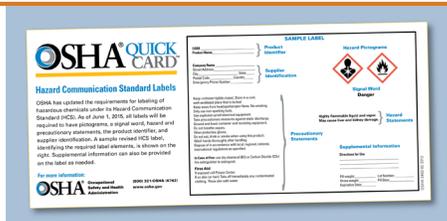


# Hazard Communication Programs

## Risk Control from Liberty Mutual Insurance



### Highlights:

- Written program
- Chemical manufacturers
- Labels
- Safety Data Sheets (SDS)
- Training

If your operations involve the use of chemical substances that may cause illness or injury through inhalation, ingestion, skin contact, or absorption, you are likely required to establish a hazard communication program. This reference note offers a general overview of the major program requirements.

OSHA's Hazard Communication Standard (HCS or HazCom) (29 CFR 1910.1200) mandates that nearly all employers establish a program "to comprehensively address the issue of evaluating the potential hazards of chemicals and communicating information concerning hazards and appropriate protective measures to employees."

In March 2012, OSHA revised the HCS to align with the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS). Alignment with GHS will make the classification and communication of chemical and physical hazards in the U.S. consistent and uniform with that in other countries. The revised HCS will improve the quality and consistency of hazard information in the workplace, making it safer for employees by providing easily understandable information and guidance on appropriate handling and safe use of hazardous chemicals.

Under the Hazard Communication Standard, a "hazardous chemical" includes any chemical that is classified as a physical or health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified including the following:

- Carcinogens
- Combustible liquids
- Compressed gases
- Corrosives
- Explosives
- Flammables
- Hematopoietic toxins (affect the blood)
- Hepatotoxins (affect the liver)
- Irritants
- Lung, skin, eye, mucous membrane toxins
- Nephrotoxins (affect the kidneys)
- Neurotoxins (affect the nervous system)
- Organic peroxides
- Oxidizers
- Pesticides
- Pyrophorics
- Reproductive toxins
- Sensitizers
- Toxic or highly toxic agents
- Unstable (reactives)
- Water-reactives

The HazCom program should also address physical agents, such as radiation (ionizing and non-ionizing), and biological agents.

Refer to the actual OSHA standard (29 CFR Part 1910.1200) for a complete definition of compliance. While this reference note offers a general overview of the major program requirements, it should not be considered a full discussion of your responsibilities. A written program must assign individual responsibility for each aspect of the program; including a written program, labels and other forms of warnings, safety data sheets (SDS), and employee information and training.

The plan for addressing non-routine tasks should include maintenance and repair activities conducted on short notice. This may be one of the most difficult, yet most important requirements to meet — making sure that the unexpected is expected and planned for.

## Chemical Manufacturers

You are subject to the standard's chemical manufacturer requirements if you produce chemicals for use or distribution. You are considered to be a chemical producer if you manufacture, process, formulate, or repackage chemicals. Chemical manufacturers, importers, or employers evaluating chemicals shall follow the procedures described in 29 CFR 1910.1200, Appendices A and B, to classify the hazards of the chemicals, including determinations regarding when mixtures of the classified chemicals are addressed in the evaluation process.

## Labels

Beginning June 1, 2015, the revised HCS will require that chemical manufacturers and importers ensure all labels have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. This label must provide the identity of the chemical and the appropriate hazard warnings. The HCS specifies what information is to be provided for each hazard class and category.

Required label elements include the following:

- **Product Identifier:** Product name or any other common names or synonyms by which the substance is known.
- **Pictograms:** 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).
- **Signal Words:** A single word on the label used to indicate the relative level of severity and alert the reader to a potential hazard. The signal words used are Danger and Warning.
  - Danger is used for the more severe hazards
  - 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:** 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.

