



Globally Harmonized Standard (GHS) simplifies and standardizes the classification and labeling of hazardous substances

# Changes to the Hazard Communication Standard: OSHA Aligns Standards with the Globally Harmonized System (GHS)



Connecticut Interlocal Risk Management Agency  
545 Long Wharf Drive, 8th Floor  
New Haven, Connecticut 06511  
[www.CIRMA.org](http://www.CIRMA.org)

October 2012

# Information about the identity and hazards of chemicals must be made available and understandable.

“With this new system, workers in the United States will have the same simple, concise information they need to understand how to prevent injuries and illnesses.”

Assistant Secretary David Michaels, OSHA

## **Addition of the Globally Harmonized System to the Hazard Communication Program**

In March 2012, the Occupational Safety and Health Administration (OSHA) announced the final rule for the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. The changes to OSHA’s Hazard Communication Standard bring the United States into alignment with the United Nation’s Globally Harmonized System of Classification and Labeling of Chemicals (GHS), thus further improving safety and health protection for the nation’s workers. The GHS builds on the success of OSHA’s current Hazard Communication Standard by clarifying and standardizing the labeling of and communications regarding hazardous materials.

The GHS standardizes and harmonizes the classification and labeling of hazardous chemicals. It is a logical and comprehensive approach that:

- Defines the health, physical, and environmental hazards of chemicals;
- Creates classification processes that use available data on chemicals for comparison with the defined hazard criteria; and
- Communicates hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS).

The change will effect municipalities and school districts who employ workers that handle or use hazardous chemicals on the job, including:

- Maintenance workers
- Custodians,
- Public Works employees,
- Parks and recreation workers,
- Science and art teachers,
- Kitchen workers, and
- School nurses.

The new rules are expected to reduce administrative burden and to prevent injuries and illnesses by clarifying the labeling and communication regarding hazardous chemicals.

The requirements will be phased in as shown on the following page:

Under the old system, there were no firm rules for what a label or MSD sheet should look like or how information was presented.

“OSHA requires that employees be trained on the new label elements (for example the pictograms and signal words) and SDS format by December 2013. Full compliance with the final rule is required by 2015.”

CIRMA Risk Management

### Effective Dates, Parties Effected, and Action Required

<p><b>December 1, 2013</b></p> <p>All employers that use, handle, store chemicals</p>	<p>Train employees on the new chemical labels and safety data sheets or SDSs (formally Material Safety Data Sheets or MSDSs).</p>
<p><b>June 1, 2015</b></p> <p>Chemical manufacturers, importers, distributors</p>	<p>Comply with all the requirements of the GHS rule, except distributors, who have until December 1, 2015 to comply with the shipping requirements listed on container labels.</p>
<p><b>December 1, 2015</b></p> <p>Chemical manufacturers, importers, distributors</p>	<p>All shipments of chemical containers must include the GHS-compliant label (signal word, pictogram, hazard statement, and precautionary statement)</p>
<p><b>June 1, 2016</b></p> <p>All employers that use, handle, store chemicals</p>	<p>Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.</p>

### Major Changes to the Hazard Communication Standard

**Hazard Classification:** Hazard classification under the new, updated standard provides specific criteria to address health and physical hazards as well as classification of chemical mixtures for chemical manufactures and importers.

**Information and training:** To facilitate understanding of the new system, the standard requires that **workers be trained by December 1, 2013** on the new label elements and Safety Data Sheet format, in addition to the current training requirements Safety Data Sheets

**Labels:** Chemical manufacturers and importers must provide a label that includes a **signal word, pictogram, hazard statement, and precautionary statement** for each hazard class and category.

There are nine **pictograms** used under the GHS to convey health, physical and environmental hazards. The final Hazard Communication Standard requires eight of these pictograms, the exception being the environmental pictogram, as environmental hazards are not within OSHA’s jurisdiction.

