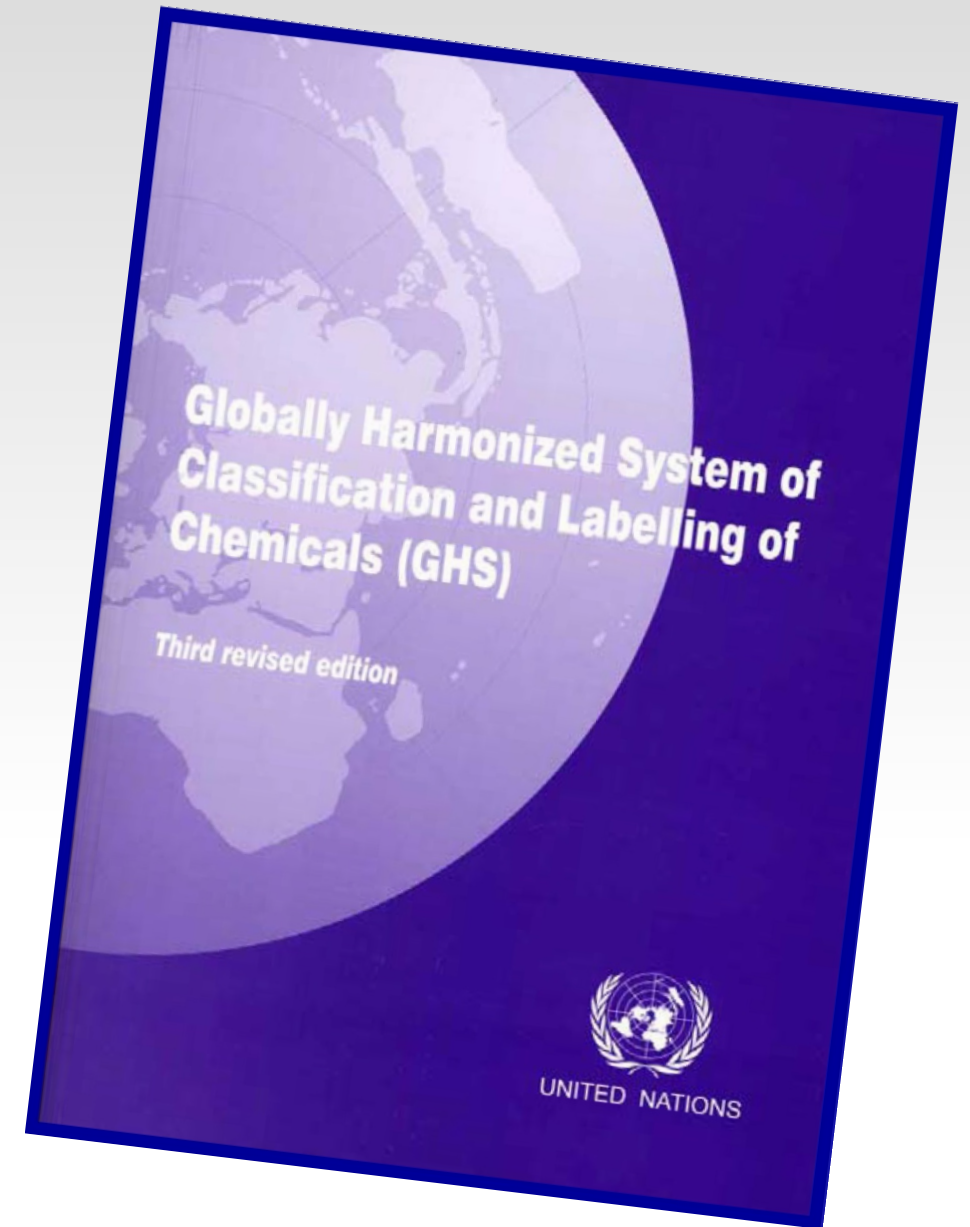


GHS

**Globally
Harmonized
System**



- **What does GHS stand for? Globally Harmonized System**
- **Why is the GHS important? Standardizes the classification of chemicals and how they're classified through hazard Statements, symbols, signal words**
- **Chemicals are a fundamental part of the world economy**
- **UN lays out the practices – OSHA enforces them**
- **Lack of uniformity result in:**
 1. mishandling of chemicals
 2. misunderstood labels
 3. additional paperwork
- **When global trade follows the same guidelines, we can be better assured of safe handling that protects both human health and the environment**



