

HAZARD COMMUNICATION (HAZCOM)

Environmental Health, Safety, and Risk Management

Stephen F. Austin State University

Topics

- HAZCOM Standard Overview
- Globally Harmonized System
- Hazardous Chemicals
- Labeling Requirements
- Safety Data Sheets
- Site Specific HAZCOM
- Employee Information and Training
- Chemical Safety



Hazard Communication Standard 1910.1200(a)

- Purpose of Standard
 - To prevent injuries and illness from hazardous chemicals in the workplace.



NOTICE TO EMPLOYEES

The Texas Hazard Communication Act, codified as Chapter 502 of the Texas Health and Safety Code, requires public employers to provide employees with specific information on the hazards of chemicals to which employees may be exposed in the workplace. As required by law, your employer must provide you with certain information and training. A brief summary of the law follows.

HAZARDOUS CHEMICALS

Hazardous chemicals are any products or materials that present any physical or health hazards when used, unless they are exempted under the law. Some examples of more commonly used hazardous chemicals are fuels, cleaning products, solvents, many types of oils, compressed gases, many types of paints, pesticides, herbicides, refrigerants, laboratory chemicals, cement, welding rods, etc.

WORKPLACE CHEMICAL LIST

Employers must develop a list of hazardous chemicals used or stored in the workplace in excess of 55 gallons or 500 pounds. This list shall be updated by the employer as necessary, but at least annually, and be made readily available for employees and their representatives on request.

EMPLOYEE EDUCATION PROGRAM

Employers shall provide training to newly assigned employees before the employees work in a work area containing a hazardous chemical. Covered employees shall receive training from the employer on the hazards of the chemicals and on the measures they can take to protect themselves from those hazards. This training shall be repeated as needed, but at least whenever new hazards are introduced into the workplace or new information is received on the chemicals which are already present.

SAFETY DATA SHEETS

Employees who may be exposed to hazardous chemicals shall be informed of the exposure by the employer and shall have ready access to the most current Safety Data Sheets (SDSs) or Material Safety Data Sheets (MSDSs) if an SDS is not available yet, which detail physical and health hazards and other pertinent information on those chemicals.

LABELS

Employees shall not be required to work with hazardous chemicals from unlabeled containers except portable containers for immediate use, the contents of which are known to the user.

EMPLOYEE RIGHTS

Employees have rights to:

- access copies of SDSs (or an MSDS if an SDS is not available yet)
- information on their chemical exposures
- receive training on chemical hazards
- receive appropriate protective equipment
- file complaints, assist inspectors, or testify against their employer

Employees may not be discharged or discriminated against in any manner for the exercise of any rights provided by this Act. A waiver of employee rights is void; an employer's request for such a waiver is a violation of the Act. Employees may file complaints with the Texas Department of State Health Services at the telephone numbers provided below.

EMPLOYERS MAY BE SUBJECT TO ADMINISTRATIVE PENALTIES AND CIVIL OR CRIMINAL FINES RANGING FROM \$50 TO \$100,000 FOR EACH VIOLATION OF THIS ACT

Further information may be obtained from:

Texas Department of State Health Services
Division for Regulatory Services
Policy, Standards, & Quality Assurance Unit
Environmental Hazards Group
PO Box 149347, MC 1987
Austin, TX 78714-9347

(800) 452-2791 (toll-free in Texas)

(512) 834-6787

Fax: (512) 834-6726

TXHazComHelp@dshs.texas.gov



Worker Right-To-Know Program
Publication # E23-14173
Revised 03/2014

Hazard Communication Standard

- The four main components of the HAZCOM standard are:
 - Site-Specific Written Program
 - Safety Data Sheets
 - Labeling System
 - Employee Training



Hazard Communication Standard

- All employees have a “right-to-know” the following information:
 - Hazards of the chemicals in their work area
 - Potential health effects that might result from exposure to these chemicals
 - How employees can protect themselves



Globally Harmonized System (GHS)

- World-wide system of classifying, labeling, and communicating safety information about chemicals.
- Uses pictograms on chemical labels to quickly communicate the specific hazards.
- Material Safety Data Sheets (MSDS) are now known as Safety Data Sheets (SDS).



