Hazard Communication & Chemical Safety
Session Objectives

- Recognize chemical hazards
- Know how to find safety information
- Understand safe chemical handling
- Know what to do in an emergency
Hazard Communication

Purpose:
To help you understand important safety, health, and environmental information about chemicals used in the workplace.

This is referred to as “Right to Know”
What Is the GHS?

- **Globally Harmonized System of Classification and Labeling of Chemicals**

- Provides a new Universal Approach (everyone will have the same information)

- Includes new Chemical Labels and Safety Data Sheets (SDS’s).....in the past these were called Material Safety Data Sheets or (MSDS)’s
Why Is This Important?

You must be aware of the potential hazards associated with chemicals in the workplace, so that you can protect yourself.

That makes sense doesn’t it?
Why Is This Important?

- **Chemicals** can cause injuries or affect your **health** or the **environment** if handled incorrectly.

- Many **chemicals**, like solvents, can **cause fires** or even **explosions** if not handled properly.
Chemical Safety Information

- Check the **Label**
- Check the **Safety Data Sheet (SDS)**
- Use **Personal Protective Equipment (PPE)**
- Ask your **Supervisor**
Chemical Labeling
Rules of the Road

- All chemicals must be labeled.
- The label must clearly list:
  - Name of the chemical
  - Hazards associated with the chemical
  - Manufacturer’s contact information
  - If a chemical is transferred to a secondary container, the new container must be labeled with the name of the chemical and the hazard warnings.
Routes of Exposure

Chemicals can enter the body by:

- **Ingestion**: (through the mouth)
- **Injection**: (i.e., broken glass from a chemical container punctures the skin)
- **Absorption**: (through the skin or eyes)
- **Inhalation**: (you breathe it in)
Safety Data Sheets (SDS)

- **SDS is required for each hazardous chemical in the workplace.**

- **SDS provides detailed information about a chemical’s properties, safety and health hazards, handling precautions, and required PPE.**
Safety Data Sheets (SDS)

The SDS for each Chemical:

- Provides a detailed written description of the chemical
- Describes the hazards, as well as any precautions
- Describes response to an exposure and to emergencies (spills, etc.)
- Should be readily accessible and reviewed prior to use
Safety Data Sheets
### Sections 1–4

**Section 1: Chemical and Supplier Information**
contains the product identifier and other means of identification, recommended uses and restrictions, supplier information, and an emergency number.

**Section 2: Hazards Identification**
contains the hazard classification, the signal word, hazard and precautionary statements, hazard symbol, other hazards not otherwise classified, and any statements regarding mixtures consisting of ingredients of unknown toxicity.

**Section 3: Composition and Information on Ingredients**
contains information about chemical composition and ingredients, including chemical name, common name and synonyms and the Chemical classification of the substance.

**Section 4: First Aid Measures**
contains a description of necessary first aid, symptoms and health effects (acute and delayed), and the need for immediate medical attention and special treatment (if required).

<table>
<thead>
<tr>
<th>Hazard Statements</th>
<th>Precautionary Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>H320: Causes eye irritation</td>
<td>P210: Keep away from heat/sparks/open flames/hot surfaces - No smoking</td>
</tr>
<tr>
<td>H351: Suspected of causing cancer</td>
<td></td>
</tr>
</tbody>
</table>

### Hazard Statements Table

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>EINECS#</th>
<th>REACH Pre-registration Number</th>
<th>Concentration % by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene Chloride* (dichloromethane)</td>
<td>75-09-2</td>
<td>200-838-9</td>
<td>Under development</td>
<td>75-90</td>
</tr>
<tr>
<td>Trichloroethylene*</td>
<td>79-01-6</td>
<td>201-167-4</td>
<td>Under development</td>
<td>5-15</td>
</tr>
<tr>
<td>Methyl Methacrylate Monomer*, Stabilized (MMA)</td>
<td>80-62-6</td>
<td>201-297-1</td>
<td>05-2116297731-37-0000</td>
<td>0-1</td>
</tr>
</tbody>
</table>

*Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372)
Section 5: Fire-Fighting Measures contains information about suitable and unsuitable extinguishing substances, and about specific hazards from the chemical, and special PPE and precautions for firefighters.

**Suitable Extinguishing Media:** Water fog or fine spray, carbon dioxide, dry chemical or foam.

**Unsuitable Extinguishing Media:** Dry chemical powder.

**Exposure Hazards:** Inhalation and dermal contact.

**Combustion Products:** Hydrogen chloride, trace amounts of chlorine, phosgene.

Section 6: Accidental Releases Measures contains information about personal precautions and PPE, emergency precautions, environmental procedures, and containment and cleanup methods and materials.

**Personal Precautions:** Clear all personnel from area. Do not breathe vapors. Ventilate area of leak or spill. Wear protective equipment. Positive pressure self contained or air supplied breathing apparatus. Follow confined space entry procedures.

**Environmental Precautions:** Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.

**Methods for Cleaning up:** Mop or soak up immediately. Place in properly labeled metal containers.

Section 7: Handling and Storage describes precautions for safe handling and conditions for safe storage.

**Handling:** Avoid breathing of vapor, avoid contact with eyes, skin and clothing. Do not swallow. Use with adequate ventilation. Do not cut, drill grind, weld or perform similar operations on or near empty containers. Vapors of this product are heavier than air and will collect in low areas.

Section 8: Exposure Controls and PPE contains information about control parameters (such as exposure limit values), engineering controls, and individual protection measures and PPE.

**Exposure limits:**

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>ACGIH STEL</th>
<th>OSHA PEL</th>
<th>OSHA STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene chloride (dichloromethane)</td>
<td>50 ppm</td>
<td>N/E</td>
<td>25 ppm</td>
<td>125</td>
</tr>
<tr>
<td>Trichloroethylene</td>
<td>50 ppm</td>
<td>100 ppm</td>
<td>100 ppm</td>
<td>N/E</td>
</tr>
<tr>
<td>Methyl Methacrylate Monomer, Stabilized (MMA)</td>
<td>50 ppm</td>
<td>100 ppm</td>
<td>100 ppm</td>
<td>N/E</td>
</tr>
</tbody>
</table>
Sections 9–12

Section 9: Physical and Chemical Properties
contains information about the substance’s physical and chemical properties, for example, appearance, odor, melting and freezing points, flash point, and flammability.

Section 10: Stability and Reactivity
contains information about the substance’s stability or reactivity, possible hazardous reactions, conditions to avoid, incompatible materials, and hazardous decomposition products.

Section 11: Toxicological Information
contains information describing likely routes of exposure, symptoms, immediate and delayed health effects, etc.

Section 12: Ecological Information
contains environmental information.
Section 13: Disposal Considerations provides information on waste residues and safe handling and disposal of substances and contaminated packaging.

Section 14: Transportation Information gives information on the safe transportation of the chemical.

Section 15: Regulatory Information contains safety, health, and environmental regulatory information.

Section 16: Other Information provides other relevant information.
Personal Protective Equipment

- Review the SDS/Label to determine what PPE is needed before you use the chemical

- Use the PPE!
Key Points to Understand

- The hazards posed by the chemicals you use at work
- Where to find information about chemicals (Labels/SDS)
- Routes of Exposure
- PPE required
- What to do in case of an EMERGENCY
- SDS for every chemical
- Label every chemical
- Review the SDS/label prior to use
- Use the appropriate PPE
- Store and dispose of chemicals appropriately