

Create an effective hazard communication program for chemical safety.

A hazard communication program can help protect your workers from dangerous chemicals.



According to the Occupational Health & Safety Administration (OSHA), 650,000 different chemicals are present in more than 3 million U.S. workplaces.¹ More than 32 million workers are exposed to hazardous chemical products in the workplace which, if not handled properly, can cause acute injuries and illnesses such as skin dermatitis, nose/throat irritation and eye discomfort, and chronic issues as serious as cancer and organ damage. In addition, the U.S. Bureau of Labor Statistics (BLS) reported that more than half of chemical injury cases require time away from work, job transfer or restriction.

There are three main routes of exposure, or ways a chemical can get into the body:

- **Inhalation** — Breathing in chemical gases, mists, dusts or fumes in the air.
- **Skin or eye contact** — Chemicals can damage the skin and eyes or be absorbed into the bloodstream.
- **Ingestion** — This can happen directly (e.g., a worker mistakes a chemical liquid as a beverage) or indirectly (e.g., when chemicals have spilled or settled onto food, beverages, cigarettes, beards or hands that then touch the mouth).



Employees should be trained to handle chemicals appropriately.

Responsibilities of chemical manufacturers and users.

Considering the potentially harmful effects of chemicals to workers, OSHA developed the Hazard Communication Standard (HCS), providing workers with the right-to-know about the chemical hazards they are exposed to in the workplace. When employees have this information, they can effectively participate in safety programs and take steps to protect themselves. In addition, the standard gives employers the information they need to design and implement an effective protective program for employees exposed to hazardous chemicals. Together, these actions will result in a reduction of chemical-related illnesses and injuries in the workplace. Two groups have responsibilities under the HCS:

- Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import and prepare labels and safety data sheets to convey hazard information to users of the product.
- All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed workers and train them to handle the chemicals appropriately.

If you use and store hazardous chemicals in your facilities, ensure that the proper steps are taken to protect employees. Businesses can implement an effective hazard communication program by following the six-step process outlined below.

STEP 1—Learn the hazard communication standard and identify responsible staff.

Like any effective workplace safety program, the first step to success is understanding what is required, why it is required, and determining who will be responsible.

- Obtain a copy of the HCS and become familiar with its requirements. A copy is available at www.osha.gov/dsg/hazcom. Businesses that use chemicals in their workplaces are often most concerned with the sections on written hazard communication program, labels, safety data sheets, and employee training.
- Determine who has the primary responsibility for coordinating the program and who else should be involved. For example, the company safety officer may take overall responsibility for the program, but delegate employee training to trained and knowledgeable supervisors.

STEP 2—Develop a written hazard communication program.

With an understanding of the HCS requirements and program responsibilities, the next step is to develop a written program which will provide the framework for chemical safety. A written program not only helps to ensure OSHA compliance, but also assists with making sure that no key components are overlooked. These key components include how the business will:

- Address the requirements related to labels, safety data sheets (SDSs), and employee training.
- Maintain a list of the hazardous chemicals present in the workplace. Using the product identifier (e.g., product name, common name or chemical name) to prepare the list will make it easier to track the status of SDSs and labels of hazardous chemicals.

A written hazard communication program doesn't need to be lengthy. In fact, OSHA provides a sample program that meets the above requirements in only four pages. The program is easily editable to meet the needs of most businesses. Download the sample program at: https://www.osha.gov/dsg/hazcom/docs/State_of_Wisconsin_revised_Hazcom_Plan_2012.pdf.

STEP 3—Ensure containers are labeled.

Labels are a critical component of the hazard communication program because they quickly communicate the name and other information about chemical hazards to workers. Chemical manufacturers and importers are required to provide labels on shipped containers with information such as: product identifier, signal word (e.g., DANGER), pictograms, hazard statements, precautionary statements, and the name, address, and phone number of the responsible party.

