

MAJOR PROGRAM POINTS

"MATERIAL SAFETY DATA SHEETS: THE ANSI STANDARD"

Part of the "GENERAL SAFETY SERIES"

Quality Safety and Health Products, for Today... and Tomorrow

Outline of Major Points Covered in the "The ANSI Material Safety Data Sheet" Course

The following outline summarizes the major points of information presented in the course on "The ANSI Material Safety Data Sheet". The outline can be used to survey the course before taking it on a computer, as well as to review the course when a computer is not available.

- **Most of us encounter chemicals in the workplace everyday:**
 - They are used in many industrial processes.
 - They are often essential on our jobs.
 - However, many of these materials can be hazardous if we don't take the proper precautions.
- **There are many types of potentially hazardous chemicals:**
 - Flammables.
 - Corrosives.
 - Irritants.
 - Sensitizers.
 - Poisons.
 - Even Carcinogens (cancer causers).
- **Each individual chemical product has its own set of hazards:**
 - They require different safety precautions.
 - Often recommended emergency procedures are also different.
- **How can we work with hazardous chemicals safely?**
 - How should we handle and store them?
 - What Personal Protective Equipment should we use?
 - What should we do in an emergency?
- **The answers to these questions can be found on a hazardous chemical's "Material Safety Data Sheet" (MSDS).**
 - Identifies hazards presented by chemicals we use.
 - Tells how to deal with these hazards.
 - To use it most affectively we need to understand the MSDS's purpose and how to use it properly.
- **In 1983 OSHA instituted the Hazard Communication Standard.**
 - To ensure that workers have access to the information and equipment they need to work safely with hazardous chemicals.

- **This "Right-To-Know" regulation requires several things, including:**
 - Chemical manufacturers and importers must provide customers with MSDS's on their products.
 - Employers must give employees access to the MSDS's for materials that are used in their workplace.

- **OSHA does not require that a standard "format" be used for Material Safety Data Sheets.**
 - MSDS's can come in a variety of forms.
 - Data can be arranged in different ways.
 - Certain types of information are required to be included.

- **Without a standard format, it can sometimes be difficult to find needed information on an MSDS.**
 - In an emergency this can cost valuable time.

- **Another difficulty with many Material Safety Data Sheets is that they are often written in technical language.**
 - Can help Health and Safety professionals.
 - However, many people without technical backgrounds also need to use MSDS's.

- **To solve some of these problems, the Chemical Manufacturer's Association (CMA) worked with the American National Standard Institute (ANSI) to develop a standard format for MSDS's.**
 - Resulted in the ANSI Standard Z400.1.
 - The goal of the Standard is to eliminate difficulties caused by differing MSDS formats.
 - Compliance with the Standard is voluntary.
 - Many major chemical manufacturers, as well as users, have adopted the ANSI MSDS format.

- **Another goal of the ANSI Standard is to make MSDS's easier to read.**
 - The ANSI format presents information in an "as needed" order.
 - Emergency Instructions are provided up front.
 - Basic safety information is presented next.
 - Technical data is presented later.

- **The ANSI MSDS is designed to answer four basic questions about a potentially hazardous chemical:**
 - What is the material and what are its hazards?
 - What should I do if a problem occurs when I am working with the material?
 - What precautions should I take to prevent problems when I work with this material?
 - Is there anything else I should know about this material?

- **Each of these questions is "answered" by one or more sections of the MSDS.**

- **Sections I, II and III provide answers to the first question.**
 - What is the material and what are its hazards?

- **Section I of the MSDS identifies the Material, and lists:**
 - Specific product name.
 - Generic chemical name.
 - Common industry name.
 - Manufacturer's name, address and telephone number.
 - An emergency telephone number may also be listed.

- **Section II provides information on the Ingredients in the material.**
 - OSHA requires that hazardous components be listed.
 - Non-hazardous ingredients may also be included.

- **Section III identifies the Hazards of the material, and is divided into two sub-sections:**
 - "Emergency Overview".
 - "Potential Health Effects".

- **The Emergency Overview is presented first, for easy access, and describes the materials appearance.**
 - Physical form.
 - Shape.
 - Color.
 - Odor.

- **The Overview also addresses key hazards that demand immediate attention in an emergency:**
 - Contains warnings that usually the same as on the container label (such as "harmful in inhaled").

- **The "Potential Health Effects" sub-section gives more detailed information on the dangers of exposure, including:**
 - "Routes of Entry".
 - Type of health effects, and their severity.
 - "Target Organs" that are likely to be affected.
 - Symptoms you might experience if you are exposed.
 - "A Note to Physicians" may also be included, about treatment that is needed after First Aid has been administered.

- **Sections IV, V and VI answer the next question:**
 - "What should I do if a problem occurs when I am working with this material?"

- **Section IV of the ANSI MSDS outlines basic First Aid Measures that can be used by an untrained individual:**
 - Instructions are according to type of exposure.
 - Skin contact may call for "removal of contaminated clothing"... and "washing skin with soap and water".
 - Eye contact might require you to "immediately flush eyes with plenty of water for at least 15 minutes".