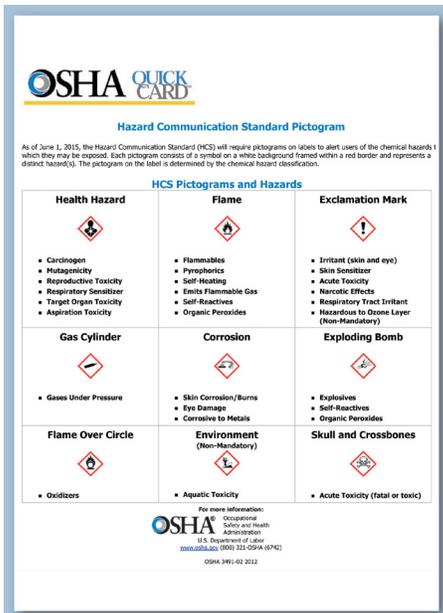
Under the GHS there are nine pictograms that convey the health, physical, and environmental hazards. However, in the revised HCS, eight pictograms are required. Since environmental hazards are not within OSHA's jurisdiction, the Environment pictogram is not required. The pictogram on the label is determined by the chemical hazard classification.

### HCS Pictograms and Hazards

For chemical manufacturers, importers, distributors, and employers, the labels must be revised within six months of becoming aware of new information regarding the hazards of a chemical. They also must ensure that the new information is included in the labels before the chemical is shipped.

A well designed label should allow for cross-referencing with the relevant SDS and quickly indicate what personal protective equipment (PPE) is applicable for the intended use of the chemical.

For more in-depth detail on the allocation of label elements, see Appendix C to §1910.1200 Hazard Communication standard: [www.osha.gov/dsg/hazcom/hazcom-appendix-c.html](http://www.osha.gov/dsg/hazcom/hazcom-appendix-c.html).



OSHA QuickCard™, Hazard Communication Standard Pictogram.

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## Safety Data Sheet (SDS)

A second written communication element in HCS is the SDS, formerly called the Material Safety Data Sheet (MSDS). SDSs serve as the immediate on-site documents that identify the following:

- Hazardous chemicals used
- Types of hazards that could exist
- Precautions that should be taken
- Various types responses that may be needed, such as first aid, firefighting, release containment, and disposal
- Other relevant technical information

Chemical manufacturers or importers: Required to ensure that distributors and employers are provided an appropriate SDS with their initial shipment and with the first shipment after an SDS is updated.

Employers: Required to have an SDS in the workplace for each hazardous chemical they use, and maintain copies of the required SDSs in the workplace. SDSs are to be readily accessible during each work shift to employees when they are in their work area(s). SDSs may be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be more appropriate to address the hazards of a process rather than individual hazardous chemicals. However, where chemical groups are covered, the employer must ensure that the required information is provided for each hazardous chemical.

The GHS SDS follows essentially the same ANSI Z400-based 16 headings (shown below) that have been in use for several years, although there is a slight rearrangement of the order in which they are listed.

1. **Identification:** Includes product identifier; manufacturer or distributor name, address, phone number, emergency phone number; recommended use; restrictions on use.
2. **Hazard(s) Identification:** Includes all hazards regarding the chemical and required label elements.
3. **Composition/Information on Ingredients:** Includes information on chemical ingredients and trade secret claims.
4. **First Aid Measures:** Includes important symptoms/effects, whether acute or delayed, and required treatment.
5. **Fire-Fighting Measures:** Lists suitable extinguishing techniques and equipment, and chemical hazards from fire.
6. **Accidental Release Measures:** Lists emergency procedures, protective equipment, and proper methods of containment and cleanup.
7. **Handling and Storage:** Lists precautions for safe handling and storage, including incompatibilities.
8. **Exposure Controls/Personal Protection:** Lists OSHA's Permissible Exposure Limits (PELs), ACGIH Threshold Limit Values® (TLVs), appropriate engineering controls, and PPE.
9. **Physical and Chemical Properties:** Lists the chemical's characteristics.
10. **Stability and Reactivity:** Lists chemical stability and possibility of hazardous reactions.
11. **Toxicological Information:** Includes routes of exposure, related symptoms, acute and chronic effects, and numerical measures of toxicity.
12. **Ecological Information\***

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### 13. Disposal Considerations\*

### 14. Transport Information\*

### 15. Regulatory Information\*

### 16. Other Information: includes the date of preparation or last revision.

**\*Note:** Since other agencies regulate this information, OSHA will not be enforcing Sections 12-15 (29 CFR 1910.1200(g)(2)).

