Overview of Revised OSHA Hazard Communication Standard

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National Grain and Feed Association
November 14, 2013
Hazard Communication

Presentation Objectives:

- Explaining Globally Harmonized System for Labeling (GHS)
- What is *not* changing
- What is changing
  - Classification of “Combustible Dust”
  - Safety Data Sheets (SDS)
  - Container Labeling
- Suggestions for compliance
The Hazard Communication Standard (HCS) was created to provide workers with information about chemical hazards and hazardous substances on the job, and how to protect themselves against those hazards.
Most Frequently Cited OSHA Standards in Grain Handling Industry

Most Frequently cited standards for LEP Grain Inspections:

• 1910.272 – Grain handling facilities
• 1910.219 – Mechanical power-transmission apparatus
• 1910.023 – Guarding floor and wall openings and holes
• 1910.146 – Permit-required confined spaces
• 1910.305 – Wiring methods, components, and equipment for general use
• 1910.1200 – Hazard Communication
• 1910.147 – The control of hazardous energy (lockout/tagout)
• 1910.178 – Powered Industrial Trucks
• 1910.303 – Electrical, general use
• 1910.134 – Respiratory Protection
Globally Harmonized Standard for Labeling Amendment to OSHA Hazard Communication Standard

- On May 26, 2012 updates to the hazard communication standard became final.
- The majority of the changes involved adopting the Globally Harmonized Standard for Classification of Chemicals or GHS.
- The biggest changes to HazCom 2012 are in the area of combustible dust, data sheets and labeling.
Hazard Communication 2012
Key Implementation Dates

• December 1, 2013
  • Employers must train employees on the new formatted SDS and label requirements.

• June 1, 2015
  • Manufacturers must have converted all SDS and labels to the GHS format and begin sending to distributors and suppliers.
Hazard Communication 2012
Key Implementation Dates

• December 1, 2015
  • Distributors must be sending only new SDS and labels to their customers (employer).

• June 1, 2016
  • Employers must be in full compliance meaning that they have the new SDS’s to replace the old MSDS and products received have the newly formatted labels.
What makes a chemical hazardous?

- Health hazards
- Physical hazards
## OSHA Hazard Communication Standard

### Material Safety Data Sheet

<table>
<thead>
<tr>
<th>Material</th>
<th>Safety Data Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Dust</td>
<td>U.S. Department of Labor</td>
</tr>
</tbody>
</table>

### U.S. Department of Labor

<table>
<thead>
<tr>
<th>Occupational Safety and Health Administration</th>
<th>Federal Register</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOA No. 3088</td>
<td>29 CFR 1910.1200</td>
</tr>
</tbody>
</table>

### Hazardous Ingredients/Identity Information

<table>
<thead>
<tr>
<th>Hazardous Component</th>
<th>Specific Chemical Identity</th>
<th>General Name</th>
<th>OSHA REL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain Dust</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Section III — Physical Chemical Characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td></td>
</tr>
<tr>
<td>Melting Point</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Solubility in Water</td>
<td></td>
</tr>
</tbody>
</table>

### Section IV — Fire and Explosion Hazard Data

<table>
<thead>
<tr>
<th>Flash Point (deg. F)</th>
<th>Flash Point (deg. C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable Limits</td>
<td>Flammable Limits</td>
</tr>
<tr>
<td>LEL</td>
<td>LEL</td>
</tr>
<tr>
<td>UEL</td>
<td>UEL</td>
</tr>
</tbody>
</table>

### Additional Information

- MSDS update: April 1999

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**Current MSDS for Grain Dust**

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Health Hazards

- Cause acute health problems.
  - (Such as corrosives that can burn eyes or skin).
- Cause chronic health problems.
  - (Such as toxic chemicals that can cause long-term illnesses, such as cancer).
Hazard Communication

Physical Hazards

- Flammable/Combustible
- Compressed Gas
- Explosive
- Organic Peroxide
- Oxidizer
- Pyrophoric
- Unstable
- Water Reactive
Examples of Chemicals in Grain Industry

• Anti-freeze and Coolant
• Sealant
• Plastic Cement
• Hydraulic Fluid
• Diesel Fuel
• Fumigants
  • Anhydrous Ammonia
  • Phosphine
Combustible Dust

• HazCom 2012 does not define combustible dust, but defines it as a “hazard, other them chemical”
• OSHA provides guidance through
  • OSHA’s Combustible Dust National Emphasis Program Directive CPL 03-00-008
  • NFPA standards
  • Grain Handling Standard
    o Shipments of products that could produce combustible dusts e.g. whole grain when used in processing or where dust is produced is subject to new rule
    o Grain handling facility could be classified as the manufacturer, distributor and user!
Combustible Dust, cont.

