# GHS SAFETY DATA SHEETS IN HEALTHCARE ENVIRONMENTS

## COURSE OUTLINE

- **When you don't know enough about a material that you're working with or its hazards, there is a greater chance that you will injure yourself or your coworkers.**
  - And if there is a spill or accidental exposure, knowing the emergency procedures that you should follow can be the difference between a speedy recovery and a life-altering injury.

- **For any material that you work with you should know…**
  - Exactly what the 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.

- **Conveniently, you can find all this information and more in one place.**
  - It's the material's Safety Data Sheet (SDS).

- **Under OSHA's Hazard Communication Standard, HAZMAT producers and distributors are required to provide Safety Data Sheets for each of their products.**

- **The "Globally Harmonized System of Classification and Labeling of Chemicals dictates…**
  - The information that Safety Data Sheets contain.
  - The way they present that information.

- **This system, which is called "GHS" for short, was established by the United Nations.**
  - It helps people anywhere in the world get accurate information about hazardous materials regardless of what language they speak.

- **It accomplishes this by standardizing…**
  - How materials are classified.
  - How their hazards and safety precautions are described.
  - How those facts are conveyed.
  - How pictograms are used 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 as well as 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.**
  - This is so it's easy for people who work with HAZMATs to get the information they need… when they need it!

- **Facilities that use or handle hazardous materials should keep their SDSs in a central location.**
  - That way, all workers have easy access to them.
  - In some cases, facilities may store Safety Data Sheets in a way that covers groups of hazardous chemicals that are used in a work area or a “process”.

- **When you are around HAZMATs on the job, you want to be able to access the information about how to work with them safely quickly and easily.**
  - So GHS Safety Data Sheets follow a "first things first" approach to presenting HAZMAT information.
  - That makes it easy to find and use, even when you're in a hurry.

- **The first three sections of an SDS answer the questions…**
  - What is this material?
  - What are its hazards?

- **Section 1 is “Product Identification”. This includes…**
  - A chemical's "official" name, which the GHS calls the “product identifier”.
  - Any other chemical or trade names by which the substance is known.
  - The name and contact information of the company that supplied the material.
  - A 24-hour emergency telephone number.

- **Section 2, “Hazard Identification”, provides information on a material's hazards, including its…**
  - “Hazard Classification” (such as “flammable solid”).
  - “Hazard Statement” (such as "harmful if inhaled").
  - Its “Signal Word” (which will be either "Warning" or "Danger", depending on how hazardous the substance is).
  - “Pictogram” with symbols depicting its hazards.

- **Section 2 also describes safety precautions that should be used while you’re 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 system is to make HAZMAT information as "user-friendly" as possible, by presenting it in plain language.**

- **The third section of a GHS Safety Data Sheet provides technical details about a material's composition.**
  - This includes information about any other chemicals that it contains.
  - This can be particularly important when a substance is a mixture of a number of ingredients.

- **One thing to note is that some manufacturers want to avoid listing the exact quantities of their ingredients, to protect their “trade secrets”.**
  - So OSHA allows manufacturers to provide a “prescriptive range” in Section 3 for the quantities of the ingredients that make up the material.
  - This helps companies protect their product formulations while still making sure workers are getting the information that they need to work with it safely.

- **OSHA helps them with this by providing a list of ranges they can use, such as…**
  - 0.1%-1%
  - 5%-10%
  - 30%-60%
  - 80%-100%
  - As well as narrower ranges OSHA has developed.

- **Manufacturers can also use their own ranges, as long as they are more narrow than those that are on OSHA’s list.**

- **Section 3 also includes:**
  - The material's common name and any synonyms it has.
  - Its Chemical Abstracts Service (CAS) number.
  - Any other unique identifiers.

- **No one wants to think that they will be involved in a HAZMAT emergency.**
  - But the fact is, they do happen.
  - Being prepared is the best way to combat them and control the damage that can result.

- **That's why sections 4, 5 and 6 of a GHS Safety Data Sheet contain information on how to handle different types of HAZMAT emergencies for the material.**
  - For example, if someone has been exposed to a hazardous material, you should turn to Section 4 for information on first aid measures.

- **The directions are organized according to how the victim was exposed.**
  - This could be from inhaling the substance, swallowing it, or through skin contact.
  - 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 what extinguishing agents are appropriate for the substance, and which are not.
  - It also offers information regarding any new hazards that the material can create when it burns, such as toxic smoke.

