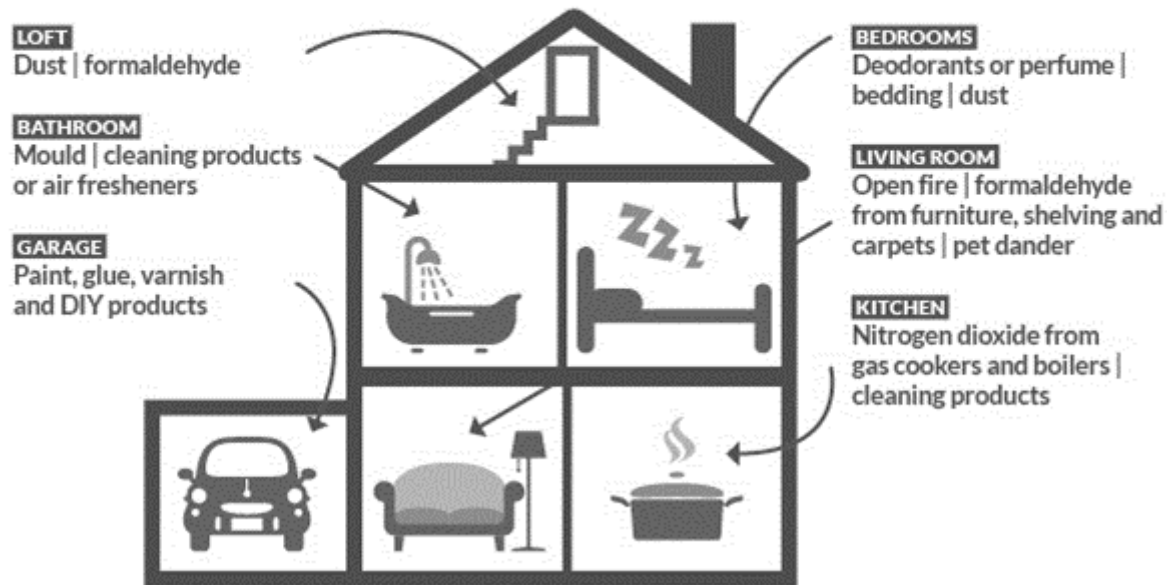


Cleaning Products Can Lead to Asthma Infography

Common asthma triggers in the home



Source: <https://www.eco3premierclub.com>

Cleaning Products Can Lead to Asthma Infography – Spanish

¿Pueden causar asma los productos de limpieza?



Claro que sí.

Aunque usted no lo crea, los productos de limpieza utilizados en el trabajo pueden agravar el asma ya existente o causar nuevos casos de asma en trabajadores que los utilizan con frecuencia.

Cualquier empleado, sea de limpieza, oficina u hospital, puede

utilizarlos ya que permiten limpiar, desinfectar y controlar el polvo o el moho en las superficies. Algunas personas pueden padecer problemas respiratorios al trabajar con estos productos o en áreas cuya limpieza requiere su utilización.

Fuente: <https://www.nj.gov/>

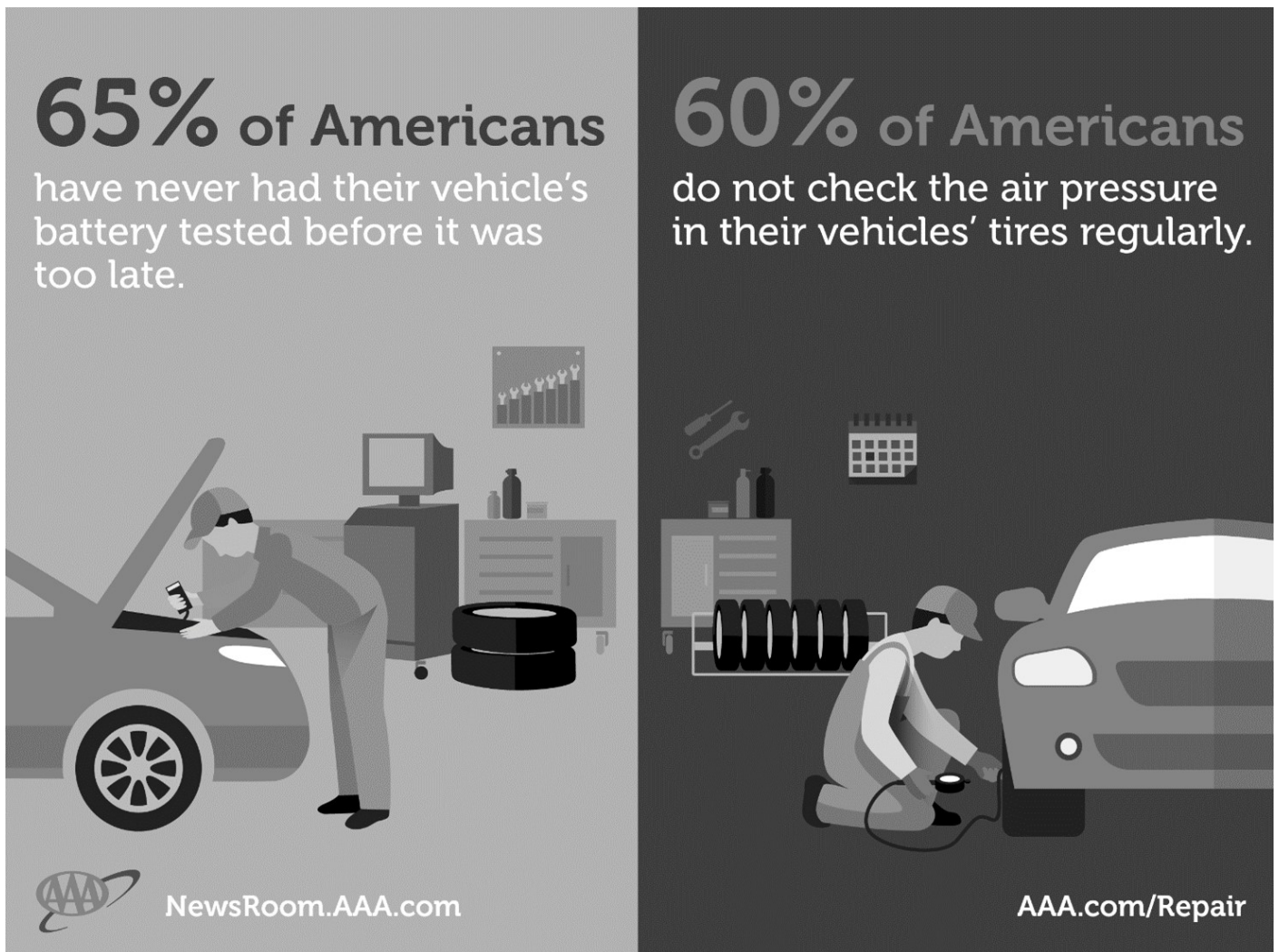
SPANISH: BBP – Bloodborne Pathogens

Course Description

This course teaches employees how to identify common bloodborne pathogens in the workplace, how they are transmitted, engineering and work practice controls used to prevent contact with, and

infection from, body fluids, and what to do if exposure occurs.
(Spanish Version)

