Hazard Communication - Module 4

Special Warehouse Worker Hazards in Structural Steel Fabricating and Supply Companies

Photo from Douglas Steel Fabricating Corporation
Hazard Communication - Module 4

OSHA Grant Information

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Hazard Communication — Module 4

Program Development

This program was developed by faculty and students in the School of Planning, Design and Construction at Michigan State University in conjunction with the American Institute of Steel Construction - Safety Committee and the University of Puerto Rico

March 2015
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Learning Outcomes: Participants shall be able to:

- Demonstrate an understanding of what information is found in an SDS
- Demonstrate an understanding of how to navigate an SDS to locate information
- Demonstrate an understanding of “pictograms”
- Demonstrate an understanding of requirements for secondary containers
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Content Overview
- Hazard Communication and the Globally Harmonized System (GHS)
- What is GHS?
- Overview of the changes to the HazCom Standard
  - Labeling requirements
  - Safety Data Sheets (SDS) format – 16 sections
  - Pictograms
  - Secondary containers
OSHA publishes a helpful guide for small entities on hazard Communication
Hazard Communication Requirements

- “OSHA’s HCS, 29 CFR 1910.1200, addresses the informational needs of employers and workers with regard to chemicals.” OSHA 3695-03 2014

-“(b)(2) This section applies to any chemical which is known to be present in the workplace in such a manner that employees may be exposed under normal conditions of use or in a foreseeable emergency.“

29 CFR 1910.1200
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What is GHS?
- The Globally Harmonized System of Classification and Labeling of Chemicals
- A system for standardizing and harmonizing the classification and labeling of chemicals.
  - Defining health, physical, and environmental hazards of chemicals
  - Creating classification processes that use available data on chemicals for comparison with the defined hazard criteria
  - Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS)

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- Chemical Manufacturers and Importers classify the hazards of chemicals they produce or import, and prepare labels and safety data sheets based on the classifications.

- All Employers receive labeled containers and safety data sheets with shipped chemicals.

- All Employers must prepare a written hazard communication program, including a list of the hazardous chemicals in the workplace.

Employers must ensure:
- All containers of hazardous chemicals are labeled.
- Safety data sheets are maintained for all hazardous chemicals.
- Workers are trained on program elements, hazards, protective measures, etc.

Chemicals are Shipped to Employers by Chemical Manufacturers, Importers or Distributors.

Keep Information Up-to-Date.

Source: Small Entity Compliance Guide for Employers That Use Hazardous Chemicals OSHA 3695-03 2014
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Employee Information and Training:

HazCom 1994
“Right to Know”
- Employees need to know the information on the chemicals is available and how to get the information on the hazards involved

HazCom 2012
“Right to Understand”
- Employees need to understand and identify the hazards related to a chemical by pictogram and reading the label on the product

HazCom 2012- Employee Information and Training:

- Clarifies that the labels on shipped containers and workplace labels must be explained, as well as SDS format
- Workers are required to be trained on the new label and SDS formats before all the provisions of the rule are effective
- Employers were required to train employees regarding the new label elements and Safety Data Sheets format by December 1, 2013

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Training details:
 Label elements
 Train employees on the type of information that the employee would expect to see on the new labels
 How they might use that information
 Product identifier, Signal word, Hazard statement(s), Pictogram(s), Precautionary statement(s), and name, address and phone number of the responsible party

Training details – continued:

- General understanding of how the elements interact
- For example - explain there are 2 signal words:
  - Danger means a more severe hazard within a hazard class
  - Warning is for the less severe hazard
- Safety Data Sheet Format
- Train the employees on the standardized 16 section format and the type of information they would find in the various sections.

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Content

- “Safety Data Sheet” (rather than “Material Safety Data Sheet”) uses a 16-section format.

There are several label elements:

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

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE

Product Name____________________

SUPPLIER IDENTIFICATION

Company Name____________________

Street Address____________________

City____________________ State

Postal Code____________________ Country

Emergency Phone Number____________________

HAZARD PICTOGRAMS

SIGNAL WORD

Danger

HAZARD STATEMENT

Highly flammable liquid and vapor. May cause liver and kidney damage.

SUPPLEMENTAL INFORMATION

Directions for use

_________________________________________________________________

Fill weight:____________________ Lot Number

Gross weight:____________________ Fill Date:

Expiration Date:____________________

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO₂) fire extinguisher to extinguish.

First Aid

If exposed call Poison Center.

