

## **PRESENTER'S GUIDE**

# **"GHS SAFETY DATA SHEETS IN CONSTRUCTION ENVIRONMENTS"**

**Part of the Construction Safety Kit Series**

# **OUTLINE OF MAJOR PROGRAM POINTS**

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The following outline summarizes the major points of information presented in the program. The outline can be used to review the program before conducting a classroom session, as well as in preparing to lead a class discussion about the program.

- **In 1983, OSHA created the Hazard Communication Standard, which gives you the "right to know" about any potentially hazardous materials, or "HAZMATs", that you could encounter on the job.**
- **This "HAZCOM Standard" also ensures that you will have the information and training that you need to handle HAZMATs safely.**
  - One of the main sources of information about HAZMATs are GHS Safety Data Sheets.
- **The more you know about a hazardous material, the more safely you can work with it.**
- **Information you should be aware of includes:**
  - What a material is and what its hazards are.
  - What procedures you should follow when handling and storing it.
  - What you should do if there's an emergency involving the material.
- **You can get all this information and more from a material's Safety Data Sheet (SDS).**
  - Under the Hazard Communication Standard, HAZMAT producers and distributors are required to provide Safety Data Sheets for each of their products.
  - Companies that handle hazardous materials should keep their SDS's in a central location, for easy reference.

- **The information that Safety Data Sheets contain, and the way they present that information, is done according to the Globally Harmonized System of Classification and Labelling of Chemicals.**
  - Called "GHS" for short, the Globally Harmonized System was established by the United Nations to help people anywhere in the world get accurate information about hazardous materials regardless of what language they speak.
- **GHS accomplishes this by standardizing:**
  - How materials are classified.
  - How their hazards and safety precautions are described.
  - How those facts are conveyed.
- **The system uses illustrations called "pictograms" to indicate a material's hazards.**
- **GHS Safety Data Sheets organize HAZMAT information about a material into 16 numbered sections, which always appear in the same order.**
  - Data that's likely to be needed in a hurry, such as a material's name, composition, hazards, safety precautions and emergency procedures, is presented in the first six sections.
  - Information on safe handling and storage procedures is located in the middle of the SDS, followed by more specialized, technical information toward the end.
- **All of the data in GHS Safety Data Sheets is presented using clear, non-technical language and standard phrasing, so it's easy for people who work with HAZMATs to get the information they need, when they need it!**

- **Being able to get the information that you need about the HAZMATs you work with is not just a matter of convenience.**
  - It can be vital to preventing accidents, injuries and even fatalities, not only in your workplace, but in the surrounding community as well.
- **So GHS Safety Data Sheets follow a "first things first" approach to presenting HAZMAT information, making it easy to find and use, even when you're in a hurry.**
- **The first three sections of a Data Sheet answer the questions, "What is this material?" and "What are its hazards?".**
- **Section 1 is Product Identification.**
  - This includes a chemical's official name, which GHS calls the "product identifier", as well as any other chemical or trade names by which the substance is known.
  - It gives the name and contact information of the company that supplied the material, and includes a 24-hour emergency telephone number as well.
- **Section 2, Hazard Identification, provides information on a material's hazards, including:**
  - Its hazard pictogram.
  - Its hazard classification (such as "flammable solid", "self-reactive substance" or "gas under pressure").
  - Its hazard statement (such as "heating may cause fire", "harmful if inhaled" and "may cause cancer").
  - Its signal word, which will be either "Warning" or "Danger", depending on how hazardous the substance is.

- **The Hazard Identification section also describes safety precautions that should be used when working with the material, such as:**
  - "Keep away from heat".
  - "Do not breathe vapor".
  - "Wear protective gloves".
  
- **As you can see, one objective of the GHS systems is to make HAZMAT information as "user-friendly" as possible, by presenting it in plain language).**
  
- **The third section of a GHS Safe Data Sheet provides technical details about a material's composition, including information about any other chemicals that it contains.**
  - This can be particularly important when a substance is a mixture of other ingredients.
  
- **Section 3 also includes:**
  - The material's common name and synonyms.
  - Its Chemical Abstracts Service (CAS) number.
  - Any other unique identifiers.
  
- **Even when we do our best to handle hazardous materials carefully, wearing appropriate protective equipment and following safe practices, it's still possible for things to go wrong.**
  - If accidents happen, we need to be prepared for them.
  
- **So sections 4, 5 and 6 of GHS Safety Data Sheets contain information on how to handle different types of HAZMAT emergencies.**
  
- **For example, if someone has been exposed to a hazardous material, you should turn to Section 4 for information on first aid measures.**
  - It is organized according to how the victim was exposed (by inhaling the substance, through skin contact or swallowing it).