Auto Transmission Repair Work Picture This



Source: <https://www.rallye-stars.com>

Auto Transmission Repair Work Picture This – Spanish



Fuente: <https://www.beedigital.es>

HazCom Employer's Guide

Hazardous chemicals are a leading cause of workplace injuries and illnesses. In addition to costly workers' compensation claims and embarrassing publicity, failure to control chemical hazards at your workplace is a good way to get into deep trouble with OSHA.

What is Hazard Communication (HazCom)?

Hazard communication, also known as HazCom, is a set of processes and procedures that employers and importers must implement in the workplace to effectively communicate hazards associated with chemicals during handling, shipping, and any form of exposure.

Hazard Communication Standard (HCS) violations consistently rank in the top 3 of OSHA's ten most frequently cited standards list, with citations issued in nearly all industries.

Costs of non-compliance include:

- Fines
- Risk & Liability
- Downtime & Internal Disruption
- Negative Press & Damage to Corporate Image
- Lost Revenues

During an inspection, you will be asked to produce:

- Written HCS/HazCom Plan
- List/Inventory of Chemicals Used in the Workplace
- Evidence of Proper Labeling of Chemicals
- SDS Documents & Details about Employee Access
- Information about Employee HazCom Training

To help you avoid these consequences, ensure your compliance, and greatly reduce the risk of an accident/incident related to hazardous chemicals, Safety *OnDemand* has built this 12-step Employer's Guide to walk you through a complete path to HazCom compliance. **Click on the buttons below to get started.** Keep in mind that you are not forced to go to each step sequentially, the Guide was built so you can jump in and out at any stage.

HazCom Employer's Guide

Step 1: Learn the Standards

What You NEED To Do

As an employer, you are required by law to comply with the following HazCom standards: [Hazard Communication](#), [Subpart Z standards](#), the OSHA [Process Safety Management](#) (PSM) standard. You can have a working HazCom policy and procedure, without an incident, and not be compliant and risk fines and civil litigation. [Download a model HazCom policy](#) that is compliant and can be quickly edited to use in your workplace; however, it is also critical that you audit your policies & procedures every year, or as needed, to accommodate changes in legislation.

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A Definition of Hazard Communication

The starting point for compliance is recognizing the 3 principal sources of OSHA chemical safety requirements:

1. The [Hazard Communication](#) standard, or HazCom, establishes general safety requirements to ensure that workers exposed to hazardous chemicals are aware of the dangers and how to protect themselves from them;
2. [Subpart Z standards](#) covering specific hazardous substances including asbestos, carcinogens, vinyl chloride, cadmium, lead, benzene, ethylene dioxide, etc.; and
3. The OSHA [Process Safety Management](#) (PSM) standard requires employers that manufacture or use highly hazardous chemicals to implement special programs to prevent and respond to incidents involving those chemicals.

When employees work with chemicals, they face a number of health hazards, including irritation, and physical hazards, such as flammability and corrosion. The United States Occupational Safety and Health Administration ([OSHA](#)) stipulates that chemical manufacturers and importers must evaluate the hazards of the chemicals with which they deal and pass along that information through labels and safety data sheets. Similarly, any employer with hazardous chemicals in the workplace must design and institute a written hazard communication program, which includes labeling all containers, giving all employees access to safety data sheets, and conducting a training program for all employees

who could be exposed to the hazards. OSHA's [Hazard Communication Standard](#) (HCS) specifies how to communicate information about the hazards and how to take protective measures.

The HCS ensures employees have the right to know the chemicals to which they are exposed in the workplace and their hazards. Employees not only must have access to the information, but they also must participate in employers' training programs and know how to actively and effectively protect themselves. The Hazard Communication Standard also informs employers about designing and implementing these effective protective programs for employees who could be exposed to hazardous chemicals. OSHA's overall goal is to reduce the number of chemical source illnesses and injuries in workplaces across the nation.

The standard that gave workers the right to know, now gives them the right to understand.

The Hazard Communication Standard (HCS) is now aligned with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This update to the Hazard Communication Standard (HCS) will provide a common and coherent approach to classifying chemicals and communicating hazard information on labels and safety data sheets. This update will also help reduce trade barriers and result in productivity improvements for American businesses that regularly handle, store, and use hazardous chemicals while providing cost savings for American businesses that periodically update safety data sheets and labels for chemicals covered under the hazard communication standard.

Hazard Communication Standard

In order to ensure chemical safety in the workplace, information about the identities and hazards of the chemicals must be available and understandable to workers. OSHA's Hazard Communication Standard (HCS) requires the development and dissemination of such information:

- 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 the hazard information to their downstream customers.

- 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.

Major changes to the Hazard Communication Standard

- **Hazard classification:** Provides specific criteria for classification of health and physical hazards, as well as classification of mixtures.
- **Labels:** Chemical manufacturers and importers will be required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided.
- **Safety Data Sheets:** Will now have a specified 16-section format.
- **Information and training:** Employers are required to train workers on the new labels elements and safety data sheets format to facilitate recognition and understanding.