Manufacturers, importers, and other writers of SDSs will see numerous changes in the required details of each section. In addition, OSHA now requires content in sections 12-15, which were previously not required to be completed. To foster consistency and enhance the quality of information provided, the SDS is much more specific in the types of information it must contain. Whereas the former HCP MSDS allowed more latitude in how manufacturers and suppliers filled the content of each heading, the update of the HCS and the GHS SDS is more prescriptive, listing specific content requirements for each section or heading. The SDS also provides the PPE measures that can be used to minimize worker exposure to the chemical substance or material.

## Training

Hazard communication is not simply a matter of labeling containers, showing a video, and asking if anyone has questions. The information must be effectively received and understood. The training provided should neither under- nor over-warn, relative to the actual hazards and risks. It should provide protective action against hazards and should persuade employees to take action to minimize workplace exposures.

Hazard communication training should exist on three levels:

1. General
2. Site-specific
3. Department-specific

**General Training:** Explains the requirements of the OSHA standard and general concerns about chemicals. It should teach employees how to read and interpret SDS, labels, etc. At this level, off-the-shelf commercial training programs may be appropriate.

**Site-Specific Training:** Addresses the chemical classes (or categories) to which most employees are exposed, and the company's specific hazard communication program. It should cover characteristics and hazards of classes of substances such as acids, water-reactive materials, and carcinogens, if such materials are present in the workplace. Several good training packages are commercially available at this level, but the training materials for your specific hazard communication program must be customized.

**Department-Specific Training:** Involves the supervisor walking employees through their day-to-day interaction with chemical or physical hazards. Make sure the employees can read and interpret labels on hazardous containers, look up SDS on selected chemicals, and understand the content. The supervisor should review the work practices that will minimize the levels of exposure and describe engineering controls that are in place and how the employees can maximize their effectiveness. No commercial product can provide this level of training and communication.

The training provided should neither under- nor over-warn relative to the actual hazards and risks. It should provide protective action against hazards and should persuade employees to take action to minimize workplace exposures.

## Other Program Components

A good hazard communication program will go beyond what the standard requires.

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A key component of any effective health and safety program is a statement of management policy that:

- Expresses management's commitment to an informed and protected workforce
- Specifies employees' responsibility to actively minimize their own exposures
- Designates a program administrator with overall program responsibility
- Mandates periodic program updating and employee retraining

Your hazard communication program will be most effective if you make it part of an overall control program for handling chemicals and physical agents.

For more information, additional materials are available on the Liberty Mutual SafetyNet® Internet website.

- *Chemical Control Programs*, RC 5060.
- *Hazard Communication*, RC 4503; a program that can be customized for your location

### **What's New**

Since the Hazard Communication Standard (HCS) was adopted in 1983, the availability of chemical information in the workplace has increased dramatically, and the provision of labels and SDS with products has become a standard business practice. Surveys have shown that employers rely on SDS to select less hazardous substitutes as well as to help them identify appropriate protective measures. In addition to these workplace uses of hazard information, SDS have evolved into sources of information on other aspects of chemical use.

Now that the HCS has been aligned with GHS:

- Employees should be able to more effectively understand the hazards associated with chemical, physical, and biological agents in their workplace
- We may see an increase in international trade in chemicals
- Employees will be provided with consistent information and guidance through effective transfer of hazard information on labels and SDS.

### **Highlights of Current OSHA Requirements**

You are required to establish a hazard communication program if you are subject to 29 CFR 1910, 1915, 1918, 1926, or 1928. Government agencies are also subject to this standard. States with their own OSHA plan may have extended coverage to additional employers as well.

Under the current OSHA standard, your program must include written instructions describing how you will inform employees of the requirements of the standard and train them in the nature of the workplace hazards they may encounter.