Hazardous Chemicals

- A chemical which presents a physical hazard or a health hazard.
 - Physical hazard – the physical properties of the chemical such as flammable, corrosive, or explosive
 - Health hazard – ability of the chemical to affect your health such as eye or skin irritant, toxic, or carcinogen (cancer causing)



Hazardous Chemicals

- Chemical Forms
 - Solid – becomes airborne as fumes or dust
 - Liquid – becomes airborne as mists or vapors
 - Gas- becomes airborne if not contained.



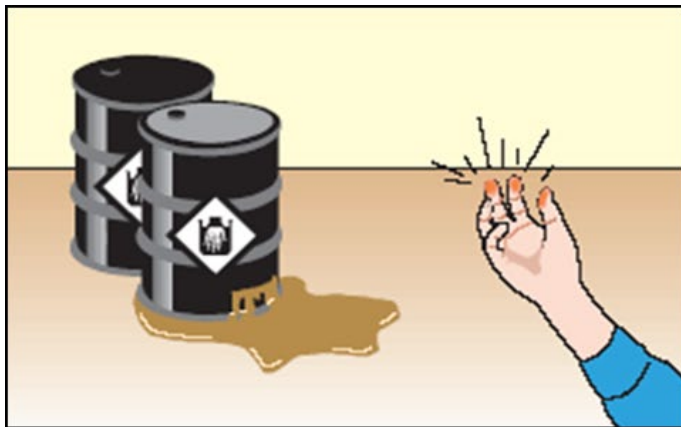
Hazardous Chemicals

- Physical Hazard
 - Compressed gas, combustible liquid, explosive, flammable, oxidizer, polymer, pyrophoric, unstable and water-reactive chemical



Hazardous Chemicals

- Health Hazard
 - Carcinogen, corrosive, cryogenic, toxic, irritant, reproductive hazard (teratogen and mutagen) sensitizer and target organ chemical.



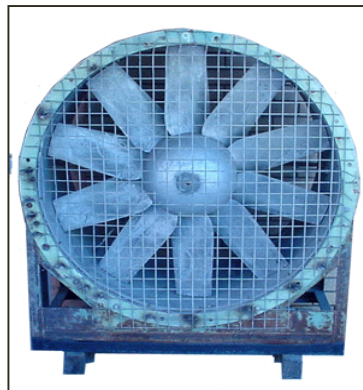
Hazardous Chemicals

- Adverse Health Effects
 - Acute
 - Short-term exposure - dizziness
 - Chronic
 - Long-term exposure - cancer



Hazardous Chemicals

- Exposure Controls
 - Engineering controls
 - Personal Protective Equipment (PPE)
 - Administrative controls



Hazardous Chemicals

- Personal Protective Equipment
 - Check the Safety Data Sheet
 - Proper type
 - Proper fit
 - Proper use
 - Proper maintenance



Chemical Label Requirements






- Chemical or Product Name
- Signal Word
 - “Danger” = more severe hazard
 - “Warning” = less severe hazard
- Hazard Statement
- Pictogram
- Precautionary Statement
 1. Prevention – How to protect yourself
 2. Response – What to do if you were exposed
 3. Storage – The safe way to store the chemical
 4. Disposal – How to dispose of the chemical safely







Chemical Label Pictograms

GHS – Hazard Pictograms and correlated exemplary Hazard Classes


Physical Hazards

				
Explosives	Flammable Liquids	Oxidizing Liquids	Compressed Gases	Corrosive to Metals

Health Hazards

			
Acute Toxicity	Skin Corrosion	Skin Irritation	CMR ¹⁾ , STOT ²⁾ , Aspiration Hazard

