Something as simple as a pictogram can make hazardous chemicals safer for handling, especially when accompanied by a comprehensive safety data sheet and thorough employee training.

OSHA has adopted the Globally Harmonized System (GHS) for the Classification and Labeling of Chemicals. It’s a change to OSHA’s Hazard Communication Standard (HCS), and while implementation will happen in stages, it’s time to start planning how your organization will transition into the GHS requirements.

The GHS is expected to improve worker safety and health with a more effective system of communicating chemical hazards. The U.S. is one of several countries around the world to implement the new system, including Canada, the European Union, China, Australia and Japan.

OSHA’s HCS revisions include changes to definitions, hazard classification, labels and other forms of warning, safety data sheets (SDSs) and employee information/training. The goal of the new system is to make clear the nature of the hazardous chemicals workers handle, which helps minimize their risk of exposure.
Compliance Requirements and Deadlines

Employer responsibilities under the revised HCS:

- Effectively communicate the information you receive from your suppliers to all employees exposed to hazardous chemicals
- Update your hazard communication program
- Ensure that exposed employees are provided with labels, access to SDSs and training on the hazardous chemicals in their workplace.

By June 1, 2016, employers must be in full compliance with the revised OSHA standard and employees must be trained on the organization’s written HCS program, the new GHS labels on shipped containers, workplace labels, and SDS location(s), format and details, but there is work to do between now and the June 2016 deadline. Employers are required to train workers by December 1, 2013, on the new label elements and SDS format to ensure employees understand both.

Recommended Steps for Making the Transition to GHS

1. **Perform a complete chemical inventory** to determine needs and make a master list of what is used currently.

2. **Contact your chemical suppliers** to determine when they will be providing the new 16-section SDS and acquire, alphabetize and review them by June 1, 2016.

3. **Determine within your organization if you will keep or change your in-house chemical labeling program/system.** You can maintain your current in-house labeling system, such as NFPA or HMIS labels. If, according to the new SDSs, any hazard classes change, you will need to update workplace labels accordingly.

Conduct employee training by the compliance dates. Explain how to read the updated labels, how to interpret the new pictograms and what the various signal words, hazard statements and precautionary statements mean.

Hazard Classification Pictograms and Hazards

There are nine pictograms under the GHS that will be used to convey the health, physical and environmental hazards of hazardous chemicals.

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**HCS Pictograms and Hazards**

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flame</th>
<th>Exclamation Mark</th>
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</thead>
<tbody>
<tr>
<td>- Cancersogen</td>
<td>- Flammables</td>
<td>- Irritant (skin and eye)</td>
</tr>
<tr>
<td>- Mutagenicity</td>
<td>- Pyrophogenics</td>
<td>- Skin Sensitizer</td>
</tr>
<tr>
<td>- Reproductive Toxicity</td>
<td>- Self-Heating</td>
<td>- Acute Toxicity (harmful)</td>
</tr>
<tr>
<td>- Respiratory Sensitizers</td>
<td>- Emits Flammable Gas</td>
<td>- Resistant Effects</td>
</tr>
<tr>
<td>- Target Organ Toxicity</td>
<td>- Self-Reactivates</td>
<td>- Respiratory Tract Irritant</td>
</tr>
<tr>
<td>- Aspiration Toxicity</td>
<td>- Organic Peroxides</td>
<td>- Hazardous to Dogs</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/ Burn</td>
<td>- Explosives</td>
</tr>
<tr>
<td>- Eye Damage</td>
<td>- Corrosive to Metals</td>
<td>- Self-Reactivates</td>
</tr>
<tr>
<td>- Organic Peroxides</td>
<td></td>
<td>- Organic Peroxides</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flame Over Circle</th>
<th>Environment (Non-Mandatory)</th>
<th>Skull and Crossbones</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Oxidizers</td>
<td>- Aquatic Toxicity</td>
<td>- Acute Toxicity (Inhalation or contact)</td>
</tr>
</tbody>
</table>

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**Labels**

All labels must include a signal word, pictogram, hazard statement and precautionary statement for each hazard class and category. Employers are responsible for maintaining the labels on the containers and for training their employees on the hazards listed on the labels in the workplace. Labels must:

- Be legible
- Contain the pertinent information (such as the hazards and directions for use)
- Be unable to be defaced or removed in any way (e.g., fade, get washed off)
Shipped Container Labels vs. In-House Labels

It is important to note that an organization’s workplace (in-house) labels are not required to replicate the GHS label that appears on the shipped container label. Employers can continue using their current in-house labeling system, such as NFPA and HMIS, to label “immediate-use” containers.

However, the more an employer’s in-house label deviates from the shipping label, the more training will be needed to ensure employees understand both. As an example, OSHA’s flammability numerical classification and NFPA’s flammability numerical classification are opposite. NFPA’s classification designates 4 as the highest hazard (lowest flashpoint) whereas OSHA designates 1 as the chemical with the highest hazard (lowest flashpoint).

Given the potential for confusion, employers may prefer to label workplace containers with the new GHS shipping labels and use the pictograms on the left.

Safety Data Sheets

Under the revised GHS, OSHA now has a specific order and format that must be followed for the 16-section SDS. (NOTE: Sections 12-15 may be included in the SDS, but they are not required by OSHA.)

- 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 considerations
- Section 14. Transport information
- Section 15. Regulatory information
- Section 16. Other information, including date of preparation or last revision

What Does This Mean for Employers?

Organizations must have an SDS in the workplace for each hazardous chemical used. All SDSs must be readily accessible during each work shift to employees when they are in their work area(s).

You are considered in OSHA compliance from December 1, 2013, if you maintain your current MSDS files for chemicals used on-site. You should be requesting the new SDSs during this time and use either an MSDS or SDS, as long as employees are properly trained and know which one to use.

By June 1, 2016, employers are required to have completely converted their MSDS files to SDS files and completed training for employees on the new 12-16 section SDS, its location and information.

Learn More

More information on the revised HCS, including the link to the Federal Register notice, can be found on OSHA’s hazard communication safety and health topics page at www.osha.gov/dsg/hazcom/index.html. Your Lockton Loss Control Consultants are also available to help answer the questions you may have about minimizing the risk among employees who handle hazardous materials.
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To be the best place to do business and to work