Hazard Communication Training Program (including GHS revisions)

Agenda
- Overview of changes to the Hazard Communication Standard (Haz Com)
- Labeling requirements
- Safety Data Sheets (SDS) format – 16 sections

Why the Change to Haz Com?
- To align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) adopted by 67 nations
- To provide a common and coherent approach to classifying chemicals
- Reduce confusion and increase understanding of the hazards
- Facilitate training
- Help address literacy problems
Who is Affected?

- Manufacturers, Distributors, Importers
  - Change SDS information and format
  - Change container labeling
- Employers
  - Training employees on changes to:
    - SDS (change from MSDS to SDS and 16-section format)
    - Container Labels (including secondary containers)
- Employees
  - Recognize and understand hazards based on:
    - Information in new SDS format
    - Pictograms on container labels
    - Precautionary and hazard statements

Other Standards Affected – Health (signage requirements)

- Asbestos
- Carcinogens
- Vinyl Chloride
- Inorganic Arsenic
- Lead
- Cadmium
- Benzene
- Coke Oven Emissions
- Acrylonitrile
- Ethylene Oxide
- Formaldehyde
- Methyleneedianiline

DANGER

LEAD MAY DAMAGE FERTILITY OR THE UNBORN CHILD CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM DO NOT EAT, DRINK OR SMOKE IN THIS AREA

WARNING

LEAD WORK AREA POISON NO SMOKING OR EATING

New Sign

LEAD

Other Standards Affected

- Flammable and Combustible Liquids
- Spray Finishing using Flammable and Combustible Materials
- Process Safety Management of Highly Hazardous Chemicals (PSM)
- Hazardous Waste Operations and Emergency Response (HAZWOPER)
- Hazardous Work In Laboratories
- Dipping and Coating Operations
- Welding, Cutting and Brazing
- Employee Medical Records and Trade Secrets
Effective Dates and Requirements

<table>
<thead>
<tr>
<th>Effective Completion Date</th>
<th>Requirement(s)</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1, 2013</td>
<td>Train employees on the new label elements and SDS format</td>
<td>Employers</td>
</tr>
<tr>
<td>June 1, 2015</td>
<td>Compliance with all modified provisions of the final rule except</td>
<td>Chemical manufacturers, importers, distributors, and employers</td>
</tr>
<tr>
<td>December 1, 2015</td>
<td>The distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label</td>
<td>Distributor</td>
</tr>
<tr>
<td>June 1, 2016</td>
<td>Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified hazards [and affected vertical standard specific signage]</td>
<td>Employer</td>
</tr>
<tr>
<td>Transition Period: 12/2012 to the effective completion dates noted above</td>
<td>May comply with either OSHA (final standard), the current standard, or both</td>
<td>Chemical manufacturers, importers, distributors, and employers</td>
</tr>
</tbody>
</table>

Chemical Classifications

Chemicals will be classified using a harmonized system that provides standardized language for:

- Health Hazard Categories
- Physical Hazard Categories
- Environmental Hazard Categories

*Not regulated by OSHA

Chemical Classifications:

Health Hazards
- Acute Toxicity
- Skin Corrosion/Irritation
- Respiratory or Skin Sensitization
- Germ Cell Mutagenicity
- Carcinogenicity
- Reproductive Toxicity
- Specific Target Organ Toxicity – Single Exposure
- Specific Target Organ Toxicity – Repeated Exposure
- Aspiration
- Simple Asphyxiants
### Chemical Classifications:

#### Health Hazards

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>LA, 1B, 1C, 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>1, 2A, 2B</td>
</tr>
<tr>
<td>Respiratory or Skin Sensitization</td>
<td>1</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>LA, 1B, 2</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>LA, 1B, 2</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>LA, 1B, 2, Lactation</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity – Single Exposure</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Specific Target Organ Toxicity – Repeated Exposure</td>
<td>1, 2</td>
</tr>
<tr>
<td>Aspiration</td>
<td>1</td>
</tr>
<tr>
<td>Simple Asphyxiants</td>
<td>Single Category</td>
</tr>
</tbody>
</table>