If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water.

www.osha.gov/Publications/HazComm_QuickCard_Labels.html
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HCS Pictograms and Hazards

Source: Small Entity Compliance Guide for Employers That Use Hazardous Chemicals OSHA 3695-03 2014
Red-Borders

- Red borders are required
- Red borders increase comprehensibility

Acute toxicity (Severe)

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

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Labels: Pictograms – Health Hazards*

Skin corrosion
Serious eye damage/
Eye irritation
Metal corrosion

Carcinogen
Respiratory sensitizer
Reproductive toxicity
Target organ toxicity
Mutagenicity
Aspiration hazard

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Labels: Pictograms/Physical Hazards*

Explosives
Self reactives
Organic peroxides

Flammables
Self reactives
Pyrophorics
Self heating
Emits flammable gas
Organic peroxides

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Labels: Pictograms – Physical Hazards*

- Corrosive to Metals
- Gases under Pressure
- Oxidizer

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Labels: Signal Word*

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

- Only two 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

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Label: Precautionary Statements*

- Precautionary statements describe *recommended* measures that should be taken to protect against hazardous exposures, or improper storage or handling of a chemical.

- Examples:
  - Wear respiratory protection
  - Wash with soap and water
  - Store in a well ventilated place

- Not necessarily a mandate for employees to follow

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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

Source: Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors Webinar:
http://www.aisc.org/content.aspx?id=35368
**Hazard Communication - Module 4**

**Warning Pictograms**
- Flammable and Acute Toxicity – Severe

**Product Identifier**
- ToxiFlam (Contains: XYZ)

**Signal Word**
- Danger!

**Hazard Statements**
- Do not eat, drink or use tobacco when using this product. Wash hands thoroughly after handling. Keep container tightly closed. Keep away from heat/sparks/open flame. - No smoking. Wear protective gloves and eye/face protection. Ground container and receiving equipment. Use explosion-proof electrical equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Store in cool/well-ventilated place.

**Precautionary Statements**
- IF SWALLOWED: Immediately call a POISON CONTROL CENTER or doctor/physician. Rinse mouth.

**Supplemental Information**
- In case of fire, use water fog, dry chemical, CO₂, or "alcohol" foam.

**Supplier Identification**

*Modified from https://www.osha.gov/dsg/hazcom/ghs.html
Source: Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors* 
*Webinar: http://www.aisc.org/content.aspx?id=35368*
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Label Example:

Labels: Secondary containers*
- Secondary labeling systems are still permitted
- Must be consistent with the revised HazCom 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)

Workplace Labeling*

- The current HCS allows employers to use workplace-specific labeling systems as long as they provide the required information.
- However, such workplace label systems may need to be updated to make sure the information is consistent with the new classifications.
- NFPA/HMIS Systems*

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Label Example:

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Label: Identification

Source: Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors Webinar:
http://www.aisc.org/content.aspx?id=35368
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Safety Data Sheets - HazCom 2012

- Mandates 16-section SDS headings, order of information, and what information is to be provided under the headings
- Sections 12-15 are non-mandatory

## Hazard Communication - Module 4

### 16-Section Safety Data Sheet

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Identification of the substance or mixture and of the supplier</td>
</tr>
<tr>
<td>2.</td>
<td>Hazards identification</td>
</tr>
<tr>
<td>3.</td>
<td>Composition/information on ingredients substance/mixture</td>
</tr>
<tr>
<td>4.</td>
<td>First aid measures</td>
</tr>
<tr>
<td>5.</td>
<td>Firefighting measures</td>
</tr>
<tr>
<td>6.</td>
<td>Accidental release measures</td>
</tr>
<tr>
<td>7.</td>
<td>Handling and storage</td>
</tr>
<tr>
<td>8.</td>
<td>Exposure controls/personal protection</td>
</tr>
<tr>
<td>9.</td>
<td>Physical and chemical properties</td>
</tr>
<tr>
<td>10.</td>
<td>Stability and reactivity</td>
</tr>
<tr>
<td>11.</td>
<td>Toxicological</td>
</tr>
<tr>
<td>12.</td>
<td>Ecological information (non mandatory)</td>
</tr>
<tr>
<td>13.</td>
<td>Disposal considerations (non mandatory)</td>
</tr>
<tr>
<td>14.</td>
<td>Transport information (non mandatory)</td>
</tr>
<tr>
<td>15.</td>
<td>Regulatory information (non mandatory)</td>
</tr>
<tr>
<td>16.</td>
<td>Other information including information on preparation and revision of the SDS</td>
</tr>
</tbody>
</table>

Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors
SAFETY DATA SHEET
This Safety Data Sheet complies with Regulation (EC) No 1907/2006, ISO 11014-1 and ANSI Z400.1

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: OK Flux 10.61
Application: Arc Welding
Classification(s): EN 760: SA FB 1 85 DC
Supplier: ESAB AB, Box 8004, 402 77 Göteborg, Sweden. sds.esab@esab.se
Telephone no.: +46 31 509000
Web site: www.esab.com

2. HAZARDS IDENTIFICATION

Emergency Overview: Granules in varying colours. This product is normally not considered hazardous as shipped. Gloves should be worn when handling to prevent contaminating hands with product dust.

This product contains quartz, but normally not in an inhalable fraction. Quartz can cause silicosis and may cause cancer. Avoid eye contact or inhalation of dust from the product. Skin contact is normally no hazard but should be avoided to prevent possible allergic reactions.

Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device.

When this product is used in a welding process, the most important hazards are welding fumes, heat, radiation and electric shock.

Fumes: Welding fumes are normally not a hazard with submerged arc welding, unless the arc burns through the flux bed. Use enough flux to avoid burn-through. Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait.

Heat: Spatter and melting metal can cause burn injuries and start fires.

Radiation: Arc rays can severely damage eyes or skin.

Electricity: Electric shock can kill.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is an agglomeration of calcined minerals.

<table>
<thead>
<tr>
<th>Flux ingredients</th>
<th>Weight %</th>
<th>CAS#</th>
<th>EINECS#</th>
<th>Hazard class</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>10-15</td>
<td>1344-28-1</td>
<td>215-591-6</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Aluminum silicate</td>
<td>2-5</td>
<td>1241-41-67</td>
<td>235-293-8</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fluorides</td>
<td>20-30</td>
<td>7789-75-3</td>
<td>232-189-7</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>2-5</td>
<td>1309-37-1</td>
<td>215-168-2</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>30-40</td>
<td>1309-48-4</td>
<td>215-171-9</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Manganese</td>
<td>&lt;1</td>
<td>7439-96-5</td>
<td>231-105-1</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Quartz</td>
<td>5-10</td>
<td>14808-60-7</td>
<td>238-878-4</td>
<td>T; R45</td>
<td>1</td>
<td>K</td>
<td>-</td>
</tr>
<tr>
<td>Silicates</td>
<td>2-5</td>
<td>1344-09-3</td>
<td>215-607-4</td>
<td>No</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

(2) Evaluation according to the International Agency for Research on Cancer. 1-Carcinogenic to humans. 2A-Probably carcinogenic to humans.
(3) Classification according to the 11th Report on Carcinogens, published by the US National Toxicology Program. K- Known to be a Human Carcinogen. S- Suspect Carcinogen.
(4) Carcinogen listing according to OSHA, Occupational Safety & Health Administration (USA)

4. FIRST AID MEASURES

Inhalation: If breathing has stopped, perform artificial respiration and obtain medical assistance immediately! If breathing is difficult, provide fresh air and call physician.

Eye contact: For radiation burns due to arc flash, see physician. To remove dust or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.

Skin contact: For skin burns from arc radiation, promptly flush with cold water. Get medical attention for burns or irritations that persist. To remove dust or particles wash with mild soap and water.

Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardiopulmonary Resuscitation (CPR). Immediately call a physician.

General: Move to fresh air and call for medical aid.

SAFETY DATA SHEET
This Safety Data Sheet complies with Regulation (EC) No 1907/2006, ISO 11014-1 and ANSI Z400.1

5. FIRE FIGHTING MEASURES
No specific recommendations for welding consumables. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation. Wear self-contained breathing apparatus as fumes or vapors may be harmful.

6. ACCIDENTAL RELEASE MEASURES
Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.
Personal precautions: refer to section 8.
Environmental precautions: refer to section 13.

7. HANDLING AND STORAGE

Handling: Handle with care to avoid stings and cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.

Storage: Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION
Avoid exposure to welding fumes, radiation, sputter, electric shock, heated materials and dust.

Engineering measures: Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep working place and protective clothing clean and dry. Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Personal protective equipment: Use respirator or air supplied respirator when welding or brazing in a confined space, or where local exhaust or ventilation is not sufficient to keep exposure values within safe limits. Use special care when welding painted or coated steels since hazardous substances from the coating may be eriminated. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance. Unless noted, all values are for 8 hour time weighted averages (TWA). For information about welding fume analysis refer to Section 10.

