learn the safest way to clean up and dispose of the spilled material.
- Daniela is unsure about the proper type of glove she should wear before handling a specific chemical.
- Each of these scenarios, and countless others, underscore the importance of being able to quickly obtain health, safety and hazard information related to the hazardous chemicals and substances in your workplace.

HAZARD COMMUNICATIONS & GHS

- Generally referred to as the Hazard Communication Program or HazCom for short, your organization's chemical safety program is based on OSHA Regulation 1910.1200, titled "Hazard Communication." OSHA's regulation mandates the use of the standard communication elements found in the Globally Harmonized System for the Labeling and Classification of Chemicals commonly called the GHS for short.
- The GHS was developed by the United Nations to be a single standard for the classifying and labeling of chemicals according to their physical, health and environment hazards.
- An important part of chemical safety is your understanding of the Hazard Communication Program and the standard GHS elements it uses to communicate chemical hazards.

CONTAINER LABELS & SIGNAL WORDS

- Bruce has been informed of a new chemical in his work area and would like to learn about its hazards and what measures he should take to protect himself. He consults the container's label to quickly learn important information about the chemical.
- Bruce was smart to check the container label for a chemical with which he was unfamiliar. As a part of the Globally Harmonized System, or GHS, chemical manufacturers and importers must provide a container label that includes a signal word, hazard statements, precautionary statements and a pictogram to help explain a chemical's hazards.
- Workers should make the container label their first resource for information about a chemical or substance.
- The container label will include the product identifier, which is the name or United Nations' identification number used for a hazardous substance.

- The supplier's name, address and phone number will also be on the label.
- The chemical label may also include a signal word. A signal word is used to quickly indicate the relative severity of the chemical's most severe hazard.
- There are only two signal words used, "Danger" and "Warning." The signal word Danger is used to represent the more severe hazards, while the signal word Warning is used to represent lesser hazards.
- For example, an extremely corrosive material that will cause severe burns to the skin will be labeled Danger, while a more mild substance that only causes skin irritation will be labeled Warning.
- Only one signal word, corresponding to the chemical's most severe hazard, will be found on a label.

HAZARD & PRECAUTIONARY STATEMENTS

- While the signal word provides information about the severity of a chemical's hazard, it is the hazard statement that provides a concise description of the various hazards presented by a chemical.
- Consulting the hazard statements on a container label is the easiest way to learn the exact nature of a chemical's hazards.
- Chemical labels also contain precautionary statements. Precautionary statements are brief phrases that explain the required measures for the safe handling of the chemical or mixture.
- Consulting the precautionary statements on a container label is the easiest way to learn about the requirements for safe use, handling and storage.
- By simply reading the label, a worker can quickly learn important chemical safety information.

PHYSICAL HAZARD PICTOGRAMS

- Another communication element found on a chemical's label is a pictogram. Pictograms are used to represent the hazards of a chemical.
- The GHS mandates the use of standardized pictograms so safety information can be conveyed without concern for any language barriers.
- Chemical hazards are divided into three types: physical hazards, health hazards and environmental hazards.
- Physical hazards are properties of a substance or mixture that could physically harm you or the facility, such as a fire or explosion hazard.
- There are five pictograms that are used to represent the various physical hazards.
- The exploding bomb pictogram indicates that a material is explosive or is an unstable self reactive or unstable organic peroxide.
- The flame pictogram is used to represent flammable gases, liquids and solids as well as pyrophoric and self heating substances.
- The flame over circle pictogram, also called the oxidizer pictogram, signifies that a chemical can cause or contribute to the intensity of a fire.
- The gas cylinder pictogram is used when a substance is a compressed, dissolved or liquefied gas under pressure.
- The corrosion pictogram is exhibited when a material is corrosive to metal.

- Once again, the 5 pictograms that represent physical hazards are the exploding bomb, the flame, the flame over circle or oxidizer, the gas cylinder and the corrosion pictogram.

HEALTH & ENVIRONMENTAL HAZARD PICTOGRAMS

- Health hazards are properties of a substance or mixture that can cause illness or injury to the eyes, lungs, skin, internal organs or other body parts.
- In addition to representing a physical hazard, the corrosion pictogram is also used to represent the health hazard of skin corrosion and serious eye damage.
- The exclamation point, or irritant pictogram, represents skin irritation, eye irritation, skin sensitization, narcotic effects, respiratory tract irritation and non-fatal acute toxicity.
- The skull and crossbones pictogram denotes that a chemical is acutely toxic and exposure may be fatal.
- The health hazard pictogram indicates that the substance is a carcinogen or causes respiratory sensitization or germ cell mutagenicity. The health hazard pictogram also represents reproductive toxicity, an aspiration hazard or specific target organ toxicity.
- Once again, the four pictograms that represent health hazards are the corrosion pictogram, the exclamation point or irritant pictogram, the skull and cross bones pictogram and the health hazard pictogram.
- Environmental hazards are properties of a substance or mixture that cause aquatic toxicity and damage to living organisms in water or cause damage to the ozone layer.
- The environment pictogram can be used when a substance poses hazards to the aquatic environment and the exclamation point, or irritant pictogram, can be used to indicate that a chemical is damaging to the ozone layer.
- It's important to remember that pictograms are designed to quickly alert workers to the potential hazards of a substance.