The hazard pictograms and their corresponding hazards are shown on the following page:

# Under the new GHS system, everyone uses the same underlying criteria to classify chemicals.

“Behind every image are uniform organization and classification systems that spell out the potential hazards and protections in terms that everyone, worldwide, can understand”

Assistant Secretary David Michaels, OSHA

## Hazard Communication Pictograms and Hazards

<p><b>Health Hazard</b></p>  <ul style="list-style-type: none"> <li>• Carcinogen</li> <li>• Mutagenicity</li> <li>• Reproductive Toxicity</li> <li>• Respiratory Sensitizer</li> <li>• Target Organ Toxicity</li> <li>• Aspiration Toxicity</li> </ul>	<p><b>Flame</b></p>  <ul style="list-style-type: none"> <li>• Flammables</li> <li>• Pyrophorics</li> <li>• Self-Heating</li> <li>• Emits Flammable Gas</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>	<p><b>Exclamation Mark</b></p>  <ul style="list-style-type: none"> <li>• Irritant (skin and eye)</li> <li>• Skin Sensitizer</li> <li>• Acute Toxicity</li> <li>• Narcotic Effects</li> <li>• Respiratory Tract Irritant</li> <li>• Hazardous to Ozone Layer (Non-Mandatory)</li> </ul>
<p><b>Gas Cylinder</b></p>  <ul style="list-style-type: none"> <li>• Gases Under Pressure</li> </ul>	<p><b>Corrosion</b></p>  <ul style="list-style-type: none"> <li>• Skin Corrosion/Burns</li> <li>• Eye Damage</li> <li>• Corrosive to Metals</li> </ul>	<p><b>Exploding Bomb</b></p>  <ul style="list-style-type: none"> <li>• Explosives</li> <li>• Self-Reactives</li> <li>• Organic Peroxides</li> </ul>
<p><b>Flame Over Circle</b></p>  <ul style="list-style-type: none"> <li>• Oxidizers</li> </ul>	<p><b>Environment (Non-Mandatory)</b></p>  <ul style="list-style-type: none"> <li>• Aquatic Toxicity</li> </ul>	<p><b>Skull and Crossbones</b></p>  <ul style="list-style-type: none"> <li>• Acute Toxicity (fatal or toxic)</li> </ul>

**Safety Data Sheets:** The new format requires 16 specific sections, ensuring consistency in presentation of important protection information.

The Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of their hazardous chemical products. **As of June 1, 2015**, the Hazard Communication Standard will require new Safety Data Sheets to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below:

**Section 1, Identification.** Includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

**Section 2, Hazard(s) identification.** All hazards regarding the chemical; required label elements.

# Labels and data sheets must now use the same labeling system and format.

**Section 3, Composition/information on ingredients.** Information on chemical ingredients; trade secret claims, CAS numbers, common name, Etc.

**Section 4, First-aid measures:**

- Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion.
- Most important symptoms/effects, acute and delayed.
- Indication of immediate medical attention and special treatment needed, if necessary.

**Section 5, Fire-fighting measures.** Lists suitable extinguishing techniques, equipment; chemical hazards from fire.

**Section 6, Accidental release measures.** Emergency procedures; protective equipment; proper methods of containment and cleanup.

**Section 7, Handling and storage.** Precautions for safe handling and storage, including incompatibilities.

**Section 8, Exposure controls/personal protection.** OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

**Section 9, Physical and chemical properties.** Appearance (physical state, color, etc.), Odor, Odor threshold, pH, melting point/freezing point, initial boiling point and boiling range, flash point, evaporation rate, flammability (solid, gas), upper/lower flammability or explosive limits, etc.

**Section 10, Stability and reactivity.** Lists chemical stability and possibility of hazardous reactions.

**Section 11, Toxicological information.** Routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

**Section 12, Ecological information.** Ecotoxicity (where available), persistence and degradability, bioaccumulative potential, and mobility in soil.

**Section 13, Disposal considerations.** Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

**Section 14, Transport information.** UN Number, UN proper shipping name, transport hazard class(es), packing group, if applicable, marine pollutant (Yes/No) and special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises.

**Section 15, Regulatory Information.** Safety, health and environmental regulations specific for the product in question.

