



## Introduction

The Occupational Safety and Health Administration (OSHA) developed the Hazard Communication Standard (HCS), 29 CFR 1910.1200, to ensure that all chemical hazards in the workplace are evaluated and that understandable information about the hazards is provided to

employers and employees. The HCS covers physical hazards (such as flammability) and health hazards (such as irritation, lung damage, and cancer).

Safety data sheets (SDSs) – formerly called material safety data sheets or MSDSs – are a key requirement of the standard and a primary means for explaining chemical hazards.

An SDS includes the following information about chemicals:

- its properties;
- its physical, health, and environmental health hazards;
- ways to protect employees from its hazards; and
- safety precautions for handling, storing, and transporting the chemical.

## Goal

Help employees read and understand the SDS for each hazardous chemical found on the job.

## Objectives

Train employees to understand the content and format of SDSs for hazardous chemicals, the risks of exposure, ways to protect themselves against hazards, and how to determine ways chemicals can be used safely.

## Responsibilities

**Chemical manufacturers, distributors, and importers** must:

- evaluate hazards of chemicals they produce or import and provide customers with an SDS for each hazardous chemical when it is initially shipped; and

- update the SDS within three months of learning of the availability of additional, significant information about a chemical's hazards, or ways to protect against the hazards.

**Employers** must:

- maintain an SDS for each hazardous chemical in the workplace;
- obtain any SDS not received with the initial shipment of the chemical from the supplier. If the SDS is incomplete, the employer must obtain the missing information;
- give employees access to SDSs in their work areas and during their shifts in a physical binder or electronic format. If electronic SDSs are used, employers must train employees to access them, back up the electronic system where SDSs are kept, and make hard copies accessible to employees and medical personnel; and
- train employees about hazards in their immediate work areas before an initial work assignment and whenever a new hazard is introduced. The training should include the information contained in SDSs, and how to access the sheets.
- While state and local government employees in Texas are not subject to OSHA regulations, the Texas Department of State Health Services (DSHS) regulates the Texas Hazard Communication Act. Visit the DSHS website at [www.dshs.texas.gov/hazcom/publications.aspx](http://www.dshs.texas.gov/hazcom/publications.aspx) for information about state and local government requirements.

## SDS Specifications

OSHA requires that an SDS must:

- be provided in English, though it may also be provided in other languages;
- display information in a uniform, 16-section format; and
- include sections 1-11 and 16, the minimum information as detailed in Appendix D of 29 CFR 1910.1200. (If no relevant information is found for any given subheading within a section, the SDS must clearly indicate that no applicable information is available.)

A key 2012 revision of the HCS provides a single set of criteria – the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS) – for classifying chemicals by their health and physical hazards and for specifying hazard communication elements for labeling and SDSs. SDSs must contain sections 12-15 to align with the

GHS, but OSHA does not enforce these sections because they concern matters that other agencies regulate.

## SDS Section Descriptions

**Section 1, Identification** – identifies the chemical and its recommended uses, and supplier contact information.

**Section 2, Hazard(s) identification** – identifies hazards of the chemical presented on the SDS and appropriate warning information associated with those hazards.

**Section 3, Composition/information on ingredients** – identifies ingredients contained in the product indicated on the SDS, including impurities and stabilizing additives; includes information about substances, mixtures, and all chemicals where a trade secret is claimed.

**Section 4, First-aid measures** – describes the initial care that untrained responders should give to someone exposed to a chemical.

**Section 5, Fire-fighting measures** – lists suitable extinguishing techniques and equipment, and chemical hazards from fire.

**Section 6, Accidental-release measures** – lists emergency procedures, protective equipment, and proper containment and cleanup methods.

**Section 7, Handling and storage** – lists precautions for safe handling and storage, including incompatibilities.

**Section 8, Exposure controls/personal protection** – indicates exposure limits, engineering controls, and personal protective measures that can minimize employee exposure.

**Section 9, Physical and chemical properties** – identifies physical and chemical characteristics associated with the substance or mixture.

**Section 10, Stability and reactivity** – describes the chemical's stability and reactivity hazards.

**Section 11, Toxicological information** – identifies toxicological and health-effects information, or indicates that such data is not available.

**Section 12, Ecological information (non-mandatory under OSHA)** – provides information for evaluating a chemical's environmental impact if it were released into the environment.

**Section 13, Disposal considerations (non-mandatory under OSHA)** – provides guidance for proper disposal, safe handling, and recycling or reclamation of a chemical or its container.

**Section 14, Transport information (non-mandatory under OSHA)** – provides guidance on classification information for shipping and transporting hazardous chemicals by road, air, rail, or sea.

**Section 15, Regulatory information (non-mandatory under OSHA)** – identifies product safety, health, and environmental regulations not indicated anywhere else on an SDS.

**Section 16, Other information** – indicates the date of preparation or last revision.

## Training Your Employees

Your employee SDS training should cover the following items before each initial work assignment:

- a list of chemical hazards they will encounter in their immediate work areas;
- where to find your SDSs;
  - the location of the physical SDS binder if you have one;
  - the location of electronic SDSs if you have them, how to access them, and how to obtain hard copies;
- information contained in the SDSs for each chemical to which they'll be exposed, including:
  - how the information on the SDS such as pictograms and precautionary statements relates to chemical labels; and
  - controls or personal protection equipment they should use.

Provide additional training when a new chemical hazard is introduced. As with any required training, document what was covered in the training; when, where, and by whom the training was provided; and who attended.

## Review Questions

1. OSHA developed the Hazard Communication Standard to ensure that chemicals are evaluated for hazards and that understandable information about those hazards is communicated to employees and employers.
  - a. True
  - b. False
2. Electronic access to SDSs can be used if employers train employees how to access the sheets.
  - a. True
  - b. False
3. How many sections must be included in the SDS?
  - a. 3
  - b. 6
  - c. 16
  - d. 24
4. When must employees must be trained in hazard communication?
  - a. Before they begin an assigned job
  - b. When the chemical hazards change
  - c. a and b

## Answers

1. a. True
  2. a. True. If providing electronic access to SDSs, employers must also back up the electronic system where SDSs are kept and must make hard copies of the SDSs accessible to employees and medical personnel.
  3. c. 16
  4. a and b
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