WORKCARE UPDATE

The Globally Harmonized System of Classification and Labeling of Chemicals

Employers, chemical handlers, OSHA enforcement officers respond to June 1, 2015, HazCom deadline

*This **WorkCare Update** explains Hazard Communication Standard compliance requirements and deadline extensions.*

A June 1, 2015, compliance deadline applies to U.S. companies that deal with chemicals—with some critical exceptions.

Changes in the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS 2012) affect an estimated 43 million workers in more than 5 million workplaces. Last updated in 1994, the 2012 version of the standard incorporates the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

The GHS promotes a standardized approach to classifying and communicating information about chemical hazards, regardless of their origins. The system is designed to reduce human and environmental exposure risks by increasing consistency in the production, transport and use of chemicals internationally throughout the product life cycle.

The June 1 deadline is part of OSHA's phased approach to HCS 2012 implementation and enforcement. The updated standard changes procedures related to chemical mixture classifications, the use of safety data sheets (SDS, formerly called material safety data sheets or MSDS) and labeling. It retains fundamental elements of HCS 1994 including:

- Written, site-specific hazard communication programs
- Complete inventory of all hazardous chemicals present in the workplace
- Safety data sheets for all hazardous chemicals
- Proper use of labels and warning signs
- Employee training on regulations, health hazards and response

"The adoption of GHS shifts the focus from workers' right to know to workers' right to understand," Tom Jacques, an independent consultant who specializes in GHS/HCS implementation, said during a recent *OH&S* webinar. "It's not enough to provide them with information. It's very important to be sure that employees comprehend the hazards and understand terms" such as flammable, toxic and target organs.

According to Jacques, about 40 percent of the affected workforce reads at or below eighth-grade level, making ongoing senior management commitment and the use of engaging training methods essential to ensure comprehension and compliance. "This is particularly true when success requires a change in behavior," he said.

Deadline Exceptions

There are two exceptions to the June 1 deadline under HCS 2012 Section 1910.1200:

- Distributors have until Dec. 1, 2015, to adopt updated labels.

- Employers have until June 1, 2016, to update labels, tags or marks on hazardous chemical containers, update hazard communication programs and provide additional employee training on any newly identified physical or health hazards.

All affected entities were required to train employees on updated labeling and SDS requirements by Dec. 1, 2013.

OSHA Enforcement Guidance

The complexity of the regulations and inability of some upstream suppliers to make a timely transition to HCS 2012 has created adoption delays downstream, in turn creating challenges for OSHA inspectors.

In a Feb. 9, 2015, memo to OSHA regional administrators, Thomas Galassi, head of the Directorate of Enforcement Programs, describes the agency's enforcement position as it applies to compliance inspections of chemical manufacturers, importers (including product formulators) and distributors. The guidance is valid for two years and may be revised during that time period.

At the discretion of OSHA-certified health and safety officials, a deadline extension may granted, but only to manufacturers and importers who have demonstrated "reasonable and good faith efforts to meet the effective date but, due to circumstances outside of their control (i.e., have not received upstream suppliers' classifications and SDS), have not been able to do so." Similarly, a de facto extension for distributors who have not received compliant SDS from suppliers may be allowed as long as there is evidence of a good faith effort to obtain required information.

Good faith efforts include documented attempts to:

- obtain classification information and SDS from upstream suppliers
- find hazard information from alternative sources such as chemical registries
- classify data themselves

Employers who have demonstrated good faith and not received updated SDS or labels for hazardous chemicals used in their business will not be cited. However, once they receive HCS 2012-compliant SDS and labels, they must maintain them and follow workplace labeling requirements in accordance with regulations.

After June 1, upstream raw material suppliers that do not have HCS 2012-compliant SDS or labels available for downstream manufacturers or product formulators will be subject to citations.

Further, as outlined in the memo:

SDS: A manufacturer or importer must create HCS 2012-compliant SDS within six months from the date it receives hazard information for all ingredients in a mixture; failure to comply could result in citations. Distributors who fail to provide updated SDS to other distributors or employers also will be subject to citations.

In effect, this is an extension. Under the standard, manufacturers and importers are required to update SDS within three months after receiving new information. Once available, the manufacturer or importer must provide the HCS 2012-compliant SDS with the next shipment and when requested by a distributor or employer.

Labels: A manufacturer or importer must use updated container labels within six months of developing HCS 2012-compliant SDS. This accommodation is provided as a "reasonable relief" to a requirement that container labels be revised within six months of receiving new hazard information. Pending the receipt of necessary information, distributors may use 1994-era labels.

Background

An international global harmonization mandate was adopted in 1992 at the United Nations Conference on Environment and Development (Earth Summit) as the foundation for comprehensive national programs.

Requirements for hazard definitions, labeling and safety data sheets vary among nations. Within the U.S., regulatory practices are not necessarily consistent across all governmental entities or enforcement agencies. These differences sometimes require the use of multiple labels and/or SDS for the same product. The GHS creates a standardized system for the same product in international trade.

The OSHA HazCom standard originally enacted in 1983 required chemical manufacturers and importers to include hazard information on labels and MSDS but it did not establish standardized formats.