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HazCom Employer's Guide

Step 2: Identify Responsible Parties

What You NEED To Do

As an employer, you need to identify a single person that is responsible for “owning” the HazCom program. Too many cooks in the kitchen make it very difficult to stay on top of legislated and industry requirements. This person, should be responsible for the following:

- Creating and maintaining an inventory of all hazardous chemicals stored or used within their area of responsibility.
- Ensuring that all hazardous chemicals/products are properly labeled, and that these labels are not removed or defaced.
- Maintaining copies of [Safety Data Sheets \(SDS\)](#) for each hazardous chemical in the workplace, and ensuring that the SDSs are readily available to employees.
- Identifying employees under their supervision who may be exposed to hazardous chemicals under normal operating conditions or in a foreseeable emergency based on hazard assessment.
- Informing employees of: Any operations in their work area where hazardous chemicals are present; the location and availability of the [written Hazard Communication Plan](#); the [chemical inventory](#); SDS; and the requirements of the Hazard Communication Standard.
- Providing employees with training regarding hazards or practices specific to their work area at the time of their assignment and whenever a new hazard is introduced into their work area.
- Maintaining training records through the online database or with Department Supervisors.
- Determine the required [personal protective equipment \(PPE\)](#) for the procedures and materials in use in their area.
 - Ensure the proper PPE is made available to employees.
- Ensure the employees are trained in the use of PPE, the PPE is properly maintained, and the employees wear the appropriate PPE where necessary/required.
- Develop [safe procedures](#) for work in their areas, as well as [written procedures](#) for emergencies.
- Inform outside contractors of chemical (or other) hazards that they may be exposed to while working at your location, while also informing them of the location of the SDSs.
- Inform employees about proper performance of non-routine tasks.

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What Are My Responsibilities?

The answer to that question depends on who you are, and what you do.

Manufacturer/Importer Responsibilities

Manufacturer/Importer Responsibilities

If you manufacture or import chemicals, you're responsible for classifying the hazards of those chemicals. Appendixes [A](#) and [B](#) of the Standard contain instructions you'll need to do this. Based on that classification, you must then use information included in Appendix [C](#) to determine what hazard information, including signal words and pictograms, you'll need to include on labels for all chemical products you ship downstream.

You also need to develop SDSs for all chemical products you import or manufacture. There are 3 circumstances in which you're required to supply SDSs. First, you must supply them with initial shipments of chemical products to downstream users. Second, you must include a new SDS with the next shipment after you revise the SDS for any reason. Third, you must send an SDS whenever requested to do so by a downstream user.

As a manufacturer or importer, you're at the top of the supply chain, and everyone downstream depends upon the accuracy of the shipped labels and SDSs you supply. That's why it's especially important that you get it right!

Distributor Responsibilities

Distributor Responsibilities

The HazCom Standard defines a "distributor" as "a business, other than a chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employers." Basically, this means that you're a distributor if you receive chemical products

from a primary manufacturer, and then ship them to users downstream.

You're responsible for including shipped labels and SDSs with the chemicals you ship downstream. That means you should stay on top of the chemical suppliers who ship to you in order to make sure they're sending you accurate hazard information for the products they supply.

Employer Responsibilities

Employer Responsibilities

Employers are the end-users of chemicals, and have the important responsibility to ensure that their own employees have the information they need about the hazards of chemicals in the workplace. Remember the discussion about the "bad ole days" before there was a HazCom standard – what a dangerous time it was for workers? OSHA developed employer requirements under the HazCom Standard to help reduce the potential for those situations.

The very beginning of the HazCom standard requires employers to have a "comprehensive HazCom program." But what does that mean, exactly? To meet OSHA's requirements, an employer needs to include these 5 components in their plan:

- *A Written Hazard Communication Program.* Consider this your "playbook" for managing HazCom at your site. That's why it's so important that your program is "site specific." Resist the temptation to just download any old template from the internet and put your company's name and address on it. You need to lay out the details of *your* chemical hazards, *your* storage practices, *your* workplace labeling system (more on that later!) and *your* training program. You also need to make sure this program is accessible to all of your employees, and that they know where to find it.
- *Chemical Inventory List.* Just like the name implies, this is a list of all of the chemical products in your workplace for which you are required to maintain SDSs. You can probably

see the reason why this is a required element – you can't communicate the hazards of chemicals in the workplace to your employees if you don't know what chemicals you have. As you bring new chemicals into the workplace, make sure that the chemical inventory list is kept up to date.

- *Proper Labels and Warnings.* Employers must ensure that shipped labels on incoming containers are not removed or defaced. But there are plenty of containers in the workplace other than the initial shipped containers – including transfer buckets, spray bottles, drip pans beneath equipment, and reservoirs for hydraulic oil and coolant within machines – and OSHA requires you to make sure those containers are labeled, too! Your system for labeling and communicating the hazards of chemicals in these kinds of secondary containers is called workplace labeling.
- *SDSs and Right-to-Know Access.* The whole purpose of the HazCom Standard is to protect workers who are exposed to hazardous chemicals. It shouldn't be a surprise that one of the most central responsibilities of an employer is to ensure their workforce can access the SDSs for chemicals they work with during their workshifts. The key is that they must have access to the exact documents for the exact chemicals they work with, which means you have to maintain the SDS for the chemicals provided by the manufacturer, rather than "generic" SDSs. You also can't have any barriers to access. For example, if you keep your SDS library in a supervisor's office, and that supervisor then goes to lunch and locks her office door, employees would not be able to obtain the SDS in the event of an emergency. A cloud-based SDS management system can help provide the 24/7 you and your workforce need.
- Of course, none of the efforts you make to manage HazCom will bear fruit if your employees don't understand the Standard, or the specific details of your HazCom program. That means you'll need to train them, and more importantly, you'll need to verify that they've understood their training.

Shipping and Receiving

HazCom & Shipping and Receiving

Although S&R employees may not directly use chemicals to perform their job duties, a basic understanding of the known and potential company chemical hazards should be provided. This is necessary in the event containers get damaged during transport or through movement within the building, as well as in storage.

You may have a well-trained chemical response team which cleans up leaking or spilled containers, but your shipping and receiving workers are the first-line of defense in the facility in this regard. And further, storage of many chemicals certainly requires knowledge of incompatible products and conditions to avoid.

As a result, make sure the S&R employees know:

- Pictograms and hazard warnings on labels, packages and placards
- Health and physical hazards classes of common chemicals that may be received or shipped
- Safe handling of flammable liquids and compressed gas cylinders
- Initial response to chemical spills or leaking or broken containers (for example, should they clear the area and summon the chemical response team? Do they know how to call these team members? Are there chemicals that if spilled or leaking, require an automatic limited or full facility evacuation?)
- Incompatible materials, both in spills and in storage
- The health and physical hazards of incompatible materials
- Proper selection and use of PPE that may be necessary when shipping or storing products

In addition to these topics, safe transportation of chemicals and use of secondary containers should be reviewed.

And occasionally, workplaces receive chemicals in error. A driver pulls away and a drum is accidentally left behind sitting on the

dock, and it is not yours. This product could be one that your facility is not familiar with. Until the foreign chemical can be removed from the workplace, it may present a new hazard if it's leaking, or even in normal storage. S&R should be aware how to respond to these events.