• Materials that present a combustible dust hazard in their shipped form must be labeled.

• Special labeling (f)(4): label may be shipped with the safety data sheet for solid materials that present a hazard only when processed or used downstream.

• The SDS must include the following information:
  • List the classification in Section 2
  • Signal word (Warning)
  • Hazard statements
However, food products such as grain are already covered under FDA provisions and are exempted from OSHA labeling requirements. In addition, there are letters of interpretation that state bulk shipments are exempted from labeling.

Yet, OSHA says that materials that present a combustible dust hazard in their shipped form must be labeled.

This could set potential precedent for “backdoor” rulemaking. That is, topics added to a final rule that were not available for public comment during the rulemaking process.

NGFA along with several other agribusiness organizations has filed a legal petition to review in order to challenge combustible dust requirements.
Manufacturers, distributors and suppliers are responsible for:

- Ensuring that their customers are provided a copy of these MSDS’s/SDS’s.
Hazard Communication: What Hasn’t Changed

Employers are required to:

• Develop a written program describing how the standard elements are implemented.
• Maintain a list of all hazardous chemicals.
• Obtain and make MSDS’s/SDS’s available to employees.
Hazard Communication: What Hasn’t Changed

• Provide employees with training about the Hazard Communication Standard including:
  • How to recognize, understand and use labels and MSDSs/SDSs.
  • Using safe procedures when working with hazardous substances.
• Address non-routine tasks.
Employees are required to:

• Read labels and MSDS’s/SDS’s.
• Follow label and MSDS/SDS instructions and warnings.
• You should know all about the chemicals you use BEFORE you attempt to use them.
2013 Required Training

- The new training required includes the following:
  - (h)(3)(iv) The details of the hazard communication program developed by the employer, including an explanation of the **labels received on shipped containers and the workplace labeling system used by their employer**; the **safety data sheet**, including the order of information and how employees can obtain and use the appropriate hazard information.
Required Training, cont.

- Since HazCom 2012 is requiring a new label and SDS, OSHA has specified that employers must provide training on the new approach.
- The intent of this training is to help ensure that workers can access and use the information on the new labels and SDSs effectively.
- New labels and SDSs are already being produced and are coming into American workplaces.
• Role of labels
  • Immediate source of information
  • New labels have more information
• What is a label element?
  • Each label element should be explained
  • Hazard class should also be addressed to help understand the label elements
  • Example label should be provided
Topics to Address in Training, cont.

- Safety Data Sheet (SDS)
  - Format (sections)
  - Information found on SDSs
- Requirements (accessibility and use)
• Under the previous standard labeling needed to include:
  • The identity of the hazardous chemical.
  • Appropriate hazard warnings and....
  • Name and address of the manufacturer, importer or other responsible party.
Label Requirements

• Labels on shipped containers must include:
  • Product Identifier
  • Signal Word
  • Pictogram
  • Hazard Statement(s)
  • Precautionary Statement(s) - for each hazard class and category
  • Supplier Identification (Name, Address, Phone Number)
Training on Label Elements

- Labels on shipped containers of hazardous chemicals will be changing by June 1, 2015.
- The primary change is that information on labels has been standardized.
  - There are certain types of information required to appear on labels.
  - All suppliers have the same requirements, so labels should be more consistent in approach than current labels.
“Signal word” means a word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label.

The signal words used in this section are “danger” and “warning.” “Danger” is used for the more severe hazards, while “warning” is used for the less severe.
Pictogram

- “Pictogram” means a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical.
- Eight pictograms are designated under this standard for application to a hazard category.
### HCS Pictograms and Hazards

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flame</th>
<th>Exclamation Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogen</td>
<td>Flammables</td>
<td>Irritant (skin and eye)</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Pyrophorics</td>
<td>Skin Sensitizer</td>
</tr>
<tr>
<td>Reproductive Toxicity</td>
<td>Self-Heating</td>
<td>Acute Toxicity (harmful)</td>
</tr>
<tr>
<td>Respiratory Sensitizer</td>
<td>Emiss Flammable Gas</td>
<td>Narcotic Effects</td>
</tr>
<tr>
<td>Target Organ Toxicity</td>
<td>Self-Reactives</td>
<td>Respiratory Tract</td>
</tr>
<tr>
<td>Aspiration Toxicity</td>
<td>Organic Peroxides</td>
<td>Irritant</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hazardous to Ozone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Layer (Non-Mandatory)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gas Cylinder</th>
<th>Corrosion</th>
<th>Exploding Bomb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gases Under Pressure</td>
<td>Skin Corrosion/Burns</td>
<td>Explosives</td>
</tr>
<tr>
<td></td>
<td>Eye Damage</td>
<td>Self-Reactives</td>
</tr>
<tr>
<td></td>
<td>Corrosive to Metals</td>
<td>Organic Peroxides</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flame Over Circle</th>
<th>Environment</th>
<th>Skull and Crossbones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizers</td>
<td>Aquatic Toxicity</td>
<td>Acute Toxicity (fatal or toxic)</td>
</tr>
</tbody>
</table>

- National Grain and Feed Association
“Hazard statement” means a statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.