SAFETY DATA SHEETS

- Workers will then need to seek out additional information in order to safely work with, store or handle the material. One important source for additional, detailed safety information about a chemical is the Safety Data Sheet.
- As part of your facility's Hazard Communication program, a Safety Data Sheet is maintained for every chemical used onsite. The GHS requires these Safety Data Sheets to have a uniform format in which information is presented in 16 sections that appear in a specific order. This uniformity helps workers quickly find important information.
- The 16 sections of a safety data sheet are as follows:
 - Section 1: Identification. Section 1 lists the product's name and intended use, the manufacturer or suppliers' name and a phone number to call in case of an emergency.
 - Section 2: Hazards Identification.
 - Section 3: Composition/Information on Ingredients.
 - Section 4: First Aid Measures. Section 4 explains how to treat chemical exposures such as inhalation, ingestion and contact with the eyes and skin.
- Frank is feeling dizzy after inhaling a chemical's fumes. A co-worker helps him get to a safe place and then wonders what else he should do to help him recover.
- Frank's co-worker consults the Safety Data Sheet and is relieved to learn that the only required first aid after inhalation is to remove the exposed person to fresh air.

- Section 5: Fire Fighting Measures.
- Section 6: Accidental Release Measures. Section 6 provides containment and clean up instructions and precautions to be followed in the event of a leak or spill.
 - A spill response team works to initially contain a spill. The team's leader needs to quickly learn the safest way to clean up and dispose of the spilled material. He refers to section 6 of the Safety Data Sheet to learn the recommended type of absorbent material to best clean up the spill.
- Section 7: Handling and Storage.
- Section 8: Exposure Control and Personal Protection. Section 8 is of prime importance to chemical workers. It lists any applicable exposure limits and explains the personal protective equipment required to prevent exposure while working with the chemical.
 - Daniela is unsure about the proper type of glove she should wear before handling a specific chemical. She consults Section 8 of the safety data sheet and learns which glove she should use.
- Section 9: Physical and Chemical Properties.
- Section 10: Stability and Reactivity.
- Section 11: Toxicological Information. Section 11 contains the potential routes of entry for the substance into the human body as well as a listing of the signs, symptoms and effects of exposure to the substance.
- Section 12: Ecological Information.
- Section 13: Disposal Considerations.
- Section 14: Transport Information.
- Section 15: Regulatory Information.
- Section 16: Other Information. Section 16 is reserved for other important information that is not listed in other sections. For example, the popular NFPA and HMIS hazard ratings are often listed in this section since they are not a recognized part of the Globally Harmonized System.

THE WRITTEN HAZARD COMMUNICATION PROGRAM

- To ensure that all workers have an understanding of chemical hazards in their workplace, OSHA requires organizations to develop and maintain a written Hazard Communication Program. The written program must be made available for workers to review upon request.
 - Key elements of the written program include policies and procedures for container labeling, the accessible locations of Safety Data Sheets and a listing of the names and locations of all hazardous substances onsite.
 - Also included in the written plan are the site specific requirements for employee training.

CONCLUSION

- Your facility's Hazard Communication Program is designed to help you understand the chemical hazards in your workplace. It's up to you to use the valuable information contained on container labels and Safety Data Sheets, combined with site specific training, to ensure your safety while storing, handling or using hazardous chemicals.
 - Always remember that the person most responsible for your safety is you.

PREPARE FOR THE SAFETY MEETING

Review each section of this Leader's Guide as well as the program. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your video equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the program.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to help employees understand how chemical hazards are communicated and how to use this information to ensure their safety when storing, handling and using hazardous substances.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about specific chemicals handled and stored at your facility and the communication elements that are used to communicate their hazards.

After watching the program, the viewer should be able to explain the following:

- What basic information can be found on a chemical label;
- What severity of hazard the signal words of Danger and Warning indicate;
- What information is provided by hazard and precautionary statements;
- Which pictograms are used to convey physical, health and environmental hazards;
- What information is detailed in the 16 sections of the GHS Safety Data Sheet.

HAZARD COMMUNICATION, THE GHS & YOU
REVIEW QUIZ

Name _____ Date _____

Please provide answers to the following to show how well you understand the information presented during this program.

1. The GHS was developed by _____.
 - a. OSHA
 - b. The United Nations
 - c. The US Chemical Safety Board
2. Workers should make the container label their first resource for information about a chemical or substance.
 - a. True
 - b. False
3. Which signal word is used to represent the more severe hazards?
 - a. Danger
 - b. Warning
4. Which statements on container labels explain the required measures for the safe handling of a chemical or mixture?
 - a. Hazard statements
 - b. Precautionary statements
5. Which physical hazard pictogram is also known as the oxidizer pictogram?
 - a. The exploding bomb pictogram
 - b. The flame pictogram
 - c. The flame over circle pictogram
6. What is the only pictogram that can be used to represent either a physical or health hazard?
 - a. The corrosion pictogram
 - b. The exploding bomb pictogram
 - c. The skull and crossbones pictogram
7. Which pictogram is also known as the irritant pictogram?
 - a. The skull and crossbones pictogram
 - b. The exclamation point pictogram
 - c. The health hazard pictogram
8. Which pictogram can be used to indicate that a chemical is damaging to the ozone layer?
 - a. The exclamation point pictogram
 - b. The health hazard pictogram
 - c. The environment pictogram
9. A Safety Data Sheet is maintained for every hazardous chemical used onsite.
 - a. True
 - b. False
10. The written Hazard Communication Program is only available for management to review.
 - a. True
 - b. False

ANSWERS TO THE REVIEW QUESTIONS

1. b
2. a
3. a
4. b
5. c
6. a
7. b
8. a
9. a
10. b