**Section 16, Other information.** Date of preparation or last revision

For additional information on this topic, please contact your CIRMA Risk Management Consultant.



SAMPLE LABEL	
<p style="text-align: center;"><b>PRODUCT IDENTIFIER</b></p> <p>CODE _____            Product Name _____</p> <p style="text-align: center;"><b>SUPPLIER IDENTIFICATION</b></p> <p>Company Name _____            Street Address _____            City _____ State _____            Postal Code _____ Country _____            Emergency Phone Number _____</p> <p style="text-align: center;"><b>PRECAUTIONARY STATEMENTS</b></p> <p>Keep container tightly closed. Store in cool, well ventilated place that is locked.            Keep away from heat/sparks/open flame. No smoking.            Only use non-sparking tools.            Use explosion-proof electrical equipment.            Take precautionary measure against static discharge.            Ground and bond container and receiving equipment.            Do not breathe vapors.            Wear Protective gloves.            Do not eat, drink or smoke when using this product.            Wash hands thoroughly after handling.            Dispose of in accordance with local, regional, national, international regulations as specified.</p> <p><b>In Case of Fire:</b> use dry chemical (BC) or Carbon dioxide (CO<sub>2</sub>) fire extinguisher to extinguish.</p> <p><b>First Aid</b>            If exposed call Poison Center.            If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.</p>	<p style="text-align: center;"><b>HAZARD PICTOGRAMS</b></p> <p style="text-align: center;"></p> <p style="text-align: center;"><b>SIGNAL WORD</b> <b>Danger</b></p> <p style="text-align: center;"><b>HAZARD STATEMENT</b> <b>Highly flammable liquid and vapor.            May cause liver and kidney damage.</b></p> <p style="text-align: center;"><b>SUPPLEMENTAL INFORMATION</b></p> <p><b>Directions for use</b>            _____            _____</p> <p>Fill weight: _____ Lot Number _____            Gross weight: _____ Fill Date: _____            Expiration Date: _____</p>

### Options for GHS compliance during the transition period.

During the phase-in period, employers will be required to be in compliance with either the existing Hazard Communication standard or the revised standard with GHS, or both. OSHA recognizes that hazard communication programs will go through a period of time where labels and SDSs under both standards will be present in the workplace. This will be considered acceptable, and employers are **not required to maintain two sets of labels and SDSs** for compliance purposes.

For more information on the GHS and the changes to Hazard Communication standards, please contact your CIRMA risk management consultant.

## Resources

OSHA Hazard Communications website [www.osha.gov/dsg/hazcom/index.html](http://www.osha.gov/dsg/hazcom/index.html)

CIRMA's Introduction to GHS for 7-12 Science Teachers and Supervisors Training Program.  
[www.CIRMA.org/pages/GHSDesc.aspx](http://www.CIRMA.org/pages/GHSDesc.aspx)

---

*The Connecticut Interlocal Risk Management Agency, CIRMA, is Connecticut's leading provider of municipal risk financing and risk management services. A member-owned and governed agency, CIRMA provides high quality insurance for municipalities, school districts, and local public agencies. CIRMA operates two risk pools, the Workers' Compensation and the Liability-Auto-Property pool. It also provides Heart & Hypertension claims services and claims administration and risk management services to self-insured municipalities. CIRMA's financial strength enables it to provide assured rate stability, open availability, and expert risk management and claims services.*

---

Changes to the Hazard Communication Standard: OSHA Aligns Standard with the GHS

© 2012 Connecticut Interlocal Risk Management Agency.

All Rights Reserved. This publication or any part thereof may not be reproduced, transmitted, or stored in any type of retrieval system by any means, electronic or mechanical, without prior written consent of the Connecticut Interlocal Risk Management Agency (CIRMA). This book is intended for the exclusive use of the members of CIRMA and for the employees of its members.

This publication is intended for general purposes only and is not intended to provide legal advice. If you have questions about particular legal issues or about the application of the law to specific factual situations, CIRMA strongly recommends that you consult your attorney.

Rev. 07/01/15

