Globally Harmonized System: Labeling & Safety Data Sheets

Leader's Guide & Quiz

Item Number: 4253

Globally Harmonized System (GHS) and the OSHA Hazard Communication Standard

The Occupational Safety and Health Administration (OSHA) established the first Hazard Communication Standard (HCS), 29 CFR 1920.1200 in 1986. This standard was created to provide an information system on hazardous chemicals for both employers and employees.

This standard was modified in 2012 to adopt the Globally Harmonized System (GHS) to improve safety and health of workers through more effective communications on chemical hazards. Modifications were made to 29 CFR Parts 1910, 1915, 1917, 1918, and 1926.

The GHS is an international approach to hazard communication. It provides criteria for classification of chemical hazards and a standardized approach to label elements and safety data sheets. Many different countries have adopted the GHS including Canada, the European Union, China, Australia and Japan.

The GHS is expected to prevent injuries and illnesses, save lives and improve trade conditions for chemical manufacturers. While the original HCS gave workers the "right to know" the GHS gives workers the "right to understand."

Major changes to the HCS:

- **Hazard classification:** Chemical manufacturers and importers are required to determine the hazards of the chemicals they produce or import. Hazard classification under the GHS 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 the product identifier, a signal word, hazard statements, pictograms and precautionary statements for each hazard class and category.
- **Safety Data Sheets:** The GHS format requires 16 specific sections, ensuring consistency in presentation of important protection information.

Information and training: To facilitate understanding of the new system, the modified 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.

Program Presentation

The following information will help you present an effective training session. You may choose to present the program in a different format, but keep in mind that these instructions do help achieve specific learning objectives.

Writing key terms and their definitions on flipcharts before each session begins can be helpful. There is a Glossary of Terms later in this Instructor Guide. Writing participants' responses to questions on a whiteboard or flipchart is also helpful. This lets participants see as well as hear important information.

Encourage employees to take an active role in their learning. This will help keep the session interesting, increase participants' ability to retain and use the information presented and allow you to check their understanding.

Learning Objectives

After completing both the Chemical Labeling program and the Safety Data Sheet programs, participants will be able to:

- Identify key safety information that can be found on a Chemical Label and on a Safety Data Sheet
- Describe the five elements of a label
- Name the pictograms found on a label
- Recognize the most important parts of the Safety Data Sheet

Final Preparation

Here are some final steps to help you prepare for conducting the training session:

1. Reconfirm the location.
2. Prepare all materials, and test the TV, DVD, computer and projection equipment at least 1 hour before the session just in case you have any last-minute maintenance issues.
3. Have the words "Chemical Labeling" or "Safety Data Sheets" displayed on a flipchart or slide to help participants understand the training topic.
4. Display the session agenda on a flipchart or slide to help participants follow along.

GHS Labeling Learning Exercise

Directions: Answer each of the following questions by circling "True or False".

True   False   1.   The Globally Harmonized System is a United Nations effort to have common ways to describe chemicals and how to use them safely.

True   False   2.   Chemical labels that are part of the Globally Harmonized System include a product identifier, signal word, hazard statement, pictogram and precautionary statement.

True   False   3.   Globally Harmonized System labels look very different from the labels that are on most chemical products now.

True   False   4.   A hazard statement and a precautionary statement are the same.

True   False   5.   There are only two signal words: Warning and Danger.

True   False   6.   The four parts of the Precautionary Statement include information on Prevention, Response, Storage and Disposal.

True   False   7.   When you see a pictogram with the skull and crossbones symbol you know that this product is likely to explode.

True   False   8.   The pictogram that has the exclamation mark means that this product will harm the environment.

True   False   9.   The flammables and oxidizers pictograms look very similar. The oxidizer pictogram is easy to spot because it has the letter O underneath the flame.

True   False   10. When the Health Hazard pictogram is on the label, the product could cause cancer, breathing problems and mutagenicity.

True   False   11. A chemical label can have one or more pictograms on it.

True   False   12. A chemical label does not need to have a 24-hour emergency phone number on it.

True   False   13. As long as the label has the Signal Word on it, it doesn't need to have a pictogram too.

True   False   14. It is important to always read the label on a product, even if you have used the product many times before.

True   False   15. After reading a label you should be able to work with the product safely.

Name	
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Employee ID#	
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Instructor	

GHS Labeling Learning Exercise Answers

True		1.	The Globally Harmonized System is a United Nations effort to have common ways to describe chemicals and how to use them safely.
True		2.	Chemical labels that are part of the Globally Harmonized System include a product identifier, signal word, hazard statement, pictogram and precautionary statement.
	False	3.	Globally Harmonized System labels look very different from the labels that are on most chemical products now.
	False	4.	A hazard statement and a precautionary statement are the same.
True		5.	There are only two signal words: Warning and Danger.
True		6.	The four parts of the Precautionary Statement include information on Prevention, Response, Storage and Disposal.
	False	7.	When you see a pictogram with the skull and crossbones symbol you know that this product is likely to explode.
	False	8.	The pictogram that has the exclamation mark means that this product will harm the environment.
True		9.	The flammables and oxidizers pictograms look very similar. The oxidizer pictogram is easy to spot because it has the letter O underneath the flame.
True		10.	When the Health Hazard pictogram is on the label, the product could cause cancer, breathing difficulties, asthma, birth defects and mutagenicity.
True		11.	A chemical label can have one or more pictograms on it.
	False	12.	A chemical label does not need to have a 24-hour emergency phone number on it.
	False	13.	As long as the label has the Signal Word on it, it doesn't need to have a pictogram too.
True		14.	It is important to always read the label on a product, even if you have used the product many times before.
True		15.	After reading a label you should be able to work with the product safely.