Example: Fatal if swallowed (Acute Oral Toxicity)
“Precautionary statement” means a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling

- Example: Do not eat, drink, or smoke when using this product
- Example: Keep container tightly closed
HCS/GHS Labeling Components

Paint (Methyl Flammable, Lead Chromomium)

Danger
Causes damage to the liver and kidneys through prolonged or repeated exposure to the skin. Keep away from food and drink. Wash hands thoroughly after use and before eating. Highly flammable liquid and vapour. Keep away from heat and ignition sources.

First Aid
Call emergency medical care. Wash affected area of body thoroughly with soap and fresh water.

Great Lake Paints Inc., Columbus, Ohio, USA. Telephone 999 999 9999

Pictograms
Conveys specific information about the hazard(s) of a chemical

Product Identifier
Chemical name or number to identify the chemical

Signal Word
Alerts level of severity of hazard

Hazard Statement
Describes the nature of hazard(s) associated with a chemical

Precautionary Statement
Recommended measures to take to prevent adverse effects

First Aid Statement
Emergency care information

Supplier Information
Name, address and telephone number of the chemical manufacturer, importer or other responsible party
Safety Data Sheet Format

- New safety data sheets will be organized using a specified order of information
- The required information will appear in the same sections of an SDS regardless of the supplier
- The most important information will be listed in the first sections of the SDS
SDS Sections

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure control/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information
**Example of New Format SDS**

**NFPA 704 Placard & Ratings Voluntarily Provided**

**GHS System and Labels Down in Section 2**

### SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Product XYZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms</td>
<td></td>
</tr>
<tr>
<td>SDS Number</td>
<td>888100008809</td>
</tr>
<tr>
<td>Product Use Description</td>
<td>fuel</td>
</tr>
<tr>
<td>Company</td>
<td></td>
</tr>
</tbody>
</table>

**Chemtrec (Emergency Contact):** (800) 424-9300

### SECTION 2. HAZARDS IDENTIFICATION

**Classifications**
- Flammable Liquid – Category 1 or 2 depending on formulation.
- Aspiration Hazard – Category 1
- Carcinogenicity – Category 2
- Specific Target Organ Toxicity (Repeated Exposure) – Category 2
- Specific Target Organ Toxicity (Single Exposure) – Category 3
- Skin Irritation – Category 2
- Eye Irritation – Category 2B
- Chronic Aquatic Toxicity – Category 2

**Pictograms**

![Pictograms](image)

**Signal Word**
- Danger
SDS Requirements

• SDSs must be readily accessible to workers when they are in their work areas, during each work shift

• Hazard communication works when employers also use SDS information to make sure that proper protective measures are being implemented
Safety Data Sheets

• Distribution
  • An updated SDS must be provided with products shipped by June 1, 2015
  • Companies are not required to send new SDSs to previous customers who may still have the product in inventory
  • New SDSs do not have to be provided for chemicals no longer produced
NFPA and HMIS Labeling Systems

For years these two labeling systems were acceptable to OSHA for labeling portable containers in the workplace.
Labels

• Workplace Labeling
  • No change to general workplace labeling requirements
  • HMIS labels and NFPA ratings, by themselves, are not sufficient for workplace labels
  • NFPA rating systems used for emergency response
• Before the June 1, 2015 deadline, employers may use labels compliant with HCS 1994
• A DOT label (placard) is required for transport. An OSHA/HCS label is required for the workplace.
• The DOT and HCS labels may appear for the same hazard, depending upon the container’s use.
• Consumer products subject to CPSC labeling requirements are exempted from the labeling requirements of the HCS.
Your HazCom 2012 Program

Between now and June 1, 2016 you need to consider doing the following:

• Conduct a thorough review of all hazardous chemicals and substances used or stored at your facility.