Initially developed in 1983, giving employees a “Right-To-Know”

Requires a comprehensive hazard evaluation and communication process;

1. Ensuring hazards of all chemicals are evaluated
2. Creating awareness of chemical hazards along with necessary protective measure to employees

Chemical manufacturers and importers must develop and provide a container label and a Safety Data Sheet (SDS)

Employers with employees exposed to hazardous chemicals must develop a hazard communication program including:

1. Labels
2. Access to Safety Data Sheets (SDS)
3. Training on the workplace hazardous chemicals

Creates a Visible Homogenized System that crosses borders both geographically and verbally

The current HCS establishes requirements for minimum information that must be included on labels and SDS, it does not provide specific language to convey the information or a format in which to provide it



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United Nations Conference on Environment and Development (1992)

- Called for a globally harmonized chemical classification and labeling system – there was no unification therefore, no standardization

GHS adopted in 2002

1. UN Committee of Experts on the Transport of Dangerous Goods
2. Globally Harmonized System of Classification and Labeling of Chemicals

Four existing national workplace safety systems serve as the basis for GHS

1. United States
2. Canada
3. European Union
4. United Nations

OSHA has updated it's Hazard Communication Standard (HCS) to align with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Modifications will reduce costs and burdens while protecting employers and employees including:

1. Revised criteria for classification of chemical hazards
2. Revised and standardized labeling requirements
3. A specified format for safety data sheets
4. Requirements for employee training on labels and safety data sheets



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GHS Pictogram Labels

- 880,000 hazardous chemicals are currently used in the U.S. & Puerto Rico
- Hazard Communication affects 43 million American workers in over 5 million workplaces.
- GHS will prevent 500 injuries/illnesses and 43 lives per year, equaling a total of \$250 million in reduced health and safety risks.
- Costs per year will total \$201 million dollars to comply with revisions to the HCS.
- Future net benefits are estimated at \$556 million dollars per year.

Chemical/Physical Risks (Pictograms)

1. Explosives
2. Flammables
3. Oxidizers
4. Gases Under Pressure
5. Corrosives

Health Risks (Pictograms)

1. Severe Toxics
2. Acute Toxics
3. Health Dangers
4. Corrosives



6 Elements to the New Label

Product Identifier

Should match the product identifier used on the (Material) Safety Data Sheets.

The diagram shows a rectangular label for Acetone. At the top left, the word "ACETONE" is in a black box. To its right is the CAS Number: 67-64-1 and hazard categories: Category 2 Flammable Liquid and Category 2A Eye Damage/Irritation. Below the name are two pictograms: a flame and an exclamation mark. To the right of the pictograms is the signal word "DANGER" and the hazard statement "Highly flammable liquid and vapor. Causes severe eye irritation." Below this is a paragraph of precautionary statements. At the bottom of the label are fields for Company Name, Address, City, State, Zip, and Telephone.

Pictograms

Graphical compositions intended to convey specific hazard information.

Precautionary Statements

Describes recommended measures to minimize or prevent adverse effects resulting from exposure.

Signal Word

Indicates the relative level of the hazard's severity. "Danger" and "Warning" are the GHS signal words.

Hazard Statements

A phrase assigned to a hazard class and category that describes the nature of the product hazards.

Supplier Identification

The name, address and telephone number of the manufacturer or supplier.



