The New HazCom: A Globally Harmonized System

Hazard Communication Standard (HCS) adopted in 1983. Covers 43+ million workers. Covers over 5 million workplaces. Covers over 880,000 chemicals. GHS is not a standard, regulation or mandate. Each country must adopt this system and it’s a “building-blocks approach” OSHA is referring to GHS as Hazcom 2012.
Add one thing to objective. To help employers know what some of the steps they can do today to start to become compliant with GHS.

Objectives / Training

- Overview of GHS adoption
- Provide training on GHS-required elements:
  - Labels
  - Pictograms
  - Safety data sheets
The New HazCom

- Covers over 5 million workplaces.
- Covers over 880,000 chemicals.
- GHS is not a standard, regulation or mandate.
- Each country must adopt this system and it’s a “building-blocks approach”
- OSHA is referring to GHS as Hazcom 2012.
These are the 3 major changes to the new hazcom standard.
Globally Harmonized System

- GHS: What is different?
  - Hazard determination → Hazard classification
  - Labels
  - Safety Data Sheets

This is the UN classification book. Hazcom 2012.
“Classification” means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and to see if that chemical will be classified as hazardous according to the definition of hazardous chemical.

Hazard Classification

- **Old system**
  - Performance-based standard
  - Hazards are loosely defined in the rule
  - Does the chemical meet the definitions?

- **New GHS**
  - Specific criteria for physical and health hazards
  - Detailed instructions for hazard evaluation
  - Establishes hazard classes and hazard categories
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How Will Labels Change?

- Chemical Identifier
- Supplier Identifier
- Pictograms
- Signal words
- Hazard statements
- Precautionary statements

Old system – Label preparer must provide the identity of the chemical (what it is) and appropriate hazard warnings (what it does).
New GHS – Hazard classification will generate label requirements specific for each hazard class and category.
chemical Identifier

- How the hazardous chemical is identified.
  - Chemical name
  - Code or batch number

- Under GHS, Hazard Classification will generate label requirements specific for each hazard class and category.

Old system – Label preparer must provide the identity of the chemical (what it is) and appropriate hazard warnings (what it does).
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Supplier Identifier

- Supplier can decide the appropriate product identifier.

- The same product identifier MUST be both on the label and in Section 1 of the SDS (identification).

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Pictograms
Pictograms – Health Hazard

- Carcinogen
- Mutagenicity
- Reproductive toxicity
- Respiratory sensitizer
- Target organ toxicity
- Aspiration toxicity
Flammables
Pyrophoric
Self-heating
Emits flammable gas
Self-reactives
Organic peroxides
Pictograms – Exclamation Mark

- Irritant (skin and eye)
- Skin sensitizer
- Acute toxicity (harmful)
- Narcotic effects
- Respiratory tract irritant
- Hazardous to ozone layer* (*non-mandatory)
Pictograms – Gas Cylinder

- Gases under pressure
Pictograms – Corrosion

- Skin corrosion and burns
- Eye damage
- Corrosive to metals
Pictograms – Exploding Bomb

- Explosives
- Self-reactives
- Organic peroxides
Oxidizer example is hydrogen peroxide, ozone, and nitric acid
Pictograms – Skull and Crossbones

- Acute toxicity (fatal or toxic)
Pictograms – Environment*
(*non-mandatory)

- Aquatic toxicity
“the red frame is required regardless”
OSHA “requires that all red borders printed on the label have a symbol printed inside it.”
Hazard Statement

- Causes skin irritation.
- Fatal if swallowed.
- Causes eye damage.
- Extremely flammable material
- May intensify fire; oxidizer
- Contains gas under pressure; may explode if heated
- May cause damage to organs
Precautionary Statement

This statement indicates how the product should be handled to minimize risks to the user.

- Keep away from heat/sparks/open flames/hot surfaces
  - No smoking
- Do not allow contact with air
- Use only non-sparking tools
- Wear protective gloves/protective clothing/eye protection/face protection
- Wear respiratory protection

Indicating how the product should be handled to minimize risks to the user (as well as to other people and the general environment)
Old system – Label preparer must provide the identity of the chemical (what it is) and appropriate hazard warnings (what it does).
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**Signal Words**

- Used to indicate the relative severity of hazard and alert the reader of the potential hazard on the label

  - **Danger**- more severe hazards
  - **Warning**- less severe hazards

- Only one signal word can be on a label.
GHS Labels

**CHEMICAL X**

**DANGER**

**HAZARD STATEMENTS:**
- Fatal if swallowed.
- Causes severe skin burns and eye damage.

**PRECAUTIONARY STATEMENTS:**
- Wear protective gloves.
- Wear face protection.
- Do not eat, drink or smoke when using this product.
- Wash hands thoroughly after use.
- Store in a sealed container.
- If on skin: Rinse immediately with water. Seek medical attention.
- If in eyes: Rinse thoroughly with water and seek medical attention.
- If swallowed: Do not induce vomiting. Seek medical attention.

Dispose of contents/container in accordance with local regulations.

*Chemical X Manufacturing, 1234 Over There St., (123) 456-7890*

See the S.D.S for more information.

**Product J**

**(abc chemical)**

**Danger**

- Fatal if swallowed.
- Causes skin irritation.

