

GHS CONTAINER LABELS **IN TRANSPORTATION AND** **WAREHOUSE ENVIRONMENTS**

COURSE OUTLINE

- **The “first step” in avoiding any hazard is being aware of it.**
 - That’s where “hazard communication” comes in.
 - It involves what information is provided about a hazard, as well as how it is communicated.
- **Hazardous materials (HAZMATs) can present a number of unique hazards.**
 - That’s why one thing OSHA’s Hazard Communication Standard focuses on is how workers receive this “hazard information”.
- **These details must be provided by the companies that supply the hazardous materials, as well as companies with employees who handle them.**
- **Under the Standard, information is communicated through the use of...**
 - HAZMAT container labels.
 - Safety Data Sheets that are provided for each substance.
 - The written Hazard Communication Program that each employer creates for their facility.
- **The original HAZCOM Standard was "performance based".**
 - So it described what HAZMAT suppliers and employers needed to do and let them decide how to do it.
- **For example, OSHA told HAZMAT suppliers what information should appear on container labels.**
 - Then they let the individual companies come up with their own systems for presenting that information.

- **As a result, a number of different labeling systems were developed for use on HAZMAT containers.**
 - This meant that an employee might have to remember how several labeling systems work.
 - As a result, they could have trouble getting important information from a label that used a system that they weren't familiar with.
 - This could be extremely dangerous... especially in an emergency.
- **In order to keep everyone in a facility and a vehicle safe, all workers who handle hazardous materials need to be able to get information about them quickly and easily.**
 - To accomplish this, OSHA needed a standard system for presenting that information on the container labels and other documentation that is required under the Hazard Communication Standard.
- **So the Globally Harmonized System or ("GHS"), which was created by the United Nations, was integrated into the HAZCOM Standard in 2012.**
 - This system helps people anywhere in the world get accurate information about hazardous materials... regardless of the language they speak.
- **The system standardizes...**
 - How materials are classified.
 - How their hazards and safety precautions are described.
 - How this information is presented.
- **This way, all workers can find the information they need... even under pressure.**
- **The GHS begins this process of standardizing HAZMAT information by dividing materials into "Hazard Classes" that are represented by nine different "pictograms".**
 - These images help a container label communicate hazard information at a glance.
- **GHS container labels also use text elements to convey five specific types of information about a material, including its...**
 - Name.
 - Signal Word.
 - Hazard Statement.
 - Precautionary information.
 - The name and contact information of its supplier.

- **The Globally Harmonized System also recommends how these elements should be positioned on the label.**
 - This is so that an employee always knows just where to look to find the information they want.
- **Under the Hazard Communication Standard, GHS-compliant labels must be displayed on almost all HAZMAT containers. But there are some unique considerations for...**
 - "In-house" containers.
 - Small containers (100 ml or less).
 - Containers that are part of bulk shipments.
- **"In-house" containers are secondary containers that will never leave the workplace.**
 - While in-house labels do not have to follow the GHS format, they do have to display all of the information that is required by the system.
- **Another issue is that GHS-compliant labels might not fit on small containers that are 100ml or less.**
 - So OSHA states that if a manufacturer can demonstrate that they can't use a label that contains all of the required information due to the size of a product that they produce, they may provide less information on the label than is normally required.
- **And if those manufacturers have any containers that are 3ml or less, they don't have to have a label on the container at all.**
 - But any container without a full label must have all the required information on its box or other outer package.
- **As for materials that are a part of bulk shipments, if it is more practical than affixing labels to the containers themselves OSHA allows their labels to be transmitted through...**
 - Shipping papers.
 - Bills of lading.
 - Electronic means.
- **When the United Nations created the "Globally Harmonized System of Classification and Labeling of Chemicals", they faced a serious challenge...**
 - How to explain the types of hazards that are associated with different materials to people from diverse cultural backgrounds, who also speak different languages.

- **The U.N.'s solution was simple. They used pictures.**
 - These images are called pictograms.
 - They represent the hazards that are associated with the material that is inside a container.
- **There are nine pictograms within the Globally Harmonized System. They describe important information about...**
 - A material's physical properties.
 - Its health effects.
 - How it can affect the environment.
- **These pictograms are the main "visual" elements on a GHS container label and help communicate a material's hazards at a glance.**
- **The health hazard pictogram is an image of a person's upper body with a "star" inside it. It indicates that a chemical's hazards may include...**
 - The potential to cause cancer.
 - Reproductive, target organ or aspiration toxicity.
 - Respiratory sensitivity.
- **The flame pictogram on a label indicates that the chemical is...**
 - Flammable or pyrophoric.
 - Self-heating or self-reactive.
 - A type of organic peroxide.
 - Or that it emits a flammable gas.
- **Another pictogram you need to know about is the exclamation point, which indicates that the chemical may...**
 - Be harmful to humans.
 - Be a sensitizer or irritant to the skin, eyes or respiratory tract.
 - Have narcotic effects.
 - Be hazardous to the ozone layer.
- **An image of a gas cylinder on a label indicates that the chemical is a "gas under pressure".**
 - That means if it is mishandled it can release chemicals into the air.
 - Which could result in health or fire hazards.