According to OSHA, benefits associated with incorporating the GHS into HSC 2012 include:

- improved comprehension of hazards, especially among at-risk, limited-literacy workers
- quicker and easier access to information on labels and SDS
- millions of dollars in estimated savings as a result of productivity enhancements, simplified SDS and labels, and updated training
- lowering of trade, language and cultural barriers by aligning with systems around the world

More About Key Elements of the Standard

Communication

Communication on hazards and appropriate protective measures includes:

- information on chemical classifications
- workforce training including instruction on health hazards and effective use of labels, for example, to ensure proper storage, facilitate a rapid response in the event of an exposure or improve awareness of multiple hazards
- developing and maintaining a written hazard communication program for the workplace, including a record of all hazardous chemicals present
- preparation and distribution of SDS to employees and downstream recipients

Labeling

All labels are required to have:

- standardized pictograms
- a signal word—either warning or danger
- hazard and precautionary statements
- product identifier
- supplier identification

The actual format or label layout is not specified in the standard. Alternative labeling systems such as the National Fire Protection Association 704 Hazard Rating and the Hazardous Information System are permitted for workplace containers.

Pictograms

The HCS calls for the use of eight of nine GHS pictograms for hazard classes and transport; the exception is an environmental pictogram. Required pictograms must be in the shape of a square set at a point and include a black hazard symbol on a white background with a red frame. A black border may be used in some circumstances if restricted to a specific workplace.

Examples of hazard class pictograms:

Flammables, self-reactive, etc.

Corrosives

Examples of transport pictograms:

Oxidizing gases, liquids or solids

Explosive divisions

Signal word

There are two choices: *danger* or *warning*. Within a specific hazard class, *danger* is used for more severe hazards and *warning* is used for the less severe hazards. Only one signal word corresponding to the class of the most severe hazard should be used.

Danger

Warning

Hazard statements

Hazard classification statements are used to describe the nature and degree of the hazard(s) of a chemical, for example, "causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin."

Precautionary statements

These statements describe measures to help minimize or prevent adverse effects from exposure to a hazardous chemical or from improper storage or handling. There are four types:

- prevention (to minimize exposure)
- response (in case of spills, fumes, emergency response or first aid)
- storage
- disposal

Product identifier

Information on labels includes product identifiers such as the chemical name, code number or batch number. The manufacturer, importer or distributor selects the product identifier, which also must be on the label and listed in Section 1 of the SDS under identification.

Supplier identification

Labels must include the name, address and phone number of the chemical manufacturer, distributor or importer.

Supplemental information

Supplemental information may be listed on the container of a hazardous product but is not required under the GHS. In some cases this information may be required by another authority or provided at the discretion of the manufacturer/distributor.

Safety Data Sheets

Distributors are allowed to ship chemicals, including existing stock, with 1994-era labels until Dec. 1, 2015. To be compliant, the SDS should contain 16 headings and related information.

The 16 sections are:

1. Identification of the supplier and substance/mixture
2. Hazard identification
3. Composition/information on ingredients
4. First aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls and 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 including instructions on preparation and revision of the SDS

*Sections 12-15 are mandatory. However, OSHA is not expected to enforce them. A table comparing MSDS to SDS is provided in Appendix A of OSHA's GHS guidance document.

The new 16-section format is viewed as a useful resource for hazard communication planning, inventory, labeling and training. A properly formatted SDS will provide the information needed to design and print compliant labels. If an SDS is not provided with chemical packaging, it may be available for download on the manufacturer's website.

Hazard Classification

Chemical manufacturers and importers are required to classify the hazards of the chemicals they produce or import. There are two hazard classes—16 physical hazards and 10 health hazards:

Physical Hazards	
Explosives	Pyrophoric liquids
Flammable gases	Pyrophoric solids
Flammable aerosols	Self-heating substances
Oxidizing gases	Substances which in contact with water emit flammable gases
Gases under pressure	Oxidizing liquids
Flammable liquids	Oxidizing solids
Flammable solids	Organic peroxides
Self-reactive substances	Substances corrosive to metal

Health Hazards	
Acute toxicity	Germ cell mutagenicity
Skin corrosion	Carcinogenicity
Skin irritation	Reproductive toxicity
Eye effects	Target organ systemic toxicity: single and repeated exposure
Sensitization	Aspiration toxicity

For mixtures and alloys, for example, the toxicity of all chemical ingredients and their related effects must be identified.

U.S. chemical manufacturers have voluntarily provided customers with safety data information since the early 1980s and many have already transitioned to HCS 2012-complaint labels and forms. Moving forward, responsiveness, effective training and consistent enforcement of required provisions will be essential for the system to be fully implemented by 2016, industry experts say.

Resources:

1. OSHA's Hazard Communication Safety and Health website, with links to guidance materials: www.osha.gov/dsg/hazcom/index.html
2. United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), 4th Revised Edition: www.unece.org/fileadmin/DAM/trans/danger/publi/ghs/ghs_rev04/English/ST-SG-AC10-30-Rev4e.pdf
3. U.S. Environmental Protection Agency information on pesticide labeling: www.epa.gov/oppfead1/international/globalharmon.htm