**Precautions:**
- Wear protective gloves.
- Take off contaminated clothing and wash before reuse.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Store locked up.

Dispose of contents/container in accordance with local regulations.

- If on skin: Rinse skin with water/hose.
- If in eyes: Rinse cautiously with water.
- If swallowed: Immediately call a Poison Center or doctor/physician. Do not induce vomiting.

*ABC Chemical Co., 123 Anywhere St., (123) 456-7890*

See the SDS for more information.
Workplace Label Provisions?

- Employers have a choice:
  - Use same label as shipping containers, or, another equivalent system
  - NFPA 704 and HMIS *may* be OK*
Safety Data Sheets (SDS)
Old system – Label preparer must provide the identity of the chemical (what it is) and appropriate hazard warnings (what it does).
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Safety Data Sheet- Requirements

As of June 1, 2015, the SDS is required to:

- Be in a uniform format
- MUST be in English
- Include the section numbers
- Include the headings and associated information under the SDS headings.
Safety Data Sheet

› Safety data sheets (SDS) remain the backbone of HCS. With the revision there is a name and formatting change.
› The M is dropped from MSDS and more importantly a standardized 16 section format with a required ordering of sections is mandatory.
› This format is essentially the American National Standard for Hazardous Workplace Chemicals—Hazard Evaluation and Safety Data Sheet and Precautionary Labeling Preparation, ANSI Z400.1/Z129.1-2010.

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# Safety Data Sheet

<table>
<thead>
<tr>
<th>REQUIRED ELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section 1. Identification</strong></td>
</tr>
<tr>
<td><strong>Section 2. Hazard(s) identification</strong></td>
</tr>
<tr>
<td><strong>Section 3. Composition/ingredients</strong></td>
</tr>
<tr>
<td><strong>Section 4. First-aid measures</strong></td>
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<tr>
<td><strong>Section 5. Fire-fighting measures</strong></td>
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<tr>
<td><strong>Section 6. Accidental release measures</strong></td>
</tr>
<tr>
<td><strong>Section 7. Handling and storage</strong></td>
</tr>
<tr>
<td><strong>Section 8. Exposure controls and PPE</strong></td>
</tr>
</tbody>
</table>

Sections 1 through 8 contain general information that should be helpful to those who need to get the information quickly. Sections 9 through 16 contain other scientific and technical information.
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Safety Data Sheet

• Simply put, the SDS will be in the same format for all manufacturers.
TLV™

- American Conference of Governmental Industrial Hygienists (ACGIH)

- Threshold Limit Values™

- TLVs (and NIOSH RELs) v. OSHA PELs

  Recommendations Enforcable
Why Change HazCom?

- Better management of chemicals
- Reduce chemical exposures
- Prevent injuries, illnesses, and fatalities
- Save money through productivity improvements
  - Standardized SDS
  - Simplified training
  - Easier international trade

Reduce non-tariff trade barriers.
Cost Benefit Analysis

- **Annual cost**
  - Cost of implementing new HazCom = $201M/yr

- **Annual benefits**
  - Reduction in injuries and fatalities = $250M/yr
  - Productivity improvements = $750M/yr
  - Total benefits = $1B/yr

http://www.osha.gov/dsg/hazcom/hazcom-faq.html
Rule-Making

› GHS is UN document with 2-year revision cycle

› OSHA believes “further updates of HCS may be necessary”
  ◦ History
    • HCS – 1994
    • GHS – 2012
<table>
<thead>
<tr>
<th>Effective Completion Date</th>
<th>Requirement(s)</th>
<th>Who</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1, 2013</td>
<td><strong>Train employees on the new label elements and safety data sheet (SDS) format.</strong></td>
<td>Employers</td>
</tr>
<tr>
<td>June 1, 2015 - December 1, 2015</td>
<td>Compliance with all modified provisions of this final rule, except: The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label</td>
<td>Chemical manufacturers, importers, distributors and employers</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 physical or health hazards.</td>
<td>Employers</td>
</tr>
<tr>
<td>Transition Period to the effective completion dates noted above</td>
<td>May comply with either 29 CFR 1910.1200 (the final standard), or the current standard, or both</td>
<td>Chemical manufacturers, importers, distributors, and employers</td>
</tr>
</tbody>
</table>
**Important Dates**

- March 26, 2012 - The final rule of GHS is sent to the federal register (Published).


- **December 1, 2013** – Employers have to train employees on how to read and identify GHS labels and SDS.
Important Dates

- June 1, 2015 – Chemical manufacturer’s distributors have to be in compliance with GHS. One caveat is that chemical distributors will have an additional 6 months (December 1, 2015) to discard old chemicals containing old labels.

- June 1, 2016 – Employers must be fully compliant with GHS.
Things For Employers To Do

› Make sure the staff is on the lookout for new, GHS formatted SDS’s. Especially for chemicals you already receive.

› Talk to your chemical suppliers and ask them about their plans to transition into GHS.

› Be active and have a plan in place to make sure employees are ready.

› Don’t forget about SARA obligations.
Conclusion

- GHS is here to stay.
- New format for labels and SDS.

www.osha.gov
Questions???