- **You could also see the image of test tubes dripping a liquid on a bar of metal and a hand on a label.**
 - That means that the chemical can be corrosive to metals and can cause injuries to the skin and eyes as well.
- **An image of an "explosion" shows that the substance is...**
 - Explosive.
 - "Self-reactive".
 - Or another type of organic peroxide.
- **A picture of a flame over a circle indicates that the chemical is an oxidizer.**
 - That means it can cause other materials to burn more intensely.
- **The image of a dead tree and fish means that the chemical is hazardous to the environment and can harm living things in the water.**
- **One of the most serious hazard classifications is “acute toxicity”.**
 - That means that exposure can cause a significant illness or even death.
 - It is represented by the "skull and crossbones" pictogram.
- **If you are transporting hazardous materials, you might see the Department of Transportation’s HAZMAT pictograms displayed in addition to the GHS ones.**
- **While they may appear similar to GHS pictograms, there are several ways to differentiate them. DOT pictograms...**
 - Show hazard classes broken down into a numbered system.
 - Have designated colors for each class of hazards.
 - Are placed on the outside of trucks and shipping containers, rather than on the smaller containers inside.
- **In the past, OSHA had been concerned that the combination of DOT and GHS pictograms would be confusing.**
 - But they eventually decided that since both types of labels provide valuable hazard information, this was really not a problem, even if some of the information is redundant.
- **Many dense pages of technical text could be written about any single hazardous material.**
 - But all of that data isn't very useful to someone who works with a HAZMAT and needs information about it quickly.

- **That is why the Globally Harmonized System standardizes the classification and description of hazardous materials.**
 - It also summarizes this information so that it can be communicated accurately and efficiently, even in an emergency situation.
- **GHS container labels use five text elements to describe a material's physical properties and hazards, as well as the precautions that should be taken when handling it.**
 - The GHS does not require the text elements on container labels to appear in a specific format.
 - But the system does recommend a certain order and position for them.
- **The material's name as it appears on its Safety Data Sheet should be at the top of the label.**
 - The GHS calls this information the product/chemical identifier.
- **The next element is the chemical's “Signal Word”.**
 - It indicates the relative severity of the chemical's hazards.
 - The two standard Signal Words used by the GHS system are "Warning" (hazardous) and "Danger" (very hazardous).
- **Another text element on a GHS label is the “Hazard Statement.”**
 - Based on a material's Hazard Class and category, these phrases describe the nature and severity of its hazards.
- **While there are many different Hazard Statements in the Globally Harmonized System, they have been standardized as much as possible.**
- **Commonly used GHS Hazard Statements include phrases such as...**
 - "May be harmful if swallowed".
 - "Causes severe skin burns and eye damage".
 - “Suspected of causing cancer”.
- **Occasionally, manufacturers will discover that a material has new hazards after it has been shipped.**
 - In these cases they are not responsible for the labels of chemicals that are already in the stream of commerce.
 - But OSHA does require manufacturers to revise their labels for all future shipments of that product within six months.

- **If employers are made aware of these new hazards, they must share that information with workers who are handling the chemicals, even if the information is not yet included on the label.**
- **If a manufacturer learns about new hazards after chemicals have been packed and labeled, but are not yet shipped, they do not have to relabel the packages themselves.**
 - But they do have to send updated labels along with them.
- **Appearing next on the label is the chemical's precautionary statement.**
 - This is usually the largest block of text on the label.
 - GHS precautionary statements follow a standard form as well.
- **There are two parts...**
 - The “if statement”.
 - The “medical response”.
- **For example, a statement that starts with “If inhaled” would be the “if statement”.**
 - and the “medical response” that follows would read “... immediately call a poison control center”.
- **But if there are too many precautionary statements on one label, the words can appear “jumbled” and hard to understand.**
 - Especially if you’re trying to read them in an emergency.
 - So for hazards that have similar routes of exposure or health advisories, labels only need one precautionary statement.
- **For example, if both the inhaling and touching of a substance were to trigger the same “seek medical advice” instruction, OSHA allows the precautionary statements to be combined.**
 - So the statement would be, “If inhaled or on the skin, seek medical advice.”
- **Similarly, if a hazard has two classifications that involve the same route of entry but different medical responses, the manufacturer could combine them and use the more urgent medical statement.**
- **The last element of a GHS label is the supplier identifier.**
 - It includes the name, address and telephone number of the company that produced or distributed the chemical.

*** * * SUMMARY * * ***

- **OSHA's Hazard Communication Standard ensures that employees are provided with the information that they need about the hazardous materials they work with. Some of this information is provided through container labels.**
- **Container labels are formatted according to the guidelines set in the Globally Harmonized System (GHS), so all of the information is consistent and clear.**
- **Under the GHS system, there are nine pictograms that can appear on a HAZMAT label. Each of them represents unique risks and hazards.**
- **The text elements of a GHS label include a product identifier, signal word, hazard statement, supplier identifier and precautionary statement.**
- **Now that you know what information is on GHS labels, how to find it, and how to interpret it, you can stay better informed about the hazardous materials you're working with... which helps you to prevent accidents and keep yourself, your coworkers and your community safe!**