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS#</th>
<th>ACGIH TLV 1 mg/m3</th>
<th>OSHA PEL 2 mg/m3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>1.5***</td>
<td>15*, 5**</td>
</tr>
<tr>
<td>Aluminum silicate</td>
<td>12141-46-7</td>
<td>1***</td>
<td>15*, 5**</td>
</tr>
<tr>
<td>Fluorides</td>
<td>7789-75-5</td>
<td>2.5(F)</td>
<td>2.5(F)</td>
</tr>
<tr>
<td>Iron oxide</td>
<td>1309-37-1</td>
<td>5**</td>
<td>10(t)</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>1309-48-4</td>
<td>10***</td>
<td>15*</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>0.2</td>
<td>5(Cell)</td>
</tr>
<tr>
<td>Quartz</td>
<td>14608-80-7</td>
<td>0.025**</td>
<td>10mg/m3(%,SiO2:2)**</td>
</tr>
<tr>
<td>Silicates</td>
<td>1344-09-3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

(1) Threshold Limit Values according to American Conference of Governmental Industrial Hygienists, 2008
(2) Permissible Exposure Limits according to the Occupational Safety & Health Administration (USA).
(3) *Total dust, **Respirable fraction, ***Inhalable fraction. (f) fume, (d) dust, (m) mist, (c) ceiling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Granules, non-volatile with varying color
Melting point: >1000°C / >1800°F

10. STABILITY AND REACTIVITY

General: This product is only intended for normal welding purposes.
Stability: This product is stable under normal conditions.
Reactivity: Contact with chemical substances like acids or strong bases could cause generation of gas.

When this product is used in a welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in section 3 and the base metal and coating.
Fumes are normally not generated in submerged arc welding, provided that a sufficient flux bedding is used to prevent the arc from burning through. If the arc burns through the flux bedding, reasonably expected fume constituents of this product would include fluorides and oxides of metals such as iron, manganese, magnesium, sodium, aluminum and silicon.
Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in Section 3. Manganese has a low exposure limit, in some countries, that may be easily exceeded.
Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quantity of fumes and gases produced.

Source: Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors Webinar:
http://www.aisc.org/content.aspx?id=35368
11. TOXICOLOGICAL INFORMATION

Inhalation of welding fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contamination and processes. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B).

Acute toxicity: Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Chronic toxicity: Overexposure to welding fumes may affect pulmonary function. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain, symptoms of which may include slurred speech, lethargy, tremor, muscular weakness, psychological disturbances and spastic gait. Inhalable quartz is a respiratory carcinogen however the process of welding converts crystalline quartz to the amorphous form which is not considered to be a carcinogen.

12. ECOLOGICAL INFORMATION

Welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

13. DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available.

USA RCRA: This product is not considered hazardous waste if discarded.

Residues from welding consumables and processes could degrade and accumulate in soils and groundwater.

14. TRANSPORT INFORMATION

No international regulations or restrictions are applicable.

15. REGULATORY INFORMATION

Read and understand the manufacturer’s instructions, your employer’s safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

WARNING: Welding fumes and gases are hazardous to your health and may damage lungs and other organs. Use adequate ventilation.

ELECTRIC SHOCK can kill.
ARC RAYS and SPARKS can injure eyes and burn skin.
Wear correct hand, head, eye and body protection.

Canada: WHMIS classification: Class D; Division 2, Subdivision A
Canadian Environmental Protection Act (CEPA): All constituents of this product are on the Domestic Substance List (DSL).

USA: Under the OSHA Hazard Communication Standard, this product is considered hazardous.
This product contains or produces a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code § 25249.5 et seq.) United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA inventory list or are excluded from listing.

CERCLA/SARA Title III
Reportable Quantities (RQs) and/or Threshold Planning Quantities (TPQs):

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>RQ (lb)</th>
<th>TPQ (lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ingredients listed in this section</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center and to your Local Emergency Planning Committee.

Section 311 Hazard Class

As shipped: Immediate
In use: Immediate delayed

EPCRA/SARA Title III 313 Toxic Chemicals
The following metallic components are listed as SARA 313 “Toxic Chemicals” and potential subject to annual SARA 313 reporting. See Section 3 for weight percent.

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Disclosure threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese</td>
<td>1.0% de minimis concentration</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

This Safety Data Sheet has been revised due to modifications to several paragraphs and/or new format. This SDS supersedes... 1080/01.