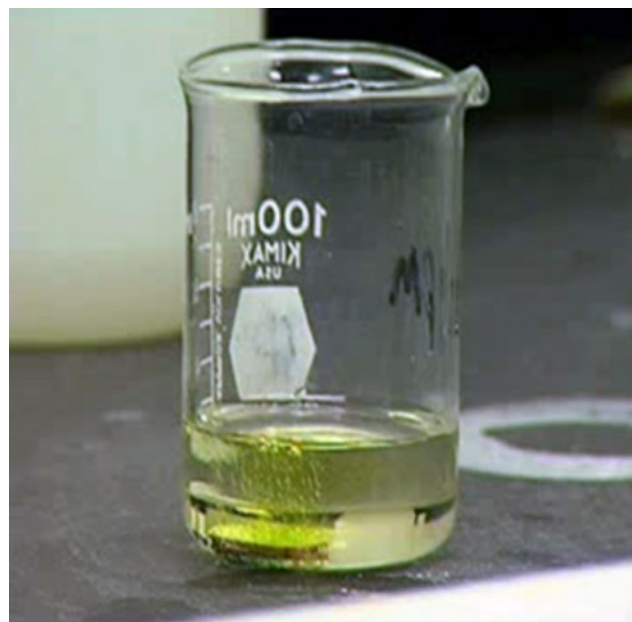
Env. Hazards


Hazardous to the Aquatic Environment

1) carcinogenic, germ cell mutagenic, toxic to reproduction / 2) specific target organ toxicity

Chemical Label Requirements

- **Secondary containers must be labeled!**
- Beakers, flasks, and other secondary containers used for chemical storage must be labeled with at least the chemical name, expiration date, and initials.



Chemical Label Requirements

- Never remove or deface the labels.
- Never use a chemical from a container with no label.
- Report or replace damaged or missing labels.

The Basic Parts of A GHS-Compliant Label

The image shows a sample GHS-compliant label for n-Propyl Alcohol. The label is rectangular with a white background and a black border. It contains the following information:

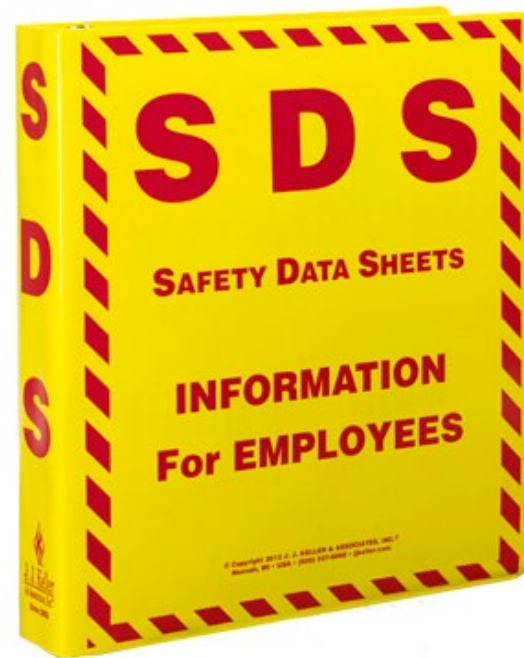
- 1** **n-Propyl Alcohol** (Product Identifier)
- UN No. 1274
- CAS No. 71-23-8
- 2** **DANGER** (Signal Word)
- 3** Highly flammable liquid and vapor. Causes serious eye damage. May cause drowsiness and dizziness. (Hazard Statements)
- 4** Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing. (Precautionary Statements)
- Fill Weight: 18.65 lbs. Lot Number: B56754434
- Gross Weight: 20 lbs. Fill Date: 6/21/2013
- Expiration Date: 6/21/2020
- See SDS for further information.
- 5** Acme Chemical Company - 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567 (Supplier Identification)
- 6** Three pictograms: a flame (Flammable), a hand being splashed (Irritant), and an exclamation mark (Hazardous).

1. Product Identifier - Should match the product identifier on the Safety Data Sheet.
2. Signal Word - Either use "Danger" (severe) or "Warning" (less severe)
3. Hazard Statements - A phrase assigned to a hazard class that describes the nature of the product's hazards
4. Precautionary Statements - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
5. Supplier Identification - The name, address and telephone number of the manufacturer or supplier.
6. Pictograms - Graphical symbols intended to convey specific hazard information visually.