Temporary Workers

HazCom and Temporary Workers

Your responsibilities also vary depending on the employment contract of the workers in question.

Typically, the staffing agency and the host employer share training responsibilities for temporary workers. Generic training on the basics of HazCom is often provided to workers by the staffing agency. However, depending on the nature of the site-specific requirements of the workplace or the anticipated job duties, the staffing agency's training may not be sufficient to protect temporary workers fully.

As a recommended practice, work closely with staffing agencies and review the nature and types of training provided. In many cases, you'll need to supplement temporary worker HCS training. As OSHA states, "Many OSHA standards include specific safety and health training requirements to ensure that workers have the required skills and knowledge to safely perform their work." Hazard communication is one such standard that often requires specific information to be relayed to the temporary worker.

As with your other employees, ensure your temporary workers understand:

- How to read SDS, pictograms, and hazard warnings on labels, packages and placards.
- Where to get additional information, such as the location of SDS and supervisors to ask about chemical hazards.
- Health and physical hazards classes of common chemicals they will have exposure to.

- Safe handling and storage of chemicals on the job.
- Signs of exposure to chemicals.
- Selection and use of PPE needed for chemical handling.
- What to do in the event of a chemical emergency, such as a spill or first aid event.

Maintenance Workers

HazCom and Maintenance Workers

Of all employees groups, maintenance often present the biggest challenges in compliance, especially when it comes to chemical exposure. Typically, in small to medium-sized companies, these workers handle a variety of tasks, and your maintenance crew can create or repair almost anything.

This may mean they are using chemicals in non-traditional or inappropriate ways, perhaps welding in the plant near flammable products, or using multiple (and possibly incompatible) chemicals without sufficient ventilation or respirators.

And depending on the nature of your company structure, maintenance workers may also purchase chemicals and bring them into the plant without any tracking process. This can create issues with compliance, as well as safety and health. Safety Data Sheets and chemical inventories often don't reflect these purchases, and hazards associated with these chemicals might not be included in HCS training.

There are several ways to prevent these types of inadequacies in the HazCom program, including:

- Provide additional HCS training for maintenance workers to reiterate the safe usage of various chemical products, as well as general and job-specific HCS information on labeling, secondary containers, and SDS.
- Perform Job Safety Analysis (JSAs) for routine, and especially, non-routine maintenance duties. For example, the

annual cleaning and preventative maintenance of the boiler, should have JSAs to discover potential chemical hazards, as well as other hazards.

- Create a tracking system to ensure all chemicals purchased are included in the written HCS program and inventory. Instruct maintenance workers on this system.
- Frequently examine the storage of chemical products in the maintenance shop, to ensure they are stored safely and appropriately. Retrain workers, if needed, on this topic.

OSHA's Hazard Communication Standard Ensures the Worker's "Right to Know"

Hazard Communication is meant to be a program that is regularly and consistently used, as it provides several layers of safety for your workers. HazCom compliance is the responsibility of everyone who has known (or potential) exposure to chemical hazards. But this is only possible if everyone understands how to apply the standard to their duties.

HazCom and Training

The HCS shouldn't be gathering dust on the shelf, nor should the HazCom training be a one-and-done method. The foundational aspects of HazCom are an ongoing, daily process for all workers who have known or potential exposure to chemicals in the course of their job duties.

However, often that is not the case. Employees may not grasp the relevance of HazCom in meaningful ways which protect them from chemical health hazards or protect the facility from physical hazards, like fire. OSHA has stated, "An employer's training program is to be a forum for explaining to employees not only the hazards of the chemicals in their work area, but also how to use the information generated in the hazard communication program." In short, workers must know *how to use* what they've learned.

Of course, training for HazCom is required initially, before

workers are exposed to chemical hazards, and additionally, if a new health or physical hazard is introduced. But as HazCom training is not compulsory on an annual basis, workers can easily forget the material and the elements of the standard that keep them safe.

Clearly employers must focus HCS on the workers with obvious hazards, such as those mixing or directly handling chemicals. But other employees in your company likely have potential HCS exposure, too. And some workers might have unusual chemical exposures, by virtue of their job functions.

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HazCom Employer's Guide

Step 3: Create Hazardous Chemical Inventory

What You NEED To Do

As with any other hazard, the starting point in managing chemical dangers is to identify and assess hazards at your own workplace.

Specifically, you must create a hazardous chemical inventory. You've likely already done this, but if not, we've outlined how to get started below or you can download our [HazCom Audit](#) and [Hazardous Material Inventory Form](#) to get started.

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How to Create a Hazardous Chemical Inventory

The first stage in complying with the [OSHA Hazard Communication Standard](#) is to create a list of all the hazardous chemicals in your workplace.

What To Look For

What you're looking for are "hazardous chemicals," which the HazCom standard defines as any "chemical which is a physical hazard or a health hazard."

"Health hazard" means a chemical for which there's statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees, which includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. [Appendix A](#) of the standard provides further definitions and explanations; and [Appendix B](#) describes the criteria used to determine whether a chemical is considered hazardous for purposes of the standard.

"Physical hazard" means a chemical for which there's scientifically valid evidence that it's a:

- Combustible liquid;
- Compressed gas;
- Explosive;
- Flammable;
- An organic peroxide;
- An oxidizer;
- Pyrophoric;
- Unstable (reactive); or
- Water-reactive.

Where To Look

The hazardous chemicals inventory can cover either the entire workplace or different work areas. Start by looking at the physical site. Identify chemicals in containers, including pipes, but also think about chemicals generated in the work operations, OSHA explains in its guidelines. For example, welding fumes, dusts, and exhaust fumes are all sources of chemical exposures.

Also look beyond the physical stuff. Examine your purchasing records to identify the kinds of chemicals you have at your workplace. Read labels provided by suppliers for hazard information.

How To Look

The best way to prepare a comprehensive list, according to OSHA guidelines, is to survey the workplace. The guidelines also recommend that you take the “broadest possible perspective when doing the survey.”

“Sometimes people think of ‘chemicals as being only liquids in containers. The standard covers chemicals in all physical forms – liquids, solids, gases, vapors, fumes, and mists – whether they are ‘contained’ or not.” The hazardous nature of the chemical and the potential for exposure are the factors which determine whether a chemical is covered. If it’s not hazardous, it’s not covered. If there is no potential for exposure (e.g., the chemical is inextricably bound and cannot be released), the rule does not cover the chemical.”