1.4.10.5.4.1 Location of GHS information on the label

"The GHS hazard pictograms, signal word and hazard statements should be located together on the label. The competent authority may choose to provide a specified layout for the presentation of these and for the presentation of precautionary information, or allow supplier discretion."



HCS/2012 Final Rule

(f)(1) Labels on shipped containers. The chemical manufacturer, importer, or distributor shall ensure that each container of classified hazardous chemicals leaving the workplace is labeled, tagged or marked... the following information shall be provided:

- (i) Product identifier;
- (ii) Signal word;
- (iii) Hazard statement(s);
- (iv) Pictogram(s);
- (v) Precautionary statement(s); and,
- (vi) Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.



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- Employers may choose to label workplace containers;
 - With the same GHS label that is used to ship containers under the revised rule
 - With label alternatives that meet the requirements for the standard.
- National Fire Protection Association (NFPA) 704 Hazard Rating and the Hazardous Material Information System (HMIS) for labeling are considered acceptable for workplace containers. Information supplied on these labels must be consistent with the revised HCS, e.g., no conflicting hazard warnings or pictograms
- It will be a best practice to label your secondary container chemicals with the same GHS format as the way they came into the facility

CHEMICAL NAME:

HEALTH HAZARD	FLAMMABILITY	PHYSICAL HAZARD	PERSONAL PROTECTION
4. Deadly 3. Extreme Danger 2. Hazardous 1. Slightly Hazardous 0. Normal Material	4. Below 23°F 3. Below 100°F 2. Below 200°F 1. Above 200°F 0. Not Burn	4. Very Destructive 3. Shock And Heat May Deteriorate 2. Water Chemical Change 1. Unstable If Heated 0. Stable	4. Very Deteriorate 3. Shock And Heat May Deteriorate 2. Water Chemical Change 1. Unstable If Heated 0. Stable

REQUIRED PERSONAL PROTECTIVE EQUIPMENT

<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Gloves
<input type="checkbox"/> Chemical Goggles	<input type="checkbox"/> Synthetic Apron
<input type="checkbox"/> Face Shield & Eye Protection	<input type="checkbox"/> Protective Clothing
<input type="checkbox"/> Dust Respirator	<input type="checkbox"/> [Symbol]
<input type="checkbox"/> Vapor Respirator	<input type="checkbox"/> Other: _____





XYLENE (XYLENES)

OSHA Number: 1326-10-7
EPA Hazardous Waste Code: P001
Product Name: Xylene
Chemical Name: C₈H₁₀

UN 1203
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UN 1205
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UN 1298
UN 1299
UN 1300



DANGER



Flammable liquid and vapor.
Hazardous in contact with skin.
Causes skin irritation.
Irritates the eyes.
Causes serious eye irritation.
May be fatal if swallowed and enters airways.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Take precautionary measures against static discharge.
Wear protective gloves/protective clothing/protective eyewear.
Avoid breathing vapors/mist/spray/fumes.
If you have any health concerns, call a POISON CENTER or doctor immediately.
If you have any health concerns, call a POISON CENTER or doctor immediately.
EPA REG. 1203-10-7

Company Name: Accuform Signs
Address: 2500 Industrial Park Road Telephone: 714-944-1234
City: Hawthorne State: CA Zip: 91245

Material Safety Data Sheets (MSDS) are now called Safety Data Sheets – (SDS)

What information should your safety data sheet include?

- Product/substance identification
- Composition/information on ingredients
- Hazards identification
- First aid measures
- Fire fighting measures
- Accidental release measures
- Handling and storage
- Exposure control and personal protection
- Physical and chemical properties
- Stability and reactivity
- Toxicological information

The safety data sheet is delivered in one of the official languages of the EU member states where the substance or preparation is marketed, unless the state or states concerned judge it differently

Right-To-Know: Safety Data Sheets (HCS/GHS Format)

It's Your Right-To-Know...