Your program must also describe the following:

- All the hazardous chemicals, physical agents, and biological agents used in your workplace
- How employees will be warned of the hazardous nature of chemicals and physical and biological agents used in the workplace
- Specific guidance and criteria on how chemical containers will be labeled or their contents otherwise identified
- How you will meet the requirements for maintaining current Safety Data Sheets (SDS) for each hazardous substance
- How you will address hazards associated with non-routine tasks and unlabeled pipes

- How you will communicate your workplace hazards to other employers who may have employees in your facility
- If you are a chemical manufacturer, your program must describe how the hazards associated with the chemicals you produce will be determined

For the employer, the overall intent of the HCS remains unchanged from the original regulation, but the adoption of GHS content and labeling will require modifications to the existing Hazard Communication Program to reflect the GHS changes.

## Resources

The full OSHA standard is: *Hazard Communication*; 29 CFR 1910.1200. U.S. Dept. of Labor, OSHA:

[www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=29:6.1.1.1.1.1.1.36](http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=29:6.1.1.1.1.1.1.36)

Information regarding revisions to OSHA's Hazard Communication Standard and its alignment with the GHS:

[www.osha.gov/dsg/hazcom/index.html](http://www.osha.gov/dsg/hazcom/index.html)

OSHA 3084 – 1998. *Hazard Communication*:

[www.osha.gov/Publications/osha3084.html](http://www.osha.gov/Publications/osha3084.html)

OSHA 3371 – 2009. *Hazard Communication Guidance for Combustible Dusts*:

[www.osha.gov/Publications/3371combustible-dust.html](http://www.osha.gov/Publications/3371combustible-dust.html)

OSHA 3111 – 2000. *Hazard Communication Guidelines for Compliance*:

[www.osha.gov/Publications/osha3111.html](http://www.osha.gov/Publications/osha3111.html)

OSHA 3493 – 2012. Hazard Communication Safety Data Sheets (English):

[www.osha.gov/Publications/HazComm\\_QuickCard\\_SafetyData.html](http://www.osha.gov/Publications/HazComm_QuickCard_SafetyData.html)

OSHA 3518 – 2012. Hazard Communication Safety Data Sheets (Spanish):

[www.osha.gov/Publications/HazComm\\_QuickCard\\_SafetyDataSpanish.html](http://www.osha.gov/Publications/HazComm_QuickCard_SafetyDataSpanish.html)

OSHA 3492 – 2012. Hazard Communication Standard Labels (English):

[www.osha.gov/Publications/HazComm\\_QuickCard\\_Labels.html](http://www.osha.gov/Publications/HazComm_QuickCard_Labels.html)

OSHA 3492 – 2012. Hazard Communication Standard Labels (Spanish):

[www.osha.gov/Publications/HazComm\\_QuickCard\\_LabelsSpanish.html](http://www.osha.gov/Publications/HazComm_QuickCard_LabelsSpanish.html)

OSHA 3491 – 2012. Hazard Communication Standard Pictogram (English):

[www.osha.gov/Publications/HazComm\\_QuickCard\\_Pictogram.html](http://www.osha.gov/Publications/HazComm_QuickCard_Pictogram.html)

OSHA 3491 – 2012. Hazard Communication Standard Pictogram (Spanish):

[www.osha.gov/Publications/HazComm\\_QuickCard\\_PictogramSpanish.html](http://www.osha.gov/Publications/HazComm_QuickCard_PictogramSpanish.html)

For insight as to how OSHA determines whether your program is adequate, see OSHA Inspection CPL 2-2.38D, March 20, 1998, or current edition, *Inspection Procedures for the Hazard Communication Standard*, Office of Health Compliance Assistance, OSHA.

For GHS updates: *A Guide to The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)* 2009:

<http://www.osha.gov/dsg/hazcom/ghs.html>

To see how the old and new HazCom standards compare: *Comparison of Hazard Communication Requirements OSHA Hazard Communication Standard 29 CFR 1910.1200 (HCS) Globally Harmonized System (GHS)*:

<http://www.osha.gov/dsg/hazcom/ghoshacomparison.html>

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