Employers are required to ensure that containers in the workplace are properly labeled. Most employers use the labels provided on supplier containers, but others use alternatives to supplement the supplier labels. Every container of hazardous chemicals in the workplace must at a minimum include the product identifier and general information concerning the hazards of the chemical.

Keep labeling requirements in mind when chemicals are transferred from a larger container to a smaller, secondary container. The information from the primary container should be duplicated to the secondary container so that employees can identify the chemical and its hazards and take the necessary safety precautions. As a best practice, all containers of chemicals should be labeled at all times. Going even further, even non-hazardous chemicals that resemble hazardous chemicals (e.g., a spray bottle of water) should be labeled to eliminate any confusion.



Signal words
and pictograms
can help identify
chemical dangers.



SDSs must always be readily accessible to workers in their work areas.

STEP 4—Maintain Safety Data Sheets (SDSs)

Safety data sheets are the key to chemical safety and the source of detailed information on a chemical. Employers must maintain copies of all SDSs for the hazardous chemicals present in their workplace. These documents are often provided by a supplier automatically but may also need to be requested. Many suppliers and manufacturers also provide them online for easy download and printing.

SDSs must always be readily accessible to workers in their work areas. Keep the SDSs in a binder in a central location (e.g., outside of the safety office, in the pick-up truck on a construction site). Or provide access electronically, particularly in workplaces with large numbers of chemicals. If computer systems are chosen for SDS storage, keep in mind:

- Not all workers use computers regularly. Ensure that training includes use of the computer itself, if needed.
- An adequate back-up system (e.g., a paper binder) should be in place in the event of computer system downtime.
- Having a printer connected to the SDS computer is a good idea. In the event of a medical emergency, a paper copy of the SDS should be provided to the treating physician so they can understand the hazards of the chemical involved. Printing is often quicker than locating the SDS in a binder.

For many years, Safety Data Sheets were known as Material Safety Data Sheets (MSDSs) and could be in any format as long as they included key information about the chemical and its hazards. That changed in 2012 with the introduction of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This update to the HCS provided a simplified approach to classifying chemicals and communicating hazard information on labels and safety data sheets.

All SDSs have the same 16-section format.

- 1. Identification:** Product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use
- 2. Hazard identification:** All hazards regarding the chemical and required label elements
- 3. Composition/information on ingredients:** Information on chemical ingredients and trade secret claims
- 4. First-aid measures:** Important symptoms/effects (acute and chronic) and required treatment
- 5. Firefighting measures:** Suitable extinguishing techniques and equipment, and chemical hazards of exposure to fire
- 6. Accidental release measures:** Emergency procedures, protective equipment and proper methods of containment and cleanup
- 7. Handling and storage:** Precautions for safe handling and storage, including incompatibilities
- 8. Exposure controls/personal protection:** OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE)
- 9. Physical and chemical properties:** Chemical's characteristics
- 10. Stability and reactivity:** Chemical stability and possibility of hazardous reactions
- 11. Toxicological information:** Routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity
- 12. Ecological information:** Environmental impacts of the chemical
- 13. Disposal considerations:** Disposal and safe handling practices
- 14. Transport information:** Classification information for shipping and transporting
- 15. Regulatory information:** Safety, health and environmental regulations for the product
- 16. Other information:** Date of preparation or last revision

OSHA also provides a page on their website that describes each section of the SDS that can be found at: <https://www.osha.gov/Publications/OSHA3514.html>



Maintaining SDSs is only valuable if the employees know how to use them.



Regular training is necessary to keep employees safe when working around chemicals.

STEP 5: Train employees on chemical safety.