What To Do Next

Once you compile your list, verify that you have Safety Data Sheets (SDSs) for each of them. Check your files against your inventory. If any are missing, contact your supplier and request one. Make a written record documenting such requests, either by copy of a letter or a note regarding telephone conversations.

If you have SDSs for chemicals that are not on your list, figure out why. Maybe you don’t use the chemical anymore. Or maybe you missed it in your survey. Some suppliers do provide SDSs for products that are not hazardous. These do not have to be maintained by you.

[6 Reasons to Create a Hazardous Chemicals Inventory](#)

6 Reasons to Create a Hazardous Chemicals Inventory

1. OSHA Says You Have To

The HazCom standard requires employers to implement a [written hazard communication program](#) at their worksite. Under [Sec. 1910.1200\(e\)\(1\)\(i\)](#), the program must include a list of hazardous chemicals at the site.

2. It's Crucial to Hazard Assessment and Program Development

The list isn't just a piece of paper; it's a hazard assessment. The list is an inventory of *all* hazardous chemicals in the workplace at a given point in time. You can then group these substances into major hazard classes, such as flammable, corrosive, toxic and reactive. By mapping out the key chemical hazards in your workplace, the inventory then becomes the point of departure for creating a written hazard communication program appropriate to deal with these hazards.

3. It Helps You Comply With SDS Requirements

The inventory is a tool that helps you comply with the requirement ([Section 1910.1200\(g\)\(1\)](#)) of ensuring that there's an appropriate, up-to-date SDS for each hazardous chemical in your workplace.

4. It Helps You Comply With Training Requirements

The inventory also helps you comply with HazCom training requirements because it maps out the hazardous chemicals to which your employees are exposed and require safety training and education to deal with..

5. Helps Identify and Correct Supply Problems

Inventories can help you identify potential hazardous chemical supply problems or inefficiencies and that you can proceed to correct. For example, the inventory might reveal an opportunity to store smaller quantities of a hazardous chemical by consolidating storage locations or to streamline your ordering process so that an employee can't inadvertently order a particular product for which ample supplies already exist in different storage sites.

6. Makes It Easier to Consider Less Hazardous Substitutes

Conducting a hazardous chemicals inventory gives you the chance to consider replacing current products with substitutes that are less dangerous to worker health and safety as well as the environment.

Conclusion: Inventory Is a Work in Progress

Keep in mind that conducting an inventory just gives you a snapshot of the hazardous chemicals in your workplace *at a given time*. Changes in operations may lead to the elimination of some hazardous chemicals and the introduction of new ones. So establish a method for ensuring that the inventory is reviewed and updated at least once a year. In addition, develop a method for adding new chemicals the first time they're used in the workplace.

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HazCom Employer's Guide

Step 4: Source SDS

What You NEED To Do

The HazCom standard requires employers to ensure that each hazardous chemical used in the workplace have a safety data sheet, or SDS. Your supplier should provide you an SDS for each chemical. You can use [SDS Search](#) to search and download any missing SDS. You may also want to download our [infographic](#) on how to read an SDS or make use of our [instructor-led](#) or [online training](#) on the Globally Harmonized System (GHS) and how to engage with SDSs.

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What is an SDS?

Safety Data Sheets (SDSs) are summary documents that provide information about the hazards of a product and advice about safety precautions. SDSs are usually written by the manufacturer or supplier of the product. In some circumstances, an employer may be required to prepare an SDS (e.g., when the product is produced and used exclusively in that workplace).

SDSs provide more detailed hazard information about the product than the label. They are an important resource for workplaces and workers to help you learn more about the product(s) used. Use this information to identify the hazards of the products you use and to protect yourself from those hazards, including safe handling and emergency measures.

SDSs tell users what the hazards of the product are, how to use the product safely, what to expect if the recommendations are not followed, how to recognize symptoms of exposure, and what to do if emergencies occur.

[Do I Need an SDS?](#)

Do I Need an SDS?

OSHA only requires safety data sheets (SDSs) for hazardous products or chemicals. GLT Products, along with other manufacturers are not required to provide SDSs for non-hazardous materials or products. OSHA has left it up to the producer whether or not they should provide SDSs for non-hazardous materials. Many organizations often supply SDSs for liability purposes, not for compliance. In fact, OSHA **does not encourage** manufacturers to maintain SDSs for non-hazardous products or chemicals.

HCS 2012 defines a health hazard as:

“...a [chemical](#) which is classified as posing one of the following

hazardous effects: [acute toxicity](#) (any route of exposure); [skin corrosion](#) or [irritation](#); serious eye damage or eye irritation; [respiratory](#) or skin [sensitization](#); germ cell [mutagenicity](#); [carcinogenicity](#); [reproductive toxicity](#); specific [target organ](#) toxicity (single or repeated exposure); or [aspiration hazard](#). The criteria for determining whether a chemical is classified as a health hazard are detailed in [Appendix A](#) to §1910.1200 – Health Hazard Criteria.

HCS 2012 defines a physical hazard as:

“...a [chemical](#) that is classified as posing one of the following hazardous effects: [explosive](#); [flammable](#) ([gases](#), [aerosols](#), liquids, or [solids](#)); [oxidizer](#) (liquid, solid or gas); self-reactive; [pyrophoric](#) (liquid or solid); self-heating; [organic peroxide](#); [corrosive](#) to metal; gas under pressure; or in [contact with water](#) emits [flammable gas](#). See [Appendix B](#) to §1910.1200 – Physical Hazard Criteria.

We encourage everyone to click [here](#) to view the full details of OSHA’s rules on Hazard Communication Standards.



Hazard Communication Safety Data Sheets

The Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products. As of June 1, 2015, the HCS will require new SDSs to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below:

Section 1, Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.

Section 2, Hazard(s) identification includes all hazards regarding the chemical; required label elements.

Section 3, Composition/information on ingredients includes information on chemical ingredients; trade secret claims.

Section 4, First-aid measures includes important symptoms/effects, acute, delayed; required treatment.

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

Section 6, Accidental release measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.

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

For more information:

 **Occupational
Safety and Health
Administration**
U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

OSHA 3493-02-2012



Hazard Communication Safety Data Sheets

Section 8, Exposure controls/personal protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

Section 9, Physical and chemical properties lists the chemical's characteristics.

Section 10, Stability and reactivity lists chemical stability and possibility of hazardous reactions.

Section 11, Toxicological information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.