In September 2009, OSHA submitted its proposal to align the Hazard Communication Standard (HCS) 29 CFR 1910.1200 with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS). One of many changes involved the move from a performance-oriented approach to a standardized format for Safety Data Sheets (SDS), previously called Material Safety Data Sheets (MSDS). The goal is to enhance hazard communication and protect employee health.

What Won't Change

- Employers must have an SDS in the workplace for each hazardous chemical used.
- SDS must be readily available to employees in their work areas and during their shifts.
- SDS must be in English.

What Will Change

- SDS must include at least the required section numbers and headings*.
- These section numbers and headings are taken from the GHS.

Timing Is Everything

- Employers are required to train employees on new safety data sheets by 2 years, and be in compliance with all modified provisions no later than 3 years, after publication of the final HCS rule.

* This poster describes the minimum information that an SDS must include to comply with the HCS/GHS. "Non-Mandatory" sections fall outside of OSHA's jurisdiction and will not be enforced. However, they are included to show that a fully GHS-compliant SDS will have to address these areas in addition to OSHA-mandated ones.

1	Identification	7	Handling and Storage	12	Ecological Information (Non-Mandatory)
2	Hazard(s) Identification	8	Exposure Controls/Personal Protection	13	Disposal Considerations (Non-Mandatory)
3	Composition/Information on Ingredients	9	Physical and Chemical Properties	14	Transport Information (Non-Mandatory)
4	First Aid Measures	10	Stability and Reactivity	15	Regulatory Information (Non-Mandatory)
5	Fire Fighting Measures	11	Toxicological Information	16	Other Information
6	Accidental Release Measures				



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- Training is crucial as a study found employees did not understand 1/3 of the safety and health information with SDS's
- 40% of persons reading an SDS had difficulty understanding them overall.
- OSHA has not proposed to change training provisions under the HCS other than to initially train employees on new GHS elements.
- Minor revisions to the HCS on training:
 1. Labels and SDSs must be adequately explained to employees.
 2. Employees must understand standardized headings and sequence of SDS information.
- Training on the standardized label elements must be given.
- HCS training is meant to explain and reinforce information to the employees on areas of labels, SDSs, protective measures to be taken, and the understanding of chemical hazards in their workplace.



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Timeline for Implementation

December 1, 2013

June 1, 2015

December 1, 2015

June 1, 2016

Ongoing

WHO: Employers
WHAT: Train employees on new label requirements and safety data sheet (SDS) format.

WHO: Chemical manufacturers, importers, distributors, and employers
WHAT: Comply with all final rule provisions but may ship products labeled under the old system until December 1, 2015.

WHO: Distributors
WHAT: Shall not ship products labeled by chemical manufacturers or importers unless the labels comply with GHS.

WHO: Employers
WHAT: Update workplace labeling and haz-com programs and train employees on newly identified physical or health hazards.

The GHS is expected to be a living document. Changes may be adopted on a two-year cycle through various rulemaking options.

Transition Period

Up to the effective completion dates, chemical manufacturers, importers, distributors, and employers may comply with either 29 CFR 1910.1200 (the final standard), the current standard, or both.



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Key Next Steps

- Get informed on published regulatory guidelines
- Train employees on GHS (by 12/2013)
- Begin implementing GHS by specified timelines
- Chemical manufacturers/importers should begin preparing for/authoring GHS-compliance SDS's and labeling
- Stay alert for new formatted SDS's, capture and file
- Update your chemical inventory
- Talk to chemical suppliers about transition plans
- Confirm your secondary container labeling system is GHS-compliant



Online Resources to Check-Out

- www.osha.gov/dsg/hazcom/index.html
- http://www.accuform.com/store/page.cfm?page=2013_hazcom
- http://www.accuform.com/files/marketing/ghs/ghs_finalrule.pdf
- <http://blog.accuform.com/blog/notable-safety-regulations/ghs-is-finally-here>
- <http://blog.accuform.com/blog/notable-safety-regulations/safety-data-sheets-and-the-shift-to-uniformity-in-hcs-2012>