• Develop a list (this is required).
Your HazCom 2012 Program

- On your list place a MSDS column and a SDS column.
- Go through your entire list and contact the manufacturer by phone or go on their website and ask for/download an SDS.
- If the SDS is available get it.
- If not make sure you at least have the MSDS.
- Place a check in the SDS column every time you are successful obtaining the SDS.
Your HazCom 2012 Program

• Then every 3 to 6 months go back to your list and attempt to obtain more SDS’s until you get them all.
• Remember there is a phase in process so you will not be successful obtaining SDS’s right away.
Your HazCom 2012 Program – Labeling

• Make sure your program properly addresses labeling, especially labeling of portable containers in the workplace.
• Labels for portable containers in the workplace must have either:
  • The same information as the manufacturer label with the exception of the manufacturer’s address or...
HazCom 2012 Summary

• Develop a written program describing how the standard elements are implemented.
• Maintain a list of all hazardous chemicals.
• Obtain and make data sheets available to employees.
• Train your employees on the new SDS and label requirements.
Example of Training Certificate

CERTIFICATE OF TRAINING

HAZCOM 2012

This is to certify that I have attended the above training program which has informed me of the following:

- Explained benefits of OSHA aligning with Globally Harmonized Standards including:
  - Common hazard definitions
  - Specific labeling criteria
  - Standardized Data Sheets
- Reviewed some of the common health and physical hazards of chemicals.
- Discussed what has not changed in the hazard communication standard such as:
  - Written programs
  - Chemical list
  - Safety Data Sheets
  - Training
  - Non-acute tasks
- Covered the major changes to the hazard communication standard mainly:
  - Safety Data Sheets
  - Labeling
- Material Safety Data Sheets (MSDS) are now called Safety Data Sheets (SDS).
- Safety Data Sheets are now standardized and include 16 sections instead of 9 previously.
- Reviewed sample SDS.
- Labels now require 6 specific items which are:
  - Name
  - Signal Word
  - Hazard Statement
  - Pictograms
  - Preventive Statements
  - Name, address and phone number of manufacturer
- Reviewed sample label as well as all 9 pictogram symbols.
- Discussed the implementation dates for training, SDS and labels.

Date

Employee Signature

Date

Trainer’s Signature

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Example of Training Quiz

GHS Pictogram Quiz

Match the Pictogram to the corresponding Hazards:

1. Acute Toxicity: The adverse effects of a substance that result either from a single exposure or from multiple exposures in a short space of time. May be fatal or toxic.
2. Oxidising Agent: Strong oxidizers are capable of forming explosive mixtures when mixed with combustible, organic or easily oxidized materials.
3. Aquatic Toxicity: The effects of manufactured chemicals and natural materials and activities on aquatic organisms.
4. Health Hazard: Substance may be a carcinogen, can damage eyes, lungs, or other target organs; can also cause sensitization, mutagenesis, or respiratory sensitization.
5. Corrosion: Causes skin corrosion or burns, can cause eye damage. Corrosive to metals.
6. Gases Under Pressure including compressed gases. Liquidified gases. Gas released may be very cold. Gas container may explode if heated.
7. Explosives: Explosive articles, and substances as well as mixtures and articles that are manufactured to produce a practical explosive or pyrotechnic effect.
8. Flammable: Flammable liquids, solids, or aerosols; self-reactive or pyrophoric material; self-heating substances and mixtures, organic peroxides.
9. Irritant: Harmful to the skin or eyes, a skin sensitizer or respiratory irritant, may experience narcotic effects.

Countries all over the world are beginning to adopt the United Nations' universal approach to classifying and communicating chemical hazards. The GHS pictograms are provided to assist in evaluating the GHS labeled elements. Chemical hazard communication is used to identify hazardous products for:

- Chemical Risks
- Health Risks
- Environmental Risks

National Grain and Feed Association
HAZARD COMMUNICATION

The standard that gave workers the right to know, now gives them the right to understand.

Safety & Health Topics Page: Hazard Communication

Labeling  Safety Data Sheets  Pictograms  Effective Dates

"Exposure to hazardous chemicals is one of the most serious threats facing American workers today," said U.S. Secretary of Labor Hilda Solis. "Revising OSHA's Hazard Communication standard will improve the quality and consistency of hazard information, making it safer for workers to do their jobs and easier for employers to stay competitive."

The Hazard Communication Standard (HCS) is now aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This update to the Hazard Communication Standard (HCS) will provide a common and coherent approach to classifying chemicals and communicating hazard information on labels and safety data sheets. Once implemented, the revised standard will improve the quality and consistency of hazard information in the workplace, making it safer for workers by providing easily understandable information on appropriate handling and safe use of hazardous chemicals. This update will also help reduce trade barriers and result in productivity improvements for American businesses that regularly handle, store, and use hazardous chemicals while providing cost savings for American businesses that periodically update safety data sheets and labels for chemicals covered under the hazard communication standard.
Updated Webpages

• HazCom 2012 Webpage
  http://www.osha.gov/dsg/hazcom/index.html

• Safety & Health Topics Webpage
  http://www.osha.gov/dsg/hazcom/index2.html

• UN GHS Sub-Committee Home Page
  http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html
Thank You

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