



Training Solutions, Delivered!

**HAZARD  
COMMUNICATION &  
THE GLOBAL  
HARMONIZING SYSTEM  
EMPLOYEE TRAINING  
*(Concise)***

**Leader's Guide, Fact Sheet  
& Quiz**

Item Number: 4217  
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***This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation.***

## **PREPARING FOR THE MEETING**

Here are a few suggestions for using this program:

- a) Review the contents of the Fact Sheet that immediately follows this page to familiarize yourself with the program topic and the training points discussed in the program. The Fact Sheet also includes a list of Program Objectives that details the information that participants should learn from watching the program.
- b) If required by your organization, make an attendance record to be signed by each participant to document the training to be conducted.
- c) Prepare the area and equipment to be used for the training. Make sure the watching environment is comfortable and free from outside distractions. Also, ensure that participants can see and hear the TV screen or computer monitor without obstructions.
- d) Make copies of the Review Quiz included at the end of this Leader's Guide to be completed by participants at the conclusion of the presentation. Be aware that the page containing the answers to the quiz comes before the quiz itself, which is on the final page.

## **CONDUCTING THE PRESENTATION**

- a) Begin the meeting by welcoming the participants. Introduce yourself and give each person an opportunity to become acquainted if there are new people joining the training session.
- b) Introduce the program by its title and explain to participants what they are expected to learn as stated in the Program Objectives of the Fact Sheet.
- c) Play the program without interruption. Upon completion, lead discussions about your organization's specific policies regarding the subject matter. Make sure to note any unique hazards associated with the program's topic that participants may encounter while performing their job duties at your facility.
- d) Hand out copies of the review quiz to all of the participants and make sure each one completes it before concluding the training session.

# **4217 HAZARD COMMUNICATION & THE GLOBAL HARMONIZING SYSTEM EMPLOYEE TRAINING (*Concise*) FACT SHEET**

**LENGTH: 12 MINUTES**

**PROGRAM SYNOPSIS:**

Recent changes in OSHA's Hazard Communication Standard have brought the regulation more in line with international standards with the implementation of the Global Harmonizing System. Implementing the Global Harmonizing System, or GHS, helps ensure improved quality and consistency in the classification and labeling of all chemicals, which in turn improves an employee's ability to quickly understand critical safety information. This program is designed to help employees understand the three key elements of the GHS: Hazard Classification, container labeling and Safety Data Sheets.

Topics include the written Hazard Communication plan, physical and health hazard classes, pictograms, signal words and other information found on GHS container labels and Safety Data Sheets.

**PROGRAM OBJECTIVES:**

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

- What the written hazard communication plan and the Global Harmonizing System are;
- What health and physical hazard classes are;
- What information can be found on GHS chemical container labels;
- What a Safety Data Sheet is and when it should be consulted.

**PROGRAM OUTLINE:**

**BACKGROUND**

- Hazardous chemicals—they are found in more than 7 million workplaces and over 55 million employees handle, use or work around these potentially harmful substances throughout North America.
- Effects from worker exposure to hazardous chemicals can range from mild skin irritation to severe burns to the eyes or skin to death from various types of exposure.
- Because of the dangers presented by hazardous chemicals, The Occupational Safety and Health Administration, OSHA, developed the Hazard Communication Standard, CFR 1910.1200.
- OSHA's regulation requires companies to develop a Hazard Communication Program which communicates the hazards of workplace chemicals to all employees.

**THE WRITTEN HAZARD COMMUNICATION PLAN & THE GLOBAL HARMONIZING SYSTEM**

- Your organization's Hazard Communication Program must include a written plan. This written plan specifies the policies, procedures and essential elements of the Hazard Communication Program such as container labeling, the collection, storage and availability of Safety Data Sheets and a listing of all hazardous chemicals on-site as well as their location.
- The written plan will also detail specific guidelines for the training of employees. For example, employees will receive specific training based on the hazardous chemicals to which they may be exposed.
- The written plan is an important document which all employees have a right to review upon request.
- OSHA's Hazard Communication Standard was first enacted in 1983; however, recent changes have brought the regulation more in line with international standards with the implementation of the Global Harmonizing System, or GHS for short.
- Created by the international community and adopted by the United Nations, the Global Harmonizing System provides a single set of harmonized criteria for classifying chemicals and mixtures according to their health, physical and environmental hazards.