Safety Data Sheets Learning Exercise

Directions: Answer each of the following questions by circling "True or False".

True   False   1.   Safety Data Sheets are changing to conform with the Globally Harmonized System.

True   False   2.   There are eight (8) sections on the Safety Data Sheet.

True   False   3.   Only supervisors have access to Safety Data Sheets.

True   False   4.   The information on the Safety Data Sheet offers more detailed information than what is shown on the product label.

True   False   5.   Section 1 gives the product and includes the product name, part number, CAS number, common product names, description, uses, supplier identification and emergency number.

True   False   6.   The Signal Word and Hazard Pictograms are part of Section 2: Hazard Identification.

True   False   7.   The Safety Data Sheet does not provide information on First-Aid Measures. That information is only included on the product label.

True   False   8.   If there is a spill or leak of a chemical, Section 6: Accidental Release Measures of the Safety Data Sheet provides the information needed on what emergency procedures to follow.

True   False   9.   Personal Protective Equipment information is not included anywhere on the Safety Data Sheet.

True   False   10. Section 9: Physical & Chemical Properties provides information on four important properties to know. These are Vapor Density, Flashpoint, Explosive Limit Range and pH.

True   False   11. Chemicals can become unstable and cause dangerous reactions. Stability & Reactivity data is included on the Safety Data Sheet.

True   False   12. Safety Data Sheets never include ecological information or environmental hazard information.

True   False   13. Safety Data Sheets provide information on how to safely dispose, recycle and reclaim chemicals that are no longer needed.

True   False   14. Reading the Safety Data Sheet is not mandatory, but it is a good idea whenever you work with a chemical for the first time.

True   False   15. Important safety information that can't fit on the label can usually be found on the Safety Data Sheet.

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Safety Data Sheets Learning Exercise Answers

True	1.	Safety Data Sheets are changing to conform to the Globally Harmonized System.
False	2.	There are eight (8) sections on the Safety Data Sheet.
False	3.	Only supervisors have access to Safety Data Sheets.
True	4.	The information on the Safety Data Sheet offers more detailed information than what is shown on the product label.
True	5.	Section 1 gives the product and includes the product name, part number, CAS number, common product names, description, uses, supplier identification and emergency number.
True	6.	The Signal Word and Hazard Pictograms are part of Section 2: Hazard Identification.
False	7.	The Safety Data Sheet does not provide information on First-Aid Measures. That information is only included on the product label.
True	8.	If there is a spill or leak of a chemical, Section 6: Accidental Release Measures of the Safety Data Sheet provides the information needed on what emergency procedures to follow.
False	9.	Personal Protective Equipment information is not included anywhere on the Safety Data Sheet.
True	10.	Section 9: Physical & Chemical Properties provides information on four important properties to know. These are Vapor Density, Flashpoint, Explosive Limit Range and pH.
True	11.	Chemicals can become unstable and cause dangerous reactions. Stability & Reactivity data is included on the Safety Data Sheet.
False	12.	Safety Data Sheets never include ecological information or environmental hazard information.
True	13.	Safety Data Sheets provide information on how to safely dispose, recycle and reclaim chemicals that are no longer needed.
True	14.	Reading the Safety Data Sheet is not mandatory, but it is a good idea whenever you work with a chemical for the first time.
True	15.	Important safety information that can't fit on the label can usually be found on the Safety Data Sheet.

Glossary of Terms

GHS: Acronym for the Globally Harmonized System.

Globally Harmonized System: The Globally Harmonized System (GHS) is an international approach to hazard communication, providing agreed criteria for classification of chemical hazards, and a standardized approach to label elements and Safety Data Sheets.

Hazard Classification: Specific criteria for classification of health and physical hazards as well as classification of mixtures to help ensure that evaluations of hazardous effects are consistent across manufacturers, and that labels and Safety Data Sheets are more accurate.

Hazard Statement: A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical including the degree of hazard when necessary.

Pictogram: A symbol within in a red diamond-shaped border that conveys specific information about the chemical. There are nine pictograms under GHS.

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

Safety Data Sheets: Safety Data Sheets provide detailed information on chemical products. Safety Data Sheets have a specified 16-section format that is the same as the ANSI standard format which is widely used in the U.S. and is already familiar to many workers.

Signal Words: A single word used on the label to indicate the relative level of hazard. There are only two signal words, "Danger" and "Warning". Danger is used for the more severe hazards, while Warning is used for less severe hazards.

Hazard Communication Training Record

Facility	Department		Date
Employee Name & **Employee Identification Number** *(Please print)*	**Job Title** *(Please print)*		**Employee** **Signature**
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Name: **ID:**			
Signature Of Trainer			