



CHAPMAN UNIVERSITY

RISK MANAGEMENT

Environmental Health and Safety

Globally Harmonized System (GHS)

What is it?

The Globally Harmonized System of Classification and Labeling of Chemicals, or GHS for short, is an effort to create a world-wide, universal chemical hazard communication and container labeling system. The large number of varying chemical hazard identification, labeling, and information requirements around the world create potential barriers to trade in chemicals, particularly for small businesses. Thus a harmonized and consistent approach would have benefits both in terms of worker protection and trade.

The GHS provides standardized definitions for chemical hazards, such as flammable liquids. The GHS addresses classification of chemicals by types of hazard and proposes standardized hazard communication elements, including labels and safety data sheets.

Scope

The GHS is not a standard nor does it impose requirements on those countries which adopt it, such as a trade agreement would. It is a voluntary set of “building blocks” which each country can adopt as it sees fit.

For countries that do not have existing chemical hazard systems, and may not have the resources to develop and maintain one, availability of a globally harmonized approach will allow them to provide necessary protections for their citizens while enabling them to participate in international trade.

Regulatory citation

On March 26, 2012, OSHA published the final Hazard Communication Standard, which harmonized it with the GHS. The revised standard includes requirements for applying GHS hazard classifications, format and content for Safety Data Sheets (SDSs), and standardized container label elements.

Phase-in dates for the revised standard are:

- **December 1, 2013** – Train employees on the new label elements and safety data sheet (SDS) format.
- **June 1, 2015** – Compliance with all modified provisions of this final rule, except:
- **December 1, 2015** – The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label
- **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.

Key definitions

OSHA adopted the GHS hazard classification criteria for these health hazards:

- Acute toxicity
- Skin corrosive/irritant
- Serious eye damage/eye irritant
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxin
- Target organ systemic toxicity – single and repeated dose
- Hazardous to the aquatic environment

The hazard classification criteria for physical hazards include:

- Explosives
- Flammability – gases, aerosols, liquids, solids
- Oxidizers – liquid, solid, gases
- Self-reactive
- Pyrophoric – liquids, solids
- Self-heating
- Organic peroxides

- Corrosive to metals
- Gases under pressure
- Water-activated flammable gases

For each of these hazards standardized label elements -- including symbols, signal words and hazard statements -- have been developed and agreed on, along with a standard format and approach to how GHS information appears on safety data sheets.

Revised edition of the GHS Purple Book

This link will take you to the [sixth revised edition](#) published in 2015.

This publication discusses physical hazards, health hazards, and environmental hazards. You will also find information on label elements and labeling, safety data sheet format and content, and testing methodology.

Other federal agency activities

- [Globally Harmonized System \(GHS\) for Classification and Labelling of Chemicals](#) . Environmental Protection Agency (EPA).
- [Global Harmonization of Hazard Classification and Labeling Systems](#) . US Department of Transportation (DOT).
- [Policy of the U.S. Consumer Product Safety Commission on the Globally Harmonized System of Classification and Labeling of Chemicals \(GHS\)](#) . Consumer Product Safety Commission (CPSC).

OSHA alliance with the SCHC

The United States was an early and active supporter of a globally harmonized approach to hazard communication. OSHA announced the formation of an alliance with the Society for Chemical Hazard Communication (SCHC). A key feature of the alliance is to distribute information and increase awareness about the Globally Harmonized System.

Implementation in other countries

- [The Globally Harmonized System of Classification and Labelling of Chemicals \(GHS\)](#) . Health Canada.
- [GHS](#) . European Commission, European Union.
- [Hazardous Chemicals](#). Safe Work Australia.

- [GHS: Status of Implementation](#) . UN Economic Commission. Tracks international implementation.
- [WSSD Global Partnership for Capacity Building to Implement the GHS](#) . The United Nations Institute of Training and Research (UNITAR). UNITAR is the focal point for helping developing countries implement the GHS, as part of the World Summit on Sustainable Development (WSSD). The United States is part of an international partnership on this topic.

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- For more information, contact Chapman University EH&S to enroll in the Blackboard Course on [Integrating GHS with HAZCOM Safety Training](#)