- **It is important to know the appropriate First Aid measures before you work with hazardous material.**
 - You should also know the location of First Aid Kits, Safety Showers and Eye Washes in your work area.

- **Section V of the MSDS provides information, precautions and instructions for Fighting Fires. This includes:**
 - The chemical's "Flammable Properties", which is used to help design Safe Work Practices.
 - Hazards that the material can present if it burns.
 - Correct "Extinguishing Media" that can be used to put out a fire involving the chemical.

- **There is also a Fire Fighting Instructions sub-section in section V.**
 - Describes basic fire fighting strategies.
 - Also includes information about Personal Protective Equipment that should be used when fighting fires.

- **Section VI provides information on what to do in case of Spills, Leaks and other Accidental Releases... including information on:**
 - Containing a spill or release.
 - Clean-up procedures.
 - Decontaminating clothing and equipment.
 - "Spill Reporting" requirements.

- **Sections VII, VIII, IX, and X answer the next basic question?**
 - "What precautions can I take to prevent problems when I work with this material?"

- **Section VII covers safe Handling and Storage practices.**
 - These are often the same as instructions on the container label.

- **Section VII also provides information on the appropriate Storage Conditions for the material and its container, including:**
 - Temperature.
 - Humidity.
 - Atmospheric Pressure.
 - Ventilation.
 - Vibration in the area.
 - Exposure to light.

- **Section VIII deals with Engineering Controls, Personal Protective Equipment and Exposure Guidelines.**

- **The "Engineering Controls" sub-section addresses issues such as exhaust/ventilation systems.**
 - Some materials may require local exhaust systems.
 - Other materials may require fully enclosed systems.

- **Personal Protective Equipment also has its own sub-section.**
 - Lists equipment that must be worn to minimize risk of exposure when working with the chemical.
 - Gives instructions about avoiding respiratory hazards, skin contact and other types of exposure.

- **Section VIII of the ANSI MSDS provides Exposure Guidelines for the material or its hazardous ingredients, including:**
 - Threshold Limit Values (TLV's).
 - Permissible Exposure Limits (PEL's).
 - Helps to determine what Engineering Controls and Personal Protective Equipment are necessary.

- **Section IX of the ANSI MSDS describes the Physical and Chemical Properties of the material.**
 - Helps evaluate how the material should be used for specific purposes.
 - Precautions are listed describing the hazards under normal conditions.
 - Other specific processes (such as heating the material) may create a different set of hazards.
 - Employers use the information in this section to determine "Safe Work Practices" that should be used.

- **Section X of the ANSI MSDS deals with "Stability and Reactivity".**
 - Helps to determine safe handling, storage, transportation and disposal procedures.
 - Indicates whether the material is chemically stable (or unstable) under normal conditions.
 - Describes conditions to avoid when working with the material.

- **Section X also discusses the chemical's potential to "react" with another substance to create a hazardous situation through:**
 - Oxidation.
 - Heating.
 - Decomposition.
 - Polymerization.
 - Other chemical reactions.

- **The fourth question the ANSI MSDS is designed to answer is, "Is there anything else I should know about this material?"**
 - This information can be found in Sections XI-XVI.
 - Is usually used under the guidance of Health and Safety professionals.
 - Employers may also use these sections to help them set up Standard Operating Procedures.

- **Section XI provides "Toxological Information".**
 - Deals with human health hazards of the material.
- **Section XII address "Ecological Information".**
 - Discusses the chemical's effects on plants, wildlife and other parts of the environment.
- **Section XIII deals with "Disposal Considerations".**
 - Provides information on safe waste management options.
- **Section XIV discusses "Transport Information".**
 - Describes proper packaging and shipping procedures.
 - Includes requirements of the U.S. Department of Transportation (DOT).
 - Sometimes also addresses International Regulations.
- **Section XV addresses "Regulatory Information" affecting the material.**
 - Covers Federal, State and International Regulations.
- **Section XVI contains other relevant information that doesn't fit in any other section, such as:**
 - Text from the Container Label.
 - A "key" for hazard ratings or symbols.
 - A list of references for additional information.
- **These sixteen sections make up the ANSI MSDS.**
 - Not all MSDS's are currently structured this way.
 - All MSDS's do contain the same type of information.
- **Remember, Material Safety Data Sheets aren't the only source of information on hazardous materials.**
 - Read all Container Labels and Warning Stickers.
 - Observe all posted Warning Signs.
 - Consult your employer's Hazard Communication Program, Emergency Plans, and Standard Operating Procedures.
 - If you still have questions, talk to your Supervisor or your company's Safety Professional.

- **Material Safety Data Sheets are valuable tools for working with hazardous chemicals.**
 - Make sure you know where MSDS's are kept in your workplace.
 - Take the time to become familiar with the MSDS's for the materials that you work with.
 - Read MSDS's before beginning work.
 - Consult with the MSDS's for the materials you work with while you use them.
 - Always know where to find information on the MSDS's in times of emergency.

- **Understanding Material Safety Data Sheets will make it easier to do your job... safely.**