## **HAZARD CLASSIFICATION**

- Hazard Classification is the process of assigning a chemical or mixture to a hazard or danger category based on its health and physical hazards.
- Physical hazards are the properties of a gas, liquid or solid that could adversely affect you or the workplace in a physical way, such as a fire or explosion.
- Health hazards are determined by the properties of a substance or mixture that can cause illness or injury to the skin, eyes, lungs or other organs and body parts.
- Because there are such a large variety of hazardous chemicals, there are also a large variety of physical and health hazards presented by these chemicals.
- To better communicate the specific information needed by chemical workers, the Global Harmonizing System has created multiple classes of hazards. There are 16 classes of physical hazards and 10 classes of health hazards.
- The 16 classes of physical hazards include explosives, flammable gases, aerosols, oxidizing gases, gases under pressure, flammable liquids, flammable solids and self-reactive substances and mixtures.
- Other physical hazard classes include pyrophoric liquids, pyrophoric solids, self-heating substances and mixtures, substances and mixtures emitting flammable gases when contacting water, oxidizing liquids, oxidizing solids, organic peroxides and substances corrosive to metal.
- The 10 classes of health hazards include acute toxicity, skin corrosion and irritation, serious eye damage or eye irritation, respiratory or skin sensitization and germ cell mutagenicity.
- Other health hazard classes include carcinogenicity, reproductive toxicology, specific target organ toxicity from a single exposure, specific target organ toxicity from repeated exposures and aspiration hazard.

## **CONTAINER LABELS**

- Container labels will provide information on the relevant hazard classifications of the chemical. As part of the Global Harmonizing System, chemical manufacturers and importers are required to provide a label that includes a pictogram, harmonized signal word, hazard statements and precautionary statements for each hazard class and category.
- Pictograms are standardized graphics, sometimes called harmonized hazard symbols, which are assigned to a specific hazard class or category. Pictograms on a GHS label may convey health, physical or environmental hazard information.
- Each pictogram is assigned to only one class of hazard. A pictogram will represent either a physical hazard, health hazard or environmental hazard.
- Keep in mind that there is not a unique pictogram for each individual hazard within each class. In other words, one pictogram may be used to represent several hazards within a class.

## **PHYSICAL HAZARD PICTOGRAMS**

- There are five pictograms displayed on GHS labels to represent physical hazards of a chemical.
- The exploding bomb pictogram is used to signify a material as an explosive, unstable explosive organic peroxide or a self-reactive substance or mixture.
- The flame pictogram is used for flammable gases, liquids, solids and aerosols as well as self-reactive substances. It may also indicate a material is an organic peroxide, pyrophoric liquid or solid, a self-heating substance or mixture or emits flammable gases when it makes contact with water.
- The flame over circle, or oxidizer pictogram, appears on a label when a chemical is an oxidizing gas, liquid or solid.
- The gas cylinder pictogram is exhibited when a substance is a compressed, liquefied, refrigerated liquefied or dissolved gas.
- The corrosion pictogram indicates a material is corrosive to metal.

## **HEALTH HAZARD & ENVIRONMENTAL PICTOGRAMS**

- The corrosion pictogram is also used to denote the health hazards of skin corrosion and serious eye damage.
- Besides corrosion, there are three other health hazard pictograms. The skull and crossbones is used when a chemical is acutely toxic to the skin, lungs or digestive system.
- The health hazard pictogram, sometimes called the chronic health hazard pictogram, denotes respiratory sensitization, germ cell mutagenicity, carcinogenicity, reproductive toxicity or an aspiration hazard. It is also used when a substance can cause specific target organ toxicity following a single or repeated exposures.

