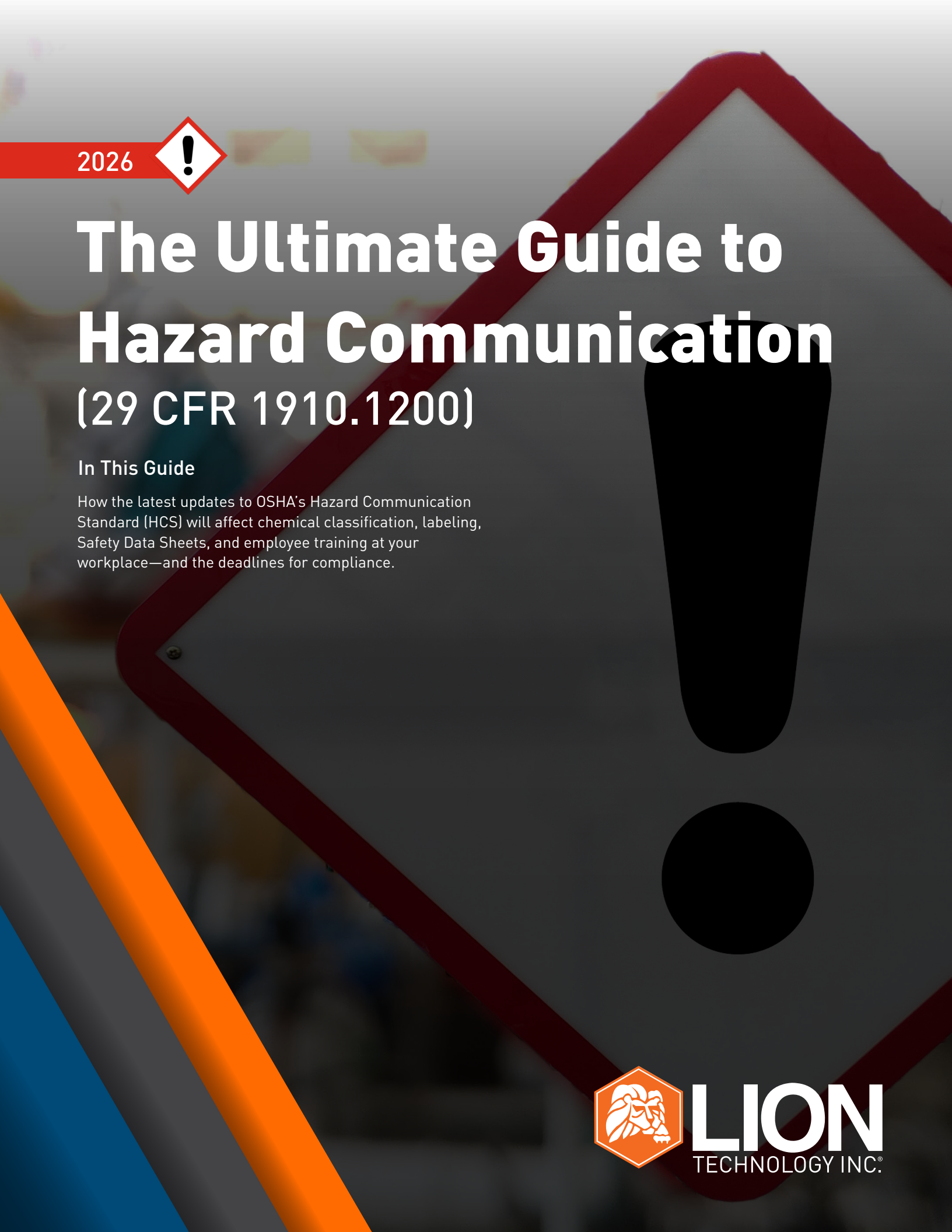
2026

The Ultimate Guide to Hazard Communication

(29 CFR 1910.1200)

In This Guide

How the latest updates to OSHA's Hazard Communication Standard (HCS) will affect chemical classification, labeling, Safety Data Sheets, and employee training at your workplace—and the deadlines for compliance.



LION TECHNOLOGY INC.®

Ultimate Guide to Hazard Communication

What employers and safety leaders need to know to identify and classify workplace chemical hazards, train and inform employees, and ensure proper container labeling, Safety Data Sheet (SDS) retention, and planning to comply with OSHA's Hazard Communication Standard (HCS).

What's Inside

What is Hazard Communication (HazCom)?