- **This section includes instructions such as:**
  - "Provide artificial respiration".
  - "Do not induce vomiting".
  - "Rinse skin gently using soap and water for 15 to 20 minutes".
- **It will also tell you whether the victim will require emergency medical assistance.**
- **If a HAZMAT is involved in a fire, Section 5 of its SDS provides detailed information on the firefighting measures that should be used with it. This includes:**
  - Which extinguishing agents are appropriate for the substance, and which are not.
  - Any new hazards that the material can create when it burns, such as toxic smoke.
- **Section 5 also describes the precautions, procedures and protective equipment that professional firefighters should use when extinguishing a fire that involves the HAZMAT.**
- **Accidental release measures are addressed in Section 6 of a GHS Safety Data Sheet. This section describes:**
  - Emergency procedures and safety precautions that should be taken in the event of a spill or leak.
  - Methods, materials and equipment that should be used to contain/clean up the substance.
- **Instructions in this section could include:**
  - "Ventilate the area".
  - "Wear protective eyewear, gloves and clothing".
  - "Dam and absorb spillage with sand, earth or other non-combustible material".

- **To provide easy access to the data you need most urgently, GHS Safety Data Sheets present HAZMAT information in "priority" order.**
  - So the first six sections of an SDS tell you what you'll want to know in a crisis, when every second counts.
  
- **The information in SDS Sections 7 through 10 is important because it describes the safe handling practices that can prevent HAZMAT emergencies.**
  
- **Section 7, Handling and Storage, includes precautions that you should take when working with a substance, as well as the conditions that it requires to be stored safely.**
  
- **This section can contain instructions such as:**
  - "Avoid contact with skin, eyes and clothing".
  - "Keep away from ignition sources".
  - "Store in a cool location".
  - "Keep away from combustible material".
  
- **Section 8, Exposure Controls and Personal Protection, provides details about engineering controls and personal protective equipment (PPE) that should be used with a material.**
  
- **"Engineering controls" are mechanical safety devices that are incorporated into a facility to help to prevent HAZMAT exposure.**
  - They can include things like ventilation systems, gas detectors, eye wash stations and safety showers.
  
- **Rubber gloves, goggles, face shields, aprons and a variety of respirators might be listed as required PPE.**
  
- **Section 8 of an SDS also specifies how much exposure to a material is safe, and how much is too much.**
  - These benchmarks are known as Permissible Exposure Limits (PELs) and Threshold Limit Values (TLVs).



- **Section 9 of an SDS lists a material's physical and chemical properties.**
  - Some of this information, such as what the substance looks and smells like, can help employees who don't typically work with a material tell whether an accidental release has occurred.
  - Data such as the temperatures at which a material melts or boils and its flashpoint can assist safety specialists in creating the controls and procedures that allow employees to work with the substance safely.
- **Section 10 of an SDS contains information on a material's stability and reactivity.**
  - This data can be very important in ensuring that the material is handled safely.
  - Substances that are unstable or are highly reactive may explode or undergo uncontrolled chemical reactions under certain conditions, or when combined with other incompatible chemicals.
- **Most people who use GHS Safety Data Sheets want user-friendly HAZMAT information that's presented in clear, non-technical language.**
- **But SDS users such as supervisors, environmental managers and industrial hygienists need to know specific technical details.**
  - Many of these can be found in Sections 11 through 16 of an SDS.
- **Section 11, Toxicological Information, focuses on the adverse effects that a hazardous substance can have on living things. This data includes:**
  - How toxic a substance is.
  - How it can get into the body.
  - The symptoms of exposure.
  - The effects that it can have.

- **Section 12, Ecological Information, discusses the environmental impact a chemical can have after a spill or leak. It describes:**
  - How the material behaves when it is released into the earth, air and water.
  - How long it can remain in these elements.
  - What effects it can have on plants, wildlife and other aspects of the environment.
- **Section 13, Disposal Considerations, explains how a material can affect the spill cleanup process, such as needing to use "non-sparking" tools, and precautions that should be taken when disposing of it.**
- **Section 14, Transport Information, provides data that is required when a material is being transported, including its:**
  - Proper name.
  - UN number.
  - Hazard categories.
  - Safety precautions.
- **Section 15, Regulatory Information, lists any safety, health, and environmental regulations that apply to a product that have not been listed anywhere else on the SDS.**
- **And Section 16, Other Information, contains:**
  - Data about a substance that doesn't belong in any of the previous sections.
  - Specific information on how and when the SDS itself was prepared and revised.

**\* \* \* SUMMARY \* \* \***

- **OSHA's Hazard Communication Standard requires HAZMAT suppliers to provide Safety Data Sheets with each of their products.**

- **Safety Data Sheets contain information on a material's identity, its hazards, the safety precautions that should be followed when handling and storing it, and how to respond in case of an emergency.**
- **To make SDS data easy to find and use, it follows organizational guidelines established by the U.N.'s Globally Harmonized System (GHS).**
- **The GHS system both standardizes and summarizes HAZMAT information, presenting it in plain language, in "priority" order.**
- **Now that you understand how you can use GHS Safety Data Sheets to find the information that you need about HAZMATs, you can help to keep yourself, your coworkers and your community safe from hazardous materials... every day!**