Section 12, Ecological information*

Section 13, Disposal considerations*

Section 14, Transport information*

Section 15, Regulatory information*

Section 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 through 15 (29 CFR 1910.1200(g)(2)).

Employers must ensure that SDSs are readily accessible to employees.

See Appendix D of 29 CFR 1910.1200 for a detailed description of SDS contents.

For more information:

 **Occupational
Safety and Health
Administration**
U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

OSHA 3493-02-2012

As of June 2015, the Hazard Communication Standard (HCS) now requires pictograms on labels to alert users of the chemical hazards to which they may be exposed to. Displayed below are pictograms of the symbols that represent a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

HCS Pictograms and Hazards

Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	Flame  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	Exclamation Mark  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  • Gases Under Pressure	Corrosion  • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	Exploding Bomb  • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  • Oxidizers	Environment (Non-Mandatory)  • Aquatic Toxicity	Skull and Crossbones  • Acute Toxicity (fatal or toxic)

For more information:

Occupational Safety and Health Administration
 U.S. Department of Labor
www.osha.gov (800) 321-OSHA (6742)

OSHA 3491-02 2012

The simple fact to keep in mind is that if it is a hazardous chemical or product, a safety data sheet **will be required**. If it is a manufactured product, the odds of an SDS existing may be slim.

What information is on the SDS?

What information is on the SDS?

The *Hazardous Products Regulations* (HPR) specifies the sections and content for the SDS. Schedule 1 within the HPR outlines the section number and heading that must be presented in the specified order, as follows:

SDS Section and Heading		Specific Information Elements
1	Identification	• Product identifier (e.g. Product name) • Other means of identification (e.g. product family, synonyms, etc.) • Recommended use • Restrictions on use • Canadian supplier identifier+ - Name, full address and phone number(s) • Emergency telephone number and any restrictions on the use of that number, if applicable++
2	Hazard identification	• Hazard classification (class, category or subcategory) of substance or mixture or a description of the identified hazard for Physical or Health Hazards Not Otherwise Classified • Label elements: - Symbol (image) or the name of the symbol (e.g., flame, skull and crossbones) - Signal word - Hazard statement(s) - Precautionary statement(s) • Other hazards which do not result in classification (e.g., molten metal hazard)

3	Composition/Information on ingredients	• When a hazardous product is a material or substance: - Chemical name - Common name and synonyms - Chemical Abstract Service (CAS) registry number and any unique identifiers - Chemical name of impurities, stabilizing solvents and/or additives* • For each material or substance in a mixture that is classified in a health hazard class**: - Chemical name - Common name and synonyms - CAS registry number and any unique identifiers - Concentration NOTE: Confidential business information rules can apply
4	First-aid measures	• First-aid measures by route of exposure: - Inhalation - Skin contact - Eye contact - Ingestion • Most important symptoms and effects (acute or delayed) • Immediate medical attention and special treatment, if necessary
5	Fire-fighting measures	• Suitable extinguishing media • Unsuitable extinguishing media • Specific hazards arising from the hazardous product (e.g., hazardous combustion products) • Special protective equipment and precautions for fire-fighters

6	Accidental release measures	• Personal precautions, protective equipment and emergency procedures • Methods and materials for containment and cleaning up
7	Handling and storage	• Precautions for safe handling • Conditions for safe storage (including incompatible materials)
8	Exposure controls/ Personal protection	• Control parameters, including occupational exposure guidelines or biological exposure limits and the source of those values • Appropriate engineering controls • Individual protection measures (e.g. personal protective equipment)

9	Physical and chemical properties	• Appearance (physical state, colour, etc.) • Odor • Odor threshold • pH • Melting point/Freezing point • Initial boiling point/boiling range • Flash point • Evaporation rate • Flammability (solid; gas) • Lower flammable/explosive limit • Upper flammable/explosive limit • Vapor pressure • Vapor density • Relative density • Solubility • Partition coefficient – n-octanol/water • Auto-ignition temperature • Decomposition temperature • Viscosity
10	Stability and reactivity	• Reactivity • Chemical stability • Possibility of hazardous reactions • Conditions to avoid (e.g., static discharge, shock, or vibration) • Incompatible materials • Hazardous decomposition products

11	Toxicological information	Concise but complete description of the various toxic health effects and the data used to identify those effects, including: • Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact) • Symptoms related to the physical, chemical and toxicological characteristics • Delayed and immediate effects, and chronic effects from short-term and long-term exposure • Numerical measures of toxicity, including acute toxicity estimates (ATEs)
12	Ecological information***	• Ecotoxicity • Persistence and degradability • Bioaccumulative potential • Mobility in soil • Other adverse effects
13	Disposal considerations***	Information on safe handling for disposal and methods of disposal, including any contaminated packaging
14	Transport information***	• UN number • UN proper shipping name • Transport hazard class(es) • Packing group • Environmental hazards • Transport in bulk, if applicable • Special precautions
15	Regulatory information***	Safety, health and environmental regulations specific to the product

16	Other information	Date of the latest revision of the SDS
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When is the SDS Updated?

When is the SDS Updated?

SDSs are required to be accurate at the time of sale. An SDS will be required to be updated when the supplier becomes aware of any “significant new data”. The definition of “significant new data” is:

New data regarding the hazard presented by a hazardous product that change its classification in a category or subcategory of a hazard class, or result in its classification in another hazard class, or change the ways to protect against the hazard presented by the hazardous product.

This definition means that an SDS must be updated when there is new information that changes how the hazardous product is classified, or when there are changes to the way you will handle or store or protect yourself from the hazards of the product.

SDSs will be required to be updated within 90 days of the supplier being aware of the new information. If you purchase a product within this 90 day time period, the supplier must inform you of the significant new data and the date on which it became available in writing.

As an Employer, Do I Have Responsibilities for SDSs?

As an Employer, Do I Have Responsibilities for SDSs?

Yes. Employers will be required to make sure that all hazardous products have an up-to-date SDS when it enters the workplace. The

SDSs must be readily available to the workers who are exposed to the hazardous product, and to the health and safety committee or representative.

Employers may computerize the SDS information as long as:

- all employees have access to and are trained on how to use the computer or device,
- the computers/devices are kept in working order, and
- the employer makes a hard copy of the SDS available to the employee or health and safety committee/representative upon request.

As mentioned, in some circumstances, an employer may be required to prepare an SDS (e.g., when the product is produced and used in the workplace).

[As a Worker, When Would I Use an SDS?](#)

As a Worker, When Would I Use an SDS?