#### Physical Hazards

- Explosives
- Flammable Aerosols
- Oxidizing Gases
- Gases under Pressure
  - Compressed Gases
  - Liquefied Gases
  - Refrigerated Liquefied Gases
  - Dissolves Gases

#### Physical Hazards (continued)

- Flammable Liquids
- Flammable Solids
- Self- Reactive Chemicals
- Pyrophoric Liquids
- Pyrophoric Solid
- Pyrophoric Gases
- Self-heating Chemicals
- Chemicals, which in contact with water, emit flammable gases
Chemical Classifications:
Physical Hazards (continued)

- Oxidizing Liquids
- Oxidizing Solid
- Organic Peroxides
- Corrosive to Metals
- Combustible Dusts

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosives</td>
<td>Div 1.1, Div 1.2, Div 1.3, Div 1.4, Div 1.5, Div 1.6</td>
</tr>
<tr>
<td>Flammable Gases</td>
<td>1, 2</td>
</tr>
<tr>
<td>Oxidizing Liquids</td>
<td>1, 2, 3, 4</td>
</tr>
<tr>
<td>Oxidizing Solids</td>
<td>1, 2</td>
</tr>
<tr>
<td>Organic Peroxides</td>
<td>Type A, Type B, Type C, Type D, Type E, Type F, Type G</td>
</tr>
<tr>
<td>Corrosive to Metals</td>
<td>1</td>
</tr>
<tr>
<td>Combustible Dusts</td>
<td>Single Category</td>
</tr>
</tbody>
</table>

Labels

There are several new label elements:

- Symbols called “Pictograms”
- Signal Words
- Hazard Statements
- Precautionary Statements
- Product Identification
- Supplier/Manufacturer Identification

www.osha.gov/Publications/Hzacomm_QuickCard_Labels_Here
Labels: Shipping

Effective June 1, 2015 all shipping labels will be required to have all GHS label elements.

DOT Shipping
Flammable liquids, toxic, n.o.s. (contains XYZ)
UN 1992
Shipping Container Label
(55 gallon/200 liter drum)

Transport "Pictograms"

DOT and OSHA Labels

- DOT labels may take precedence over similar GHS pictograms for shipping containers.
- DOT does not have labels that correspond to the "Health Hazard" or the "Acute Toxicity" (less severe = exclamation mark).
There are 9 pictograms. Only 8 are regulated by OSHA:
- Health Hazards
- Physical Hazards
- Environmental Hazards (Regulated by EPA)

- Acute toxicity (Severe)
- Acute toxicity (Less Severe):
  - Irritant
  - Dermal sensitizer
- Acute toxicity (harmful)
- Narcotic effects
- Respiratory tract irritation

- Skin corrosion
- Serious eye damage/
  - Eye irritation

- Carcinogen
- Respiratory sensitizer
- Reproductive toxicity
- Target organ toxicity
- Mutagenicity
- Aspiration Hazard
Labels: Pictograms – Physical Hazards

- Flammables
- Self reactives
- Pyrophorics
- Self heating
- Emits flammable gas
- Organic peroxides

Labels: Pictograms – Physical Hazards (continued)

- Corrosive to Metals
- Oxidizer
- Gases under Pressure

Labels: Signal Word

These are words used to indicate the severity of the hazard and alert employees to the potential hazard.

Only 2 signal words will appear:
- "DANGER" (more severe hazard)
- “WARNING” (less severe hazard)

Not all labels will have a signal word. Some chemicals are not hazardous enough to require that a signal word appear on the label.
Labels: Hazard Statement

There are specific hazard statements that must appear on the label based on the chemical hazard classification.

Examples:
- Flammable liquid and vapor
- Causes skin irritation
- May cause cancer

Labels and other forms of warning – Precautionary Statements

- Recommended measures related to:
  - Prevention
  - Response
  - Storage
  - Disposal
- Examples:
  - Wear respiratory protection
  - Wash with soap and water
  - Store in a well ventilated place
- Not a mandate for employers/employees to follow.