- The exclamation point pictogram is used for the health hazards of acute toxicity, skin irritation, eye irritation, skin sensitization and specific target organ toxicity following a single exposure in the form of narcotic effects or a respiratory tract infection.
- A third type of pictogram is used to indicate environmental hazards. This single pictogram is used when a substance poses acute or chronic hazards to the aquatic environment.
- Your specific chemical training, as well as your company's written plan, will include an explanation of the pictograms associated with the chemicals in your work environment. This knowledge helps workers quickly identify a chemical's hazards and is the first step to taking proper precautions to work safely.

### **SIGNAL WORDS**

- There are two signal words that appear on GHS container labels. The words "Danger" or "Warning" are used to emphasize hazards and indicate the relative level of severity of the hazard.
- The signal word "Danger" represents a more severe hazard than the signal word "Warning". Only one signal word, corresponding to the class of the most severe hazard, should be used on a chemical label.

### **HAZARD & PRECAUTIONARY STATEMENTS**

- Other standardized communication elements found on GHS container labels are Hazard Statements and Precautionary Statements.
- Hazard Statements are standard phrases assigned to a hazard class and category that concisely describe the nature of the hazard.
- For products which pose more than one risk, an appropriate hazard statement for each GHS hazard will be included on the chemical label.
- Chemical labels will also contain Precautionary Statements. Precautionary Statements are standardized explanations of the measures to be taken to minimize or prevent adverse effects.
- There are five types of precautionary statements for each hazard class: general, prevention, response, storage and disposal.
- Some examples of "Prevention" precautionary statements include "Do not allow contact with water" and "Wear protective gloves."
- Some examples of "Response" precautionary statements include "If on skin wash with plenty of water" and "If inhaled remove person to fresh air."
- Some examples of "Storage" precautionary statements include "Store in well ventilated place" and "Protect from sunlight."
- "Disposal" precautionary statements typically state to "Dispose in accordance to local regulations." Disposal precautions are an area the United Nations plans to further develop in the future.

### **SAFETY DATA SHEETS**

- Required by OSHA's original Hazard Communications Standard, Material Safety Data Sheets have been the comprehensive source of safety information about specific chemicals; unfortunately, these valuable documents came in a wide variety of styles and formats making them hard to read and understand quickly.
- As part of the Globally Harmonized System, they are now called "Safety Data Sheets" and have a uniform format that allows employees to obtain concise, relevant and accurate information more easily.
- Your facility maintains a Safety Data Sheet for every chemical in the workplace as part of its Hazard Communication Program. You should review the SDS before working with any chemical or anytime you have concerns about safety issues.
- Always ask your supervisor if you have any questions about a chemical label or Safety Data Sheet.

### **PERSONAL PROTECTIVE EQUIPMENT**

- Of course, always wear the proper protective equipment specified by the container label or Safety Data Sheet. This often includes wearing gloves, protective clothing and goggles with a face shield.
- Respiratory protection may also be required to avoid breathing in hazardous fumes.
- If you are unsure about the required PPE for any chemical, stop and ask your supervisor.

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**ANSWERS TO THE REVIEW QUIZ**

1. b

2. a

3. a

4. c

5. a

6. d

7. a

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REVIEW QUIZ**

*The following questions are provided to determine how well you understand the information presented in this program.*

Name \_\_\_\_\_ Date \_\_\_\_\_

1. An organization's Hazard Communication Program is not required to have a written plan.
  - a. True
  - b. False
  
2. Skin sensitization is an example of a \_\_\_\_\_ hazard class.
  - a. Health
  - b. Physical
  
3. One pictogram may be used represent several hazards within a class.
  - a. True
  - b. False
  
4. Which pictogram is the only one that is used to indicate either a physical or health hazard?
  - a. Skull and cross bones
  - b. Exclamation point
  - c. Corrosion
  
5. Which signal word on a label represents the more severe hazard?
  - a. Danger
  - b. Warning
  
6. Which type of precautionary statement on a label is to be developed further by the United Nations in the future?
  - a. Prevention
  - b. Response
  - c. Storage
  - d. Disposal
  
7. Your facility maintains a Safety Data Sheet for every hazardous chemical in the workplace.
  - a. True
  - b. False