Hazard Communication - Module 4

Supplemental Employee Training*

Details of the *facility specific* hazard communication program:

- Location and availability of written program and SDS’s
- Physical hazards, health hazards and hazards not otherwise classified (HNOC) of chemicals in work area
- Chemical list, location, and use of hazardous chemicals
- Secondary container labeling system
- Specific procedures to protect employees from the chemical hazards
- Methods used to detect the presence or release of hazardous chemicals (sensor alarms, odors, visual other monitoring devices)

Final Steps to complete training - Supplemental Training (to be provided by employer)*

- Employers must provide employees with the details of the facility specific hazard communication program:
  - Location and availability of written program and SDSs
  - Specific information related to chemicals in the facility
  - Physical Hazards
  - Health Hazards
  - Hazards not otherwise classified

# Hazard Communication - Module 4

## 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: 10/2012 to the effective completion dates noted above</td>
<td>Comply with either 29 CFR 1910.1200 (this final standard), or the current standard, or both</td>
<td>Chemical manufacturers, importers, distributors, and employers</td>
</tr>
</tbody>
</table>

*Source: Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors Webinar: http://www.aisc.org/content.aspx?id=35368*
Other Effected Standards

- Signage standards are also impacted

Health Standards

- The substance-specific standards generally pre-date the HCS, and do not have a comprehensive approach to hazard communication.
- The final rule references HazCom 2012 in each standard to ensure they have all the protections of the rule.
- Regulated area signs will need to be updated to reflect the new language.
- Employers have until June 1, 2016 to update the signs.
Hazard Communication - Module 4

Other Standards Affected - Signage Requirements

Asbestos
Carcinogens
Vinyl Chloride
Inorganic Arsenic
Lead
Chromium (VI)
Benzene
Coke Oven Emissions

Acrylonitrile
Ethylene Oxide
Formaldehyde
Methylenedianiline
1,3-Butadiene
Methylene Chloride

**WARNING**

LEAD WORK AREA
POISON
NO SMOKING OR EATING

**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

New Sign “LEAD”

Source: Hazard Communication and the Globally Harmonized System (GHS) for Fabricators and Erectors
Webinar: http://www.aisc.org/content.aspx?id=35368
Hazard Communication - Module 4

Know where your company SDSs are located and if they are accessible!

- Where is the specific location?
Hazard Communication - Module 4

Other Sources
https://www.osha.gov/dsg/hazcom/ghs.html

OSHA Hazard Communication
Globally Harmonized System (GHS)
Hazard Communication - Module 4

In class exercise-learning Activity

Part A-Group Activity-
Navigate an SDS and
extract key information

Part B-Create an SDS
Locator for your shop

Photo from OSHA 3686-09 2010
Hazard Communication - Module 4

Group Learning Objectives:

Participants shall be able to navigate an SDS and extract key information.
Hazard Communication - Module 4

Group Learning Activity Part A

In groups of 4-5 navigate the SDS provided and answer the questions about the product.
You are informing a co-worker of where SDS’s are located in your shop. In groups of 4-5 discuss and describe where your SDS’s can be found in your shop.

Where can they be found? Create an SDS locator to document your answer on the template provided.
Hazard Communication - Module 4

Activity Materials Provided

**Part A**
Question and Answer Template
Sample SDS

**Part B**
SDS Locator Template
Appendix B-2 [https://www.osha.gov/dsg/hazcom/ghs.html#b2](https://www.osha.gov/dsg/hazcom/ghs.html#b2), visited 3/22/2015

### Chemical Stuff
(GHS MSDS Example)

**GHS SAFETY DATA SHEET**

1. **Identification**
   - **Product Name:** Chemical Stuff
   - **Synonyms:** Methylolxy Solution
   - **CAS Number:** 000-00-0
   - **Product Use:** Organic Synthesis
   - **Manufacturer/Supplier:** My Company
     **Address:** My Street, Mytown, TX 00000

   **General Information:** 713-000-0000

   **Transportation Emergency Number:** CHEMTREC: 800-424-9300 FREE

2. **Hazards Identification**

   **GHS Classification:**

<table>
<thead>
<tr>
<th>Health</th>
<th>Environmental</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Category 2 (inhalation), Category 3 (oral/dermal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye Corrosion - Category 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source Appendix B-2 [https://www.osha.gov/dsg/hazcom/ghs.html#b2](https://www.osha.gov/dsg/hazcom/ghs.html#b2), visited 3/22/2015*