Label: Identification

- Product identification (i.e. name of product)
- Supplier identification:
  - Address
  - Telephone number
Label: Other information

Other information that may be included on the label:
- Physical state
- Color
- Hazards not otherwise classified
- Route of exposure
- Storage and disposal
- Hazard prevention and emergency response instructions

Secondary Container Labels

Excerpt from the Hazard Communication Standard (f):
- (6) Workplace labeling. Except as provided in paragraphs (7) and (8) of this section, the employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged or marked with either:
  - (i) The information specified under paragraphs (i)(i) through (v) of this section for labels on shipped containers [GHS Label]; or,
  - (ii) Product identifier and words, pictures, symbols, or combination thereof, which provide at least general information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the hazard communication program, will provide employees with the specific information regarding the physical and health hazards of the hazardous chemical [e.g. HMIS, NFPA or other label system].

Labels: Secondary containers

- Must be consistent with the revised Haz Com standard
- No conflicting hazard warnings or pictograms.
- May use written materials (e.g., signs, placards, etc.) in lieu of affixing labels to individual stationary process containers.
- Employer can use GHS compliant labels (same as shipping).

HMSI Label

NFPA Label

Must include notation of chronic health effects
Safety Data Sheets

- Under the new Haz Com Standard, Material Safety Data Sheets (MSDS) are now called Safety Data Sheets (SDS).
- All SDSs will have a consistent 16-section format.
- Employers must ensure that SDSs are readily accessible to employees.

Safety Data Sheets (SDSs)

New 16-section standardized SDS format required (ANSI Z400.1)

Section 1 – Identification
Section 2 – Hazard(s) Identification
Section 3 – Composition / Information on Ingredients
Section 4 – First-aid Measures
Section 5 – Fire-fighting Measures
Section 6 – Accidental Release Measures
Section 7 – Handling and Storage
Section 8 – Exposure Controls / Personal Protection
Section 9 – Physical and Chemical Properties

Section 10 – Stability and Reactivity
Section 11 – Toxicological Information
Section 12 – Ecological Information*
Section 13 – Disposal Consideration*
Section 14 – Transport Information*
Section 15 – Regulatory Information*
Section 16 – Other information including date of preparation of last revision

*Sections outside of OSHA jurisdiction but inclusion of these sections is necessary for a GHS compliant SDS

Safety Data Sheets (continued)

Section 1 – Identification:
Identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information of the supplier.

Section 2 - Hazards Identification:
- Hazards of the chemical presented on the SDS
- Appropriate warning information associated with those hazards.
Safety Data Sheets (continued)

Section 3 – Composition / Ingredients:
Identifies the ingredient(s) contained in the product indicated on the SDS, including:
• impurities and stabilizing additives.
• information on substances, mixtures, and all chemicals where a trade secret is claimed.

Section 4 – First-Aid Measures:
Describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical.

Safety Data Sheets (continued)

Section 5 – Fire-Fighting Measures:
Provides recommendations for fighting a fire caused by the chemical.

Section 6 – Accidental Release Measures:
Provides recommendations:
• Appropriate response to spills, leaks, or releases, (e.g. containment and cleanup practices)
• Response for large vs. small spills, if different.

Safety Data Sheets (continued)

Section 7 – Handling and Storage:
Provides guidance on the safe handling practices and conditions for safe storage of chemicals.

Section 8 – Exposure Controls / Personal Protection:
Indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure.
Safety Data Sheets (continued)

Section 9 – Physical and Chemical Properties:
Identifies physical and chemical properties associated with the substance or mixture.

Section 10 – Stability and Reactivity
Describes the reactivity hazards of the chemical and the chemical stability information. Includes: reactivity, chemical stability, and other.

Safety Data Sheets (continued)

Section 11 – Toxicological Information:
Identifies toxicological and health effects information or indicates is data unavailable.

Section 12 – Ecological Information*
Section 13 – Disposal Consideration*
Section 14 – Transport Information*
Section 15 – Regulatory Information*

*Sections are outside of OSHA jurisdiction but must be included for a GHS compliant SDS.

Safety Data Sheets (continued)

Section 16 – Other Information
Indicates when the SDS was prepared or when the last known revision was made.

The SDS may also state where the changes have been made to the previous version.
Wrap Up

• The Hazard Communication/GHS standard is in place to provide information to employees

• Be familiar with hazardous substances/chemicals that you may come in contact with
  • Know where SDS are located
  • Understand labels