To comply fully with OSHA's Hazard Communication or "HazCom" Standard (HCS), employers must adequately inform their employees about chemical hazards using container labels, Safety Data Sheets, and required training.

Found in 29 CFR Part 1910.1200 and sometimes referred to as the Right to Understand, the HCS exists to minimize employees' exposure to hazardous chemicals and ensure workers are informed about the risks posed by substances in the workplace.

Who's Covered by the Hazard Communication Standard (HCS)?

Chemical manufacturers and importers
...must determine if a chemical is hazardous, properly classify the chemical, and label containers for distribution or use.

Employers
...must inform employees about chemical hazards in the workplace through container marking and labeling, a written hazardous communication plan, and training.

UPDATE

New: Effective July 19, 2024

OSHA revised the HCS to include provisions from the 7th Revised Edition GHS.

Significant changes to the HazCom regulations (29 CFR 1910.1200) are highlighted throughout this updated guide—including deadlines for compliance on p. 6.

Learn more.

What is GHS?

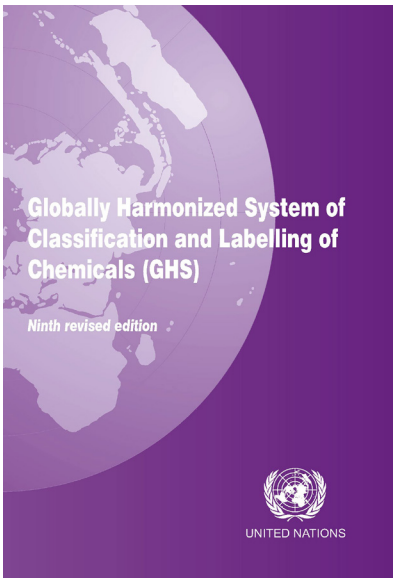
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) is a standardized, worldwide system of hazard classification criteria and chemical hazard communications.

The GHS is not a *regulation*, it is a framework that national safety authorities like OSHA can adopt in full or in part to govern the handling and distribution of chemicals within their borders.

OSHA revised the HazCom Standard in 2012 to incorporate the GHS. In May 2024, OSHA revised the HCS again, this time with changes and updates from a more recent edition of the GHS (the 7th Revised Edition).

Sometimes called "the Purple Book," the GHS provides **standardized:**

- Hazard categories for chemical substances, mixtures, and products.
- Hazard classification criteria.
- Pictograms, signal words, and warning statements to convey hazard information on container labels and Safety Data Sheets (SDS).
- Order of information that must appear on Safety Data Sheets.



Hazards Covered in the HCS

The OSHA Hazard Communication Standard applies to physical and health hazards adopted from the GHS as well as "extra" hazard categories which are regulated by OSHA (but not globally).

GHS Physical Hazards

- Aerosols (flammable, non-flammable)
- Corrosive to metal
- Explosives and desensitized explosives
- Flammable (liquid. solid, or gas)
- Gas under pressure
- Self-heating
- Self-reactive
- Organic peroxide
- Oxidizer (liquid, solid, or gas)
- Pyrophoric (liquid, solid, or gas)
- Water-reactive (emits flammable gas)

GHS Health Hazards

- Acute toxicity (any route of exposure)
- Aspiration hazard
- Carcinogenicity
- Germ cell mutagenicity
- Reproductive toxicity
- Respiratory or skin sensitization
- Serious eye damage or irritation
- Skin corrosion or irritation
- Specific organ toxicity (single or repeat exposure)

UPDATE

New: GHS Chemical Classes and Categories

OSHA added a new class of hazardous chemical—*desensitized explosives*—and adopted GHS criteria for three hazard sub-categories: *unstable gases*, *pyrophoric gases*, and *nonflammable aerosols*.

Read more about the revised regulations here.

Note on Pyrophoric Gases

As of July 19, 2024, the HCS covers *pyrophoric gases*—gases that ignite spontaneously at ≥130°F—as a sub-category of the Flammable Gas class.

Previously, these gases were one of the "extra" OSHA hazards.

Learn more.

"Hazards Not Otherwise Classified"

OSHA's HCS also includes a category called "hazards not otherwise classified," HNOC, for chemicals that don't fit neatly into an existing hazard class or category.

Example: "Static accumulators" are chemicals like benzene and others that can build static charge as they move through tanks, pipes, containers, etc. That static charge poses a risk to employees and must be included in the workplace HazCom program.

OSHA "Extra" Hazards

In addition to the GHS physical and health hazards listed above, the HCS covers:

Simple asphyxiants. Substances or mixtures that displace oxygen.