Maintaining container labels and SDSs is only valuable if employees know how to use them to protect themselves. Hazard communication training programs should occur:

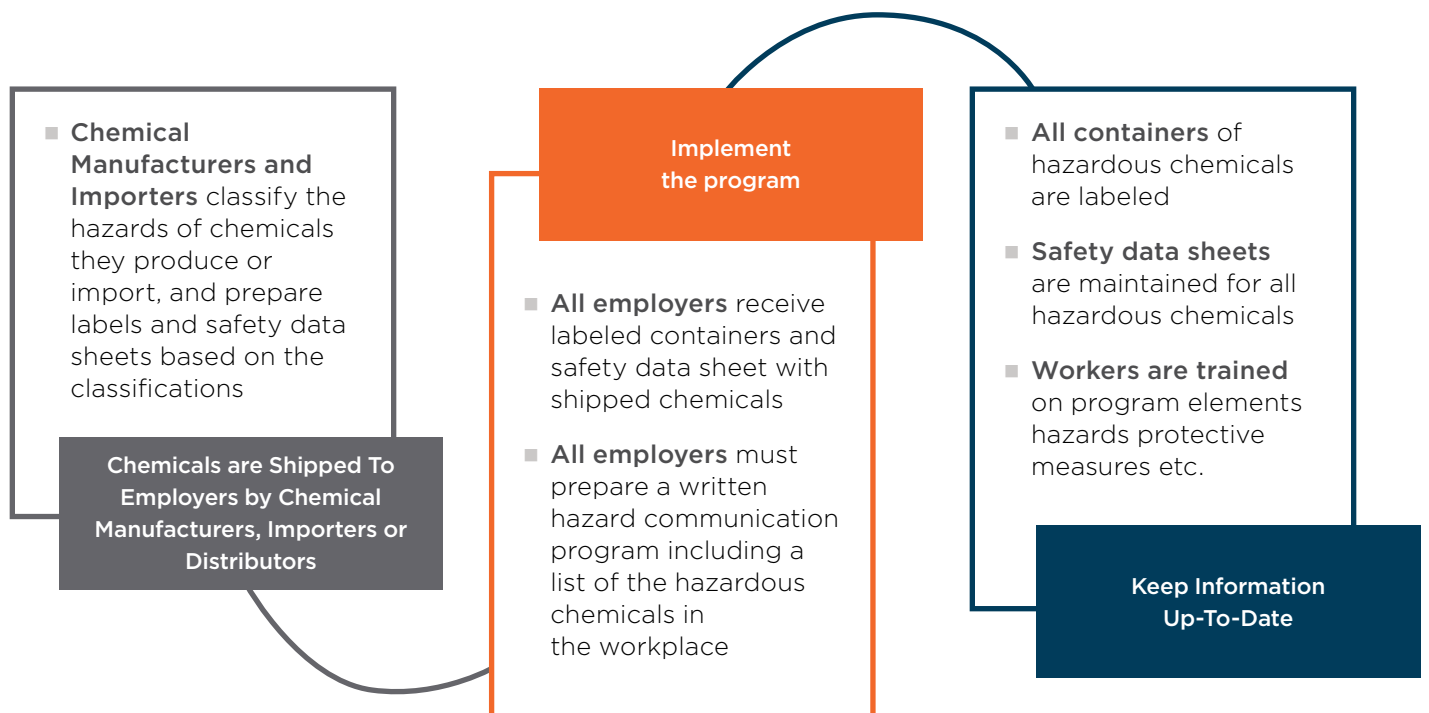
- **Before an employee is assigned to a work area** where they may be exposed to hazardous chemicals. For this reason, many businesses complete hazard communication program training during an employee's new hire safety orientation.
- **When new hazards are introduced** into the work area. For example, if a business was previously using non-hazardous water for cleaning, but has implemented a new chemical cleaning procedure, employees in the work area should be trained regarding the new product, its hazards, and how to work safely with it.
- **At regular intervals** (e.g., annually or every few years), as proactive refresher training. Although not required by OSHA, providing employees with refresher training keeps them up to date regarding the importance of chemical safety in the workplace.
- **When employees are found working outside of best practices.** For example, if an employee has been trained regarding the need to wear gloves when using a solvent in the facility, but is seen not using gloves, refresher training (potentially including a review of the SDS) is recommended.