- **Lastly, Section 5 describes the precautions, procedures and protective equipment that professional firefighters should use when extinguishing a fire that involves the HAZMAT.**

- **When a HAZMAT is spilled or leaked, you'll want to go to Section 6 of its GHS Safety Data Sheet, which discusses "accidental release measures".**
  - In addition to emergency procedures and the safety precautions that should be taken in the event of a spill or leak, this section describes the methods, materials and equipment that should be used to contain and clean up the substance.

- **The instructions in this section can include things such as…**
  - "Ventilate the area".
  - "Wear protective eyewear, gloves and clothing".
  - "Dam and absorb spillage with sand, earth or other non-combustible materials".

- **To provide easy access to the data you need most urgently, GHS Safety Data Sheets present HAZMAT information in "priority" order.**
  - The first six sections of an SDS tell you what you'll want to know in a crisis, when every second counts.

- **The best way to "steer clear" of HAZMAT injuries is by preventing emergencies from happening in the first place.**
  - So the information in SDS sections 7-10 describes the safe handling practices that can help you to avoid HAZMAT exposure incidents and spills.

- **For instance, section 7 is titled "Handling and Storage", and includes…**
  - The precautions that you should take when working with a substance.
  - The conditions that it requires to be stored safely.

- **This section can include warnings 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 is titled "Exposure Controls and Personal Protection".**
  - It provides details about engineering controls and personal protective equipment (PPE) that you should use when you're working with a material.

- **"Engineering Controls" are mechanical safety devices that are incorporated into a workplace to help prevent HAZMAT exposure.**
  - They can include things like ventilation systems, gas detectors, safety showers and eye wash stations.

- **The personal protective equipment information may state that working with some materials might mean you have to wear PPE such as…**
  - Rubber gloves.
  - Goggles.
  - Face shields.
  - A respirator.

- **Section 8 of an SDS also specifies how much exposure to a material is safe and at what level it becomes dangerous.**
  - 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 are unfamiliar with a material tell whether an accidental release has occurred.

- **Other data in this section is there to help safety specialists create the controls and procedures that allow employees to work with the substance safely, including…**
  - The temperature at which a material melts or boils. Its flashpoint.

- **Section 10 of an SDS contains information on a material's stability and reactivity, which can be very important in ensuring that the material is handled safely.**
  - Substances that are unstable or highly reactive may explode or undergo uncontrolled chemical reactions under certain conditions, or when they are combined with other incompatible chemicals.

- **Most people who use GHS Safety Data Sheets want HAZMAT information that is "user-friendly" and is presented in clear, non-technical language.**
  - But other SDS users, including supervisors and environmental managers… need to know specific technical details about a material.

- **To find these, they can look in Sections 11 through 16 of an SDS.**
  - For instance, 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 acute and chronic effects that it can have… including its potential to cause cancer.

- **Section 12, "Ecological Information", discusses the environmental impact a chemical can have if it leaks or spills. 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 should be cleaned up, as well as the precautions that should be taken when disposing of it.**
  - For example, if a material is flammable it might need to be cleaned up using "non-sparking" tools.

- **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 is titled "Regulatory Information".**
  - It lists any additional safety, health, and environmental regulations that apply to a product that have not been listed anywhere else on the SDS.

- **Section 16, "Other Information", contains data about a substance that doesn't fit into any of the previous sections, as well as specific information on how and when the SDS itself was prepared and revised.**

*** * * SUMMARY * * ***

- **OSHA's Hazard Communication Standard protects employees' "right-to-know" about the HAZMATs they work with. One of its main components is the creation and use of Safety Data Sheets.**

- **Workers can use Safety Data Sheets to learn about a material's characteristics, how to work with it safely and what to do in an emergency involving it.**

- **All SDS's must follow the 16-section format that was established by the U.N.'s Globally Harmonized System (GHS).**

- **Sections 1-3 of an SDS give basic information about what the material is, its ingredients and how to identify it.**

- **Sections 4-6 of an SDS describe emergency response measures that workers should take if there is a spill or accidental exposure.**

- **Sections 7-10 of SDS's set out the safe work practices and the personal protective equipment that workers should use to work safely with the HAZMATs in their workplace.**

- **Sections 11-16 of an SDS give people like supervisors and environmental managers technical information about a material, such as its toxicology and potential ecological impact.**

- **Now that you know how to use GHS Safety Data Sheets to find the information that you need to work with HAZMATs safely, you can help to create a safer facility, and community… every day!**