Sample label courtesy of Weber Packaging Solutions • www.weberpackaging.com

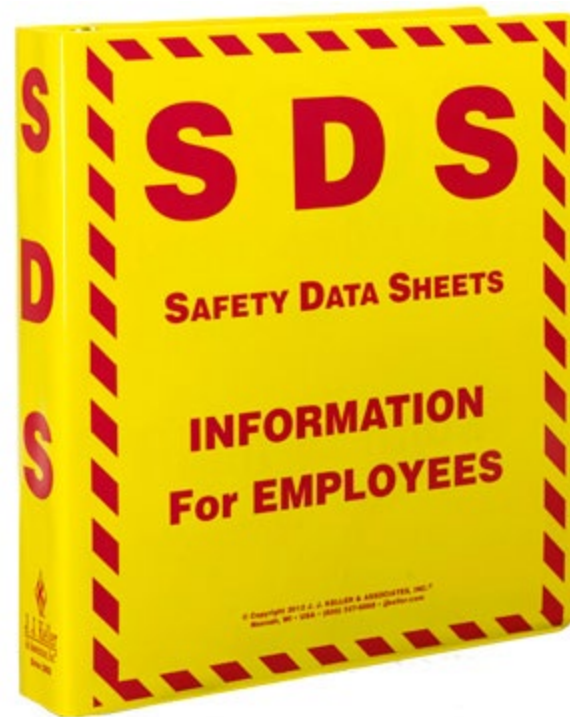
Safety Data Sheets

- Commonly known as Material Safety Data Sheets (MSDS)
- Now called Safety Data Sheets (SDS)
- Give all the safety information about the chemical and how to protect yourself while using it



Safety Data Sheets

- Prior to using a new chemical:
 - Read the Safety Data Sheet
 - Identify chemical hazards and safe handling practices
 - Know what to do in case of a spill or emergency



Safety Data Sheets

- Kept in an easy access location.
 - Binders
 - Wall Pockets
 - Shelves
 - Electronic (computer system)
 - Search Google to find any SDS
- Ask your supervisor about anything you don't understand.



Safety Data Sheets

- Safety Data Sheets have 16 sections:
- 1. Product Identification
 - Chemical name, manufacturer name and contact info, recommended use, and restrictions on use.
- 2. Hazard Information
 - Hazard class such as skin irritation or serious eye damage
 - Signal Word, DANGER for severe hazards or WARNING for less severe hazards.
 - Symbols and Precautionary Statements are also located here



Safety Data Sheets

- 3. Information on Ingredients
 - Chemical Mixture ingredients
- 4. First-Aid
 - Information on symptoms, effects, and required treatment
- 5. Fire Fighting
 - Appropriate fire extinguisher or other equipment
- 6. Accidental Release
 - Emergency procedures, protective gear, and proper clean-up



Safety Data Sheets

- 7. Handling and Storage
 - Safe handling, proper storage, and incompatible chemicals
- 8. Personal Protection/Exposure Controls
 - Exposure limits, engineering controls, and personal protective equipment
- 9. Physical and Chemical Properties
 - Appearance, odor, flash point, pH, vapor density, evaporation rate, and viscosity



Safety Data Sheets

- 10. Stability and Reactivity
 - Chemical stability and hazardous reactions
- 11. Toxicology
 - Likely routes of exposure (inhalation, ingestion, skin and eye contact)
 - Related symptoms
- 12. Ecological Information
 - Chemical effects on the environment
- 13. Disposal
 - Proper disposal information



Safety Data Sheets

- 14. Transportation Information
- 15. Regulatory Information
 - Regulations specific to the chemical
- 16. Other Information
 - Date the SDS was prepared or updated



Site-Specific Hazard Communication

- Identification and Evaluation
 - A list of all chemicals used in the facility must be prepared, evaluated, and updated at least annually.



Employee Information and Training

- All employees who are exposed to chemicals in the workplace must be trained upon initial assignment and whenever new chemicals are introduced into their work area.



Chemical Safety

- Appropriate protective clothing and the proper Personal Protective Equipment (PPE) must be worn
- Smoking, eating, drinking while working with chemicals is prohibited
- Never store food near chemicals



Chemical Safety

- Avoid touching your mouth, face, or eyes while working with chemicals.
- Never taste a chemical!
- Wash hands after handling chemicals (even if you had gloves on)
- Read and understand the SDS
- All chemical containers must be labeled

Chemical Safety

- Do not use flammable chemicals near an open flame or heat source
- Never store incompatible chemicals next to each other
- Dispose of chemical waste properly



HUGH B. KAREFUL
AND YOUR
UNCLE SAM

WANT YOU
TO KNOW
YOU HAVE A
RIGHT
TO KNOW



ABOUT HAZARDOUS MATERIALS IN YOUR WORKPLACE!

A Federal law known as the Hazard Communication standard requires your employer to provide you with the information, equipment, and training needed to work safely with hazardous materials.

It is up to you to use these resources to protect yourself on the job.

For more information about the Hazard Communication program in your workplace, contact your supervisor.