Modification of the Hazard Communication Standard (HCS) to conform with
the United Nations' (UN) Globally Harmonized System of Classification and
Labelling of Chemicals (GHS)

Questions and Answers

Q. What is the Globally Harmonized System?

A. The Globally Harmonized System (GHS) is an international approach to hazard communication, providing agreed criteria for classification of chemical hazards, and a standardized approach to label elements and safety data sheets. The GHS was negotiated in a multi-year process by hazard communication experts from many different countries, international organizations, and stakeholder groups. It is based on major existing systems around the world, including OSHA's Hazard Communication Standard and the chemical classification and labeling systems of other US agencies.

The result of this negotiation process is the United Nations' document entitled "Globally Harmonized System of Classification and Labeling of Chemicals," commonly referred to as The Purple Book. This document provides harmonized classification criteria for health, physical, and environmental hazards of chemicals. It also includes standardized label elements that are assigned to these hazard classes and categories, and provide the appropriate signal words, pictograms, and hazard and precautionary statements to convey the hazards to users. A standardized order of information for safety data sheets is also provided. These recommendations can be used by regulatory authorities such as OSHA to establish mandatory requirements for hazard communication, but do not constitute a model regulation.

Q. What is the phase-in period in the revised Hazard Communication Standard?

A. The table below summarizes the phase-in dates required under the revised Hazard Communication Standard (HCS):

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and safety data sheet (SDS) format.	Employers
June 1, 2015* December 1, 2015	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	Chemical manufacturers, importers, distributors and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards.	Employers
Transition Period to the effective completion dates noted above	May comply with either 29 CFR 1910.1200 (the final standard), or the current standard, or both	Chemical manufacturers, importers, distributors, and employers

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During the phase-in period, employers would be required to be in compliance with either the existing HCS or the revised HCS, 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.

Q. Why must training be conducted prior to the compliance effective date?

A. OSHA is requiring that employees are trained on the new label elements (e.g., pictograms and signal words) and SDS format by December 2013, while full compliance with the final rule will begin in 2015. While many countries are in various stages of implementing the GHS, OSHA believes that it is possible that American workplaces may begin to receive labels and SDSs that are consistent with the GHS shortly after publication. Thus, making it important to ensure that when employees begin to see the new labels and SDSs in their workplaces, they will be familiar with them, understand how to use them, and access the information effectively.

Q. What are the major changes to the Hazard Communication Standard?

A. The three major areas of change are in hazard classification, labels, and safety data sheets.

- **Hazard classification:** The definitions of hazard have been changed to provide specific criteria for classification of health and physical hazards, as well as classification of mixtures. These specific criteria will help to ensure that evaluations of hazardous effects are consistent across manufacturers, and that labels and safety data sheets are more accurate as a result.
- **Labels:** Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided.
- **Safety Data Sheets:** Will now have a specified 16-section format.

The GHS does not include harmonized training provisions, but recognizes that training is essential to an effective hazard communication approach. The revised Hazard Communication Standard (HCS) requires that workers be re- trained within two years of the publication of the final rule to facilitate recognition and understanding of the new labels and safety data sheets.

Q. What Hazard Communication Standard provisions are unchanged in the revised HCS?

A. The revised Hazard Communication Standard (HCS) is a modification to the existing standard. The parts of the standard that did not relate to the GHS (such as the basic framework, scope, and exemptions) remained largely unchanged. There have been some modifications to terminology in order to align the revised HCS with language used in the GHS. For example, the term "hazard determination" has been changed to "hazard classification" and "material safety data sheet" was changed to "safety data sheet."

Q. How will labels change under the revised Hazard Communication Standard?

A. Under the current Hazard Communication Standard (HCS), the label preparer must provide the identity of the chemical, and the appropriate hazard warnings. This may be done in a variety of ways, and the method to convey the information is left to the preparer. Under the revised HCS, once the hazard classification is completed, the standard specifies what information is to be provided for each hazard class and category. Labels will require the following elements:

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- **Pictogram:** 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. Each pictogram consists of a different symbol on a white background within a red square frame set on a point (i.e. a red diamond). There are nine pictograms under the GHS. However, only eight pictograms are required under the HCS.
- **Signal words:** a single 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 are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for less severe hazards.
- **Hazard Statement:** 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.
- **Precautionary Statement:** a phrase that describes recommended measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling of a hazardous chemical.
- **Q. What pictograms are required in the revised Hazard Communication Standard? What hazard does each identify?**
- A. There are nine pictograms under the GHS to convey the health, physical and environmental hazards. The final Hazard Communication Standard (HCS) 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 below.

• HCS Pictograms and Hazards

Health Hazard	Flame	Exclamation Mark
• Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	• Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	• Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)
Gas Cylinder	Corrosion	Exploding Bomb
• Gases under Pressure	• Skin Corrosion/ burns • Eye Damage • Corrosive to Metals	• Explosives • Self-Reactives • Organic Peroxides
Flame over Circle	Environment (Non Mandatory)	Skull and Crossbones
• Oxidizers	• Aquatic Toxicity	• Acute Toxicity (fatal or toxic)

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Q. When must label information be updated?

A. In the revised Hazard Communication Standard (HCS), OSHA is lifting the stay on enforcement regarding the provision to update labels when new information on hazards becomes available. Chemical manufacturers, importers, distributors, or employers who become newly aware of any significant information regarding the hazards of a chemical shall revise the labels for the chemical within **six months** of becoming aware of the new information, and shall ensure that labels on containers of hazardous chemicals shipped after that time contain the new information. If the chemical is not currently produced or imported, the chemical manufacturer, importer, distributor, or employer shall add the information to the label before the chemical is shipped or introduced into the workplace again.

Q. How will workplace labeling provisions be changing under the revised Hazard Communication Standard?

A. The current standard provides employers with flexibility regarding the type of system to be used in their workplaces and OSHA has retained that flexibility in the revised Hazard Communication Standard (HCS). Employers may choose to label workplace containers either with the same label that would be on shipped containers for the chemical under the revised rule, or with label alternatives that meet the requirements for the standard. Alternative labeling systems such as the National Fire Protection Association (NFPA) 704 Hazard Rating and the Hazardous Material Information System (HMIS) are permitted for workplace containers. However, the information supplied on these labels must be consistent with the revised HCS, e.g., no conflicting hazard warnings or pictograms.

Q. How is the Safety Data Sheet (SDS) changing under the revised Hazard Communication Standard?

A. The information required on the safety data sheet (SDS) will remain essentially the same as that in the current standard. The current Hazard Communication Standard (HCS) indicates what information has to be included on an SDS but does not specify a format for presentation or order of information. The revised HCS requires that the information on the SDS is presented using consistent headings in a specified sequence.

Paragraph (g) of the final rule indicates the headings of information to be included on the SDS and the order in which they are to be provided. In addition, Appendix D indicates what information is to be included under each heading. The SDS format is the same as the ANSI standard format which is widely used in the U.S. and is already familiar to many employees.

The format of the 16-section SDS should include the following sections:

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

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

Sections 12-15 may be included in the SDS, but are not required by OSHA.

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