Combustible dust. Dust that can create an explosive or highly flammable atmosphere.

Written Hazard Communication Program

Employers must create, implement, and maintain a **written hazard communication program** at each workplace (29 CFR 1910.1200(e)).

The written hazard communication program must describe how the workplace will satisfy OSHA's requirements for container labels, Safety Data Sheets, and employee information and training.

The written hazard communication program must also include:

- A list of hazardous chemicals found in the workplace,
- Methods to inform employees about hazards of non-routine tasks, and
- Methods to inform workers of chemicals in unlabeled pipes.

At **multi-employer workplaces**—construction sites, for example—the written program must also cover how the employer will satisfy labeling, SDS, and training/information requirements for other employers and their employees.

Read more: What's In a Written Hazard Communication Program?

UPDATE

Workplace HazCom Program Updates

Written HazCom programs must be reviewed and updated to accommodate any applicable changes stemming from the Final Rule.

Learn more.

Compliance Deadlines

Deadlines for updated workplace plans, labels, SDSs, and training:

Manufacturers
May 19, 2026*

Employers
November 20, 2026*

** For chemicals present in **mixtures**, the relevant deadline is 18 months later.*

Making the Plan Available

The employer must make the written hazard communication program available, upon request, to employees and employees' designated representatives.

(29 CFR 1910.1200(e)(4))

Chemical Classification and Severity of Hazard

OSHA Hazard Classes

The HCS requires that all chemicals are classified to determine the health and physical hazards they pose. Based on the hazards, the chemical is assigned to an OSHA "hazard class" (e.g., "flammable liquid")

- Health Hazard criteria is found in **Appendix A** to the HCS (29 CFR 1910.1200).
- Physical Hazard criteria is in **Appendix B.**
- "Extra" or "OSHA-only" hazard classes: Simple asphyxiants, combustible dust, and *hazards not otherwise classified* (HNOC).

OSHA Hazard Categories

OSHA further divides each hazard class into categories. The category is an indication of how severe the hazard is.

- Category 1 is for the *most severe* hazards.
- Higher-numbered categories indicate a *lower* risk.

Once a chemical has been categorized according to its health and physical hazards, manufacturers, shippers, and employers should refer to:

- **Appendix C** to determine which information elements must appear on the container label.
- **Appendix D** lays out what is required on a Safety Data Sheet (SDS).

Chemical Categories

The GHS hazard category ranking is opposite of two other widely used systems of hazard communication—**HMIS** and **NFPA.**

Those systems each use Category 1 to represent the *lowest* level of hazard.

To prevent confusion, many employers use GHS-style labels for all containers.

Standardized GHS Labels

GHS labels must be placed on **all shipped containers** that contain hazardous chemicals [29 CFR 1910.1200(f)(6)].

A workplace container not meant for transportation may be labeled with other types of hazard communications (e.g., NFPA or HMIS), as long as the label meets some basic conditions.

Many employers use GHS-type labels on all hazardous chemical containers, even when not required. Using one consistent labeling system prevents confusion among workers.

At a minimum, GHS-type container labels must include:

- A **product identifier**, like the chemical name, used on the Safety Data Sheet (SDS).
- The **name, address, and phone number** of the chemical manufacturer, importer, or other responsible party.
- A **signal word** to gets workers' attention.
  Example: *Danger!* or *Warning!*
- **Pictogram(s)** that make hazards instantly recognizable.
  Example: *Flame* (shown below).
- **Hazard statement(s)** describing the nature/degree of hazard
  Example*: "Highly flammable liquid".*
- **Precautionary statement(s)** that describe measures to prevent or minimize exposure/release.
  Example*: "Use only non-sparking tools".*

Pictograms: Flame (left) and Skull-and-crossbones (right).

UPDATE

New: Labels on Small Containers

OSHA's 2024 HazCom update rule relaxes labeling standards for some small containers.

Reduced information may appear on containers **less than or equal to 100 ml.**

Additional relief is available for containers **less than or equal to 3 ml.**

Learn more.

A GHS-type label for the chemical acetone.

What's on a Safety Data Sheet?

Chemicals regulated under the HCS must be accompanied by a 16-section Safety Data Sheet (SDS).

Below are the 16 sections of the "GHS-style" SDS, including a short summary of what's required in each section. Sections 1–11 and Section 16 relate directly to workplace safety and are **mandatory** for HCS compliance. The remaining sections (12, 13, 14, and 15) are non-mandatory.