Always be familiar with the hazards of a product **before** you start using it. You should look at an SDS, match the name of the product on the container to the one on the SDS, know the hazards, understand safe handling and storage instructions, as well as understand what to do in an emergency.

You can think of the SDS as having four main purposes. It provides information on:

- a. **Identification:** for the product and supplier.
- b. **Hazards:** physical (fire and reactivity) and health.
- c. **Prevention:** steps you can take to work safely, reduce or prevent exposure, or in an emergency.
- d. **Response:** appropriate responses in various situations (e.g., first-aid, fire, accidental release).

For most people who work with hazardous products, you should always:

- read the name of the chemical (Section 1),
- know the hazards (Section 2),
- understand safe handling and storage instructions (Section 7), and
- understand what to do in an emergency (Sections 4, 5 and 6).

A few things to know:

- Make sure that the product is being used in the way the manufacturer intended; otherwise the advice provided on the SDS and label may not apply, or the protective measures listed may not be adequate. Section 1 of the SDS should describe the typical use of the product and may indicate restrictions. Ask your supervisor or a health and safety professional for advice if the way you use the product does not match the SDS.
- Section 2 will summarize the hazards related to the product, precautions to take, and what to do in an emergency. Understand that the SDS covers information about the potential hazards, but may not be specific about the required safe work procedures needed for your workplace (e.g., the SDS may not specify what type of respirator must be used, just that a respirator is needed). More information can be found by asking your supervisor. These decisions may require the help of a safety professional or someone with chemical safety knowledge.

[Additional Resources](#)

Additional Resources

- [OSHA's Hazardous Chemicals in Labs Fact Sheet](#) (270 K PDF download).
- [OSHA's page on chemical hazards and toxic substances](#) including recognition, evaluation, controls, standards and more.
- [OSHA Occupational Chemical Database](#). OSHA's premier one-stop

shop for occupational chemical information. It compiles information from several government agencies and organizations. Information available on the pages includes chemical identification and physical properties, exposure limits, sampling information, and additional resources.

- [Occupational Health Guidelines for Chemical Hazards](#). U.S. Department of Health and Human Services (DHHS), National Institute for Occupational Safety and Health (NIOSH) Publication No. 81-123, (January 1981). Provides a table of contents of guidelines for many hazardous chemicals. The files provide technical chemical information, including chemical and physical properties, health effects, exposure limits, and recommendations for medical monitoring, personal protective equipment (PPE), and control procedures.
- [Where to find Safety Data Sheets on the Internet](#). Interactive Learning Paradigms Incorporated (ILPI). Provides links to SDS available on the Internet.

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HazCom Employer's Guide

Step 5: Substitution Plan

What You NEED To Do

Eliminating chemical hazards in the workplace removes the risks they pose. The next best is substituting the hazardous chemical for something non-hazardous or less hazardous. These activities can reduce the costs and work associated with storing and disposing of chemicals and training and equipping employees. It can also reduce liabilities and costs from downtime due to accidents and occupational injuries and illnesses. It is important when substituting chemicals to select safer alternatives and not just swap one harmful agent for another, which could do even more harm to employees and downstream users of products. [Download a worksheet for how to select chemical substitutes.](#)

[BACK TO START](#) | [NEXT STEP OF 12](#)

Chemicals in the workplace lead to over 190,000 illnesses and 50,000 deaths annually in the United States. These shocking statistics, referenced by OSHA on its chemical substitution web page, stem from a 2006 California Policy Research Center report entitled “Green Chemistry in California: A Framework for Leadership in Chemicals Policy and Innovation.”

Statistics aside, there is a global growing awareness that more can and should be done to safeguard employees, our communities, and the environment from the effects of hazardous chemicals. Chemical substitution has been identified as one of the primary tools for achieving those ends, and on that front, OH&S professionals are uniquely positioned to take the lead.

Understand the Push Toward Chemical Substitution and the Potential Benefits.

There are myriad reasons for transitioning away from hazardous chemicals to safer alternatives. On a basic level, it conforms to the hierarchy of controls, which posits that there is an order in which hazards should be dealt with, with the most effective controls considered first and the least effective controls used when necessary. The controls in order of effectiveness are:

- Elimination
- Substitution

- Engineering controls
- Administrative controls
- Personal protective equipment (PPE)

Looking at these controls through the lens of chemical safety, the order makes sense. Eliminating chemical hazards in the workplace removes the risks they pose. Next best is substituting the hazardous chemical for something non-hazardous or less hazardous. These activities can reduce the costs and work associated with storing and disposing of chemicals and training and equipping employees. It can also reduce liabilities and costs from downtime due to accidents and occupational injuries and illnesses.

It is important when substituting chemicals to select safer alternatives and not just swap one harmful agent for another, which could do even more harm to employees and downstream users of products.

If a company is unable to remove the hazard entirely or minimize it, then it should look next at engineering controls, which physically change the workplace to remove the hazard or place a barrier between the hazard and the worker. Next, it should look at administrative controls that require employer/employee actions to align with new processes that seek to mitigate risks. If a hazard cannot be controlled by the methods described above, then an employer may have to resort to PPE, which is generally considered the least effective method of control.

The benefits of chemical substitution go beyond safety, and a strong business case can be made that chemical substitution benefits include improvements to productivity through gained efficiencies, as demonstrated by the American Industrial Hygiene Association (AIHA) in a 2008 study, "Demonstrating the Business Value of Industrial Hygiene." These efforts, the study concluded, positively contribute to a company's bottom line.

Proof of the business case can be seen in the marketplace today: Local, state, federal, and international regulations are mandating the move toward safety alternatives; consumers are demanding safer products and services and are rewarding companies that provide it,

and communities are holding business more accountable for their actions; larger downstream companies are mandating safer chemicals and tighter hazard communication protocols from upstream suppliers. In today's marketplace, sustainability is good business.

Carry Out the Transition to Safer Chemical Alternatives.

OSHA has outlined seven steps it recommends for making the transition successful. Those steps are:

1. Form a team and develop a plan.
2. Examine current chemical use.
3. Identify alternatives.
4. Assess and compare alternatives.
5. Select safer alternatives.
6. Pilot (test) the alternative.
7. Implement and evaluate the alternative.