Although training programs will vary based on company size, number and severity of hazardous chemicals used, and other factors, common components of hazard communication training include:

- Details of the hazard communication program, such as who is responsible for questions that arise.
- The physical, health, and other hazards of the chemicals in the work area.
- Ways employees can protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment (e.g., gloves, goggles, masks, etc.).

Hazard Communication: Chemical Safety

- An explanation of the labels received on shipped containers and the workplace labeling system for secondary containers.
- How to read and understand a safety data sheet (SDS), the 16-section format, and how to use the appropriate hazard information for job safety. The location and access of SDSs should also be discussed.
- How to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.)

How hazard communication works¹¹ Source: U.S. Department of Labor

Questions? Contact
 Nationwide Loss Control
 Services: 1-866-808-2101
 or LCS@nationwide.com.

STEP 6—Evaluate and update the program annually.

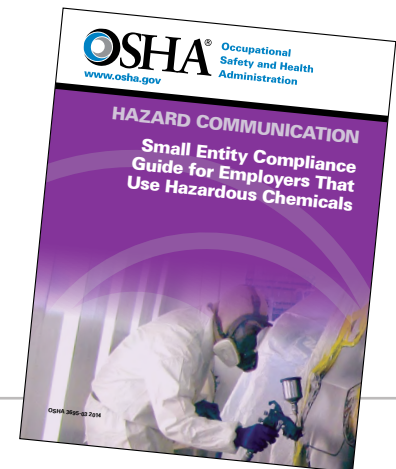
For the hazard communication program to remain relevant and current, it must be periodically updated. Update your program annually to ensure that it is still working to meet objectives. If conditions have changed, the program should be revised as appropriate (e.g., new chemicals introduced, new hazards, changes in coordinator assignments.)

Additionally, the maintenance of the chemical inventory and SDSs is an on-going activity. At no time should a chemical be used in the workplace without an SDS being available. For this reason, it is critical to train purchasing agents, supervisors, and others to inform the program coordinator if new chemicals are introduced.

Although not required by the HCS, documenting the periodic inspections and keeping a revision log can help to show the progression of the program in the workplace. Documentation should include the date of review, changes made and reasons for changes, and the name of the person making the needed revisions.

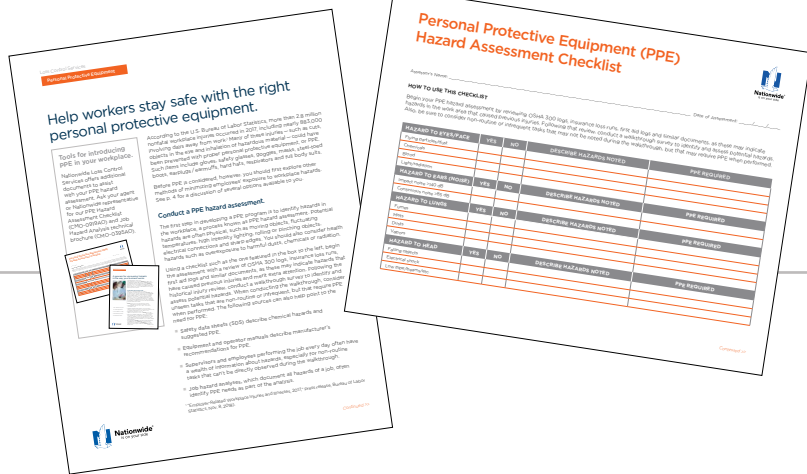
Look to OSHA for additional resources.

To review OSHA guidelines and access additional materials on hazard communication, go to **osha.gov/dsg/hazcom/**. There you can download OSHA's Hazard Communication booklet along with a variety of fact sheets, training materials and other resources.



Tools for introducing PPE in your workplace.

Nationwide Loss Control Services offers additional documents to assist with your PPE hazard assessment. Look for our Personal Protective Equipment bulletin (CMO-0918AO) and PPE Hazard Assessment Checklist (CMO-0919AO) on **MyLossControlServices.com**.



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