16-Section Format for the Safety Data Sheet (SDS)

1. Identification
2. Hazard Identification
3. Composition/Information on Ingredients
4. First-aid Measures
5. Fire-fighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Controls/Personal Protection
9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Information
12. Ecological Information*
13. Disposal Considerations*
14. Transport Information*
15. Regulatory Information*
16. Other Information (incl. Date of Preparation or Revision)

*Non-mandatory SDS sections

OSHA provides more detail about information that must be included in each section of the SDS in a Workplace Safety Brief.

UPDATE

New: Trade Secrets on the SDS

OSHA has revised provisions related to Confidential Business Information (CBI) on Safety Data Sheets.

OSHA now allows for **chemical concentration range** to be withheld as a trade secret. In these cases, "prescriptive ranges" will be used.

Learn more.

DOT & OSHA Hazard Labels

OSHA is not the only agency that requires labeling of hazardous chemicals and products. Many of the hazardous chemicals covered by the HCS are also regulated as **hazardous materials** in transportation.

- To protect employees in the workplace, OSHA's HCS requires labels on all **containers** that employees will handle or encounter at work.
- To ensure safe transportation of hazardous chemicals, the US DOT Hazardous Materials Regulations (HMR) require marking and labeling of **packages** containing hazardous materials.

Combination Packaging ("Bottles in a Box")

When a shipper places chemical bottles inside a box for transportation, the bottles inside the box are the "containers" that must be labeled with a GHS-style label.

The box containing the bottles is the "package" and must feature labels and markings required by US DOT—such as a hazard class label, a Proper Shipping Name, UN number, etc.

Single Packaging/Container

When a shipper offers a steel drum containing a hazardous chemical for transportation, the drum is the immediate "container" ***and*** the "package."

The drum must display a GHS-style label as well as DOT-required hazmat labels and markings.

UPDATE

New: GHS Labels on Bulk Chemical Shipments

For bulk packagings, shippers may now transmit GHS labels with shipping papers or bills of lading (or electronically), provided that the label is available to workers *in printed form* at the receiving end of the shipment.

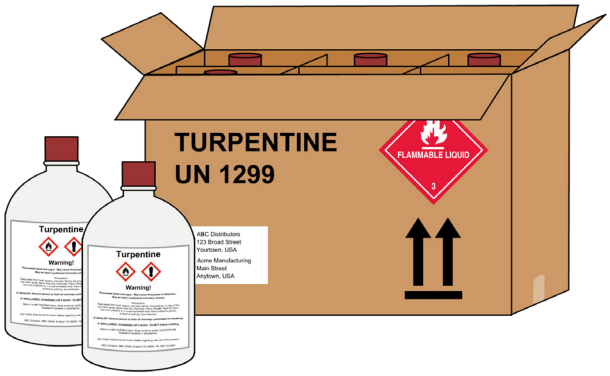
Or shippers may label the immediate container, as required previously.

Learn more.

Not *every* OSHA hazardous chemical is a DOT hazardous material.

Shippers should **not** assume that every chemical container featuring a GHS-style label is also a DOT hazardous material for transportation purposes.

The substance is only a hazardous material if it fits the definition of one of DOT's nine hazard classes.



Exclusions from the HazCom Standard

The HCS imposes requirements applicable to chemical substances with a wide range of physical and health hazards. But not every chemical or hazardous material is subject to the HCS.

HCS **labeling** is not required for:

- **Pesticides** subject to FIFRA labeling requirements.
- **Chemical substances or mixtures subject to TSCA labeling requirements.**
- **Food, food additives, and more** subject to FDA or Department of Agriculture labeling requirements.
- **Distilled spirits** for nonindustrial use subject to Alcohol Administration Act and ATF labeling requirements.
- **Consumer products** or hazardous substances subject to consumer product safety standards or labeling requirements.
- **Agricultural** or **vegetable seed** treated with pesticides and labeled in accordance with the Federal Seed Act and Department of Agriculture labeling regulations.
- **Portable containers** that are used immediately *by one, and only one*, employee. The employee must fill the portable container from a properly labeled container [29 CFR 1910.1200(f)(8)].

The HCS **does not apply** to:

- **RCRA hazardous wastes.**
- **Hazardous substances** that are the focus of remedial or removal action conducted under CERCLA Superfund.
- **Tobacco** or **tobacco products.**
- **Wood** or **wood products.**
- **Articles** defined at 29 CFR 1910.1200(c) (e.g., lithium batteries).
- **Food, alcoholic beverages, drugs, and cosmetics** intended for retail sale or personal consumption by employees.
- **Consumer products** or hazardous substances subject to consumer product safety standards or labeling requirements.
- **"Nuisance particles"** (when no HCS physical or health hazard present).
- **Radiation** (Ionizing and non-ionizing).
- **Biological** hazards.

Limited HCS requirements apply to:

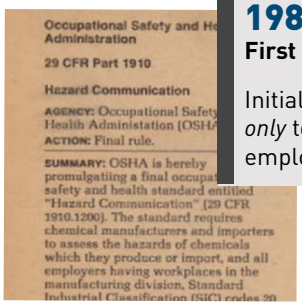
Some workplaces or employees are partly excluded from the requirements for the HCS, provided that the employer complies with a few basic chemical safety provisions.

- **Laboratory employees** [See 29 CFR 1910.1200(b)(3).].
- **Employees who handle sealed containers that remain closed** (e.g., warehousing, retail).

These workplaces **must provide employees with adequate HazCom training,** must maintain Safety Data Sheets and make them accessible to employees, and must *not* remove or deface the labels on incoming chemical containers.

Timeline: 40 Years of OSHA HazCom

How OSHA's Hazard Communication Standard (HCS) has evolved since being introduced in 1983.


Occupational Safety and Health Administration

29 CFR Part 1910

Hazard Communication

AGENCY: Occupational Safety Health Administation (OSHA

ACTION: Final rule.

SUMMARY: OSHA is hereby promulgatiing a final occupat safety and health standard entitled "Hazard Communication" (29 CFR 1910.1200). The standard requires chemical manufacturers and importers to assess the hazards of chemicals which they produce or import, and all employers having workplaces in the manufacturing division, Standard Industrial Classification (SIC) codes 20

1983
First HCS Finalized

Initially, the Standard applies *only* to chemical industry employers.

From the early 1980s until 2003, the international community, including US OSHA, cooperate to create a harmonized system to classify and label chemicals.

1987
HCS Applicability Expanded

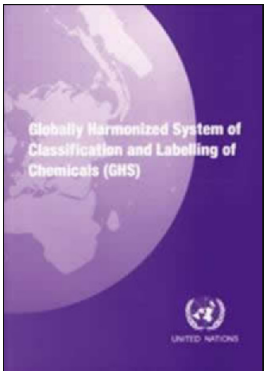
OSHA expands the HCS to cover *all industries* where workers may be exposed to hazardous chemicals.

1994
Rule Updates

A Final Rule makes technical changes and clarifications.

2003
1st Edition GHS

The first ever GHS is released to world.



2012
OSHA Adopts the GHS

OSHA updates the HCS to incorporate elements from the 3rd Edition GHS.

2015
Deadline (Training)

Deadline for employers to train employees on new labels and SDS format.

2016
Transition Period Ends

All covered employers must now comply with the revised HCS.

2021

After it was introduced in 2003, the GHS continued to evolve.

In 2021, the UN publishes the 9th Revised Edition GHS.

May 20, 2024

OSHA adopts elements from the 7th Revised Edition GHS into the HCS, effective 07/19/24.
Details about the Rule.

Deadlines for Compliance

Deadlines to update employee training, container labeling, written workplace plans, and Safety Data Sheets.

Manufacturers/Importers

May 19, 2026*

Employers

November 20, 2026*

* For hazardous chemicals in mixtures only, the deadline is 18 months later.

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OSHA HazCom and DOT Hazmat Safety Training

These online safety courses are designed to help satisfy OSHA Hazard Communication (HazCom) and DOT hazmat safety training requirements for employees who handle hazardous chemicals.

Hazard Communication

This online course is designed to help employers meet the general information and training components for employees specified in OSHA's HCS at 29 CFR 1910.1200(h). The HazCom training content in this course reflects the GHS chemical labeling system and 16-section Safety Data Sheets adopted by OSHA.

Also available in Spanish.

Managing Hazard Communication

This online course guides environmental and safety leaders on how to create and implement a written Hazard Communication Program required by 29 CFR 1910.1200(e)(1). This course covers the latest OSHA HazCom rules, including GHS requirements for chemical classification, labeling, and Safety Data Sheets (SDS).

Also available: Hazard Communication training focused on chemicals with specific hazards.
Flammables & Combustibles | Corrosives | Poisons/Toxic Substances | Compressed Gases

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