More specifically, OSHA recommends:

- Getting the right mix of stakeholders together to ensure a comprehensive and successful implementation. With this team, set goals, tasks, and timelines.
- Performing a chemical inventory, making sure to include all chemicals to which employees are exposed and that a safety data sheet is on hand for each.
- Prioritizing chemicals for substitution based upon their intrinsic hazards and potential for exposure. A good electronic SDS management tool can make it easier to search safety data sheets for chemicals of concern, even at the ingredient level. Extremely hazardous chemicals as identified by the EPA, OSHA, and other agencies should be at or near the top of the list.
- Locating alternatives that could replace the chemical in question, including using steps outlined in the hierarchy of controls to abate the chemical hazard.
- Making an informed decision by analyzing the comparable

hazard footprints of the alternatives under consideration, including data about hazards, performance, costs, and other factors, and then selecting the best option. The best option will likely include a number of trade-offs, some of which may require new protections to safeguard employees, even though safety as a whole improves.

- Testing and evaluating to ensure that the piloted improvement achieves desired results without complicating matters. This final step is never really finished because chemical hazard abatement is an ongoing process, and new technologies and chemical alternatives are being developed at an accelerated pace.

Why is Substitution Important?

Why is Substitution Important?

Substitution of currently-used materials with less hazardous materials is one of the most effective ways of eliminating or reducing exposure to materials that are toxic or pose other hazards. A hazard is the source of danger or injury. A hazard includes any chemical or material that has the ability or a property that can cause an adverse health effect or harm to a person under certain conditions. Risk, on the other hand, is the probability or chance that exposure to a chemical hazard will actually cause harm to a person or cause an adverse effect.

Other occupational hygiene methods for controlling employee exposure to chemicals include elimination, isolation, enclosure, local exhaust ventilation, process or equipment modification, good housekeeping, administrative controls and personal protective equipment. All these methods reduce or eliminate the risk of injury or harm by interrupting the path of exposure between the hazardous material and the worker. Substitution removes the hazard at the source.

Why Should the Substitute Product be Chosen Very Carefully?

Why Should the Substitute Product be Chosen Very Carefully?

Extreme care must be taken to ensure that one hazard is not being exchanged for another, especially one that could even be a more serious hazard. Before deciding to replace a chemical, one must know what risks the chemical poses to the employees, the environment, the equipment and facilities. If the risks are serious, then alternatives should be considered. A thorough understanding of the potential risks associated to the alternative solution is necessary.

The selection of a substitute can be a very complex process. In large organizations the selection process may involve a committee with representatives from engineering, purchasing, industrial hygiene, safety, maintenance, research and development, environmental control, waste management, shipping, and the supervisors and workers who directly work with the product. In smaller organizations, one person may carry out many of these functions.

What are Some Major Considerations to Look at When Considering the Suitability of Potential Substitutes?

What are Some Major Considerations to Look at When Considering the Suitability of Potential Substitutes?

1. **Effectiveness.** Will the product meet the technical requirements (e.g., solubility, drying time) for the job or process?
2. **Compatibility.** The substitute must not interfere or react with the process, the other products, or the equipment.

3. **Existing Control Measures.** Existing control methods may not adequately control the substitute (e.g., a less toxic substitute may evaporate more rapidly and the existing ventilation system may not adequately capture the vapors).
4. **Waste Disposal.** Will the current waste disposal system meet technical and regulatory requirements when dealing with any new waste created by using the substitute?
5. **Hazard Assessment.** A hazard assessment should be done to decide whether to substitute a chemical or product with a different one.

What are Some Points to Consider When Doing a Hazard Assessment?

What are Some Points to Consider When Doing a Hazard Assessment?

Use safety data sheets (SDSs) and other sources of chemical information to compare the hazards of various products. For easier comparison, set up a table with the following categories for each potential substitute. The important properties to compare are:

1. **Vapor Pressure.** Vapor pressure is an indicator of how easily a chemical evaporates into the air. Exposure by inhalation is the primary route of exposure for many products; therefore, the vapor concentration in the air largely influences the potential degree of exposure. If a solvent is not very volatile (does not evaporate easily), the potential for exposure by inhalation may be very low.
2. **Short Term Health Effects.** Biological effects or adverse health effects caused by short-term exposures to high concentrations of a chemical may not be the same as those resulting from low level, long-term exposures. For example, two closely related aromatic hydrocarbons, benzene and toluene, have similar acute toxic properties but only benzene causes cancer following long-term or chronic exposure. Recommended occupational exposure limits such as

the American Conference of Government Industrial Hygienist's (ACGIH) Threshold Limit Values (TLVs) must **not** be used in the comparison of materials since the basis for establishing these values varies from substance to substance (e.g., protection from irritation, becoming unconscious, or impairment of health). The TLV booklet clearly states that the TLVs are **not** a relative index of toxicity.

3. **Long-Term Health Effects.** Long term health effects such as chronic lung disease may be more significant than short term health effects.
4. **Skin Toxicity.** Both the potential for direct irritation and allergic sensitization must be examined. One also must consider that, besides breathing in chemicals, some solvents (and even some solvent vapors) can also be absorbed through intact skin. This route of exposure can contribute significantly to the overall uptake of chemicals in the body.
5. **Sensitization of the Respiratory System:** If repeated exposure to the chemical by inhalation can cause hypersensitive reactions, like an asthma attack, then special exposure control methods and workplace practices should be set up and maintained.
6. **Cancer-Causing Potential and Reproductive Effects.** If there is sufficient evidence that a compound could cause cancer or reproductive effects in humans, special handling precautions need to be considered.
7. **Physical Hazards.** Fire and explosion are sometimes the greatest hazards from a product. Properties that must be examined include vapor pressure, autoignition temperature, flash point, flammability limits, and reactivity.

Although substitution is the most direct method of reducing hazards, it is not always practical. A very careful evaluation must be done before any substitution plan to ensure that the new, alternative chemical does not pose a greater hazard than the currently used product. For example, a less environmentally harmful substance may actually pose a more significant risk for the health of the workers.

What is an Example of the Steps to Take When Investigating a New Product?

What is an Example of the Steps to Take When Investigating a New Product?

The Health and Safety Executive (HSE) in the United Kingdom recommends a seven step process when considering substitution*. These steps include:

1. **Identifying hazards and assessing risks.** This step involves deciding whether the current substance or process is a hazard. Is there a significant risk involved in storing, using or disposing of a substance? A hazard is defined as “the potential a substance or process has to harm someone or damage the environment.” Risk is “how likely this is to happen.”
2. **Identifying alternatives.** Investigate a wide range of options. Compare all of the hazard assessment information as previously mentioned in this document. Compare the different states of a chemical (e.g., will a granular form create less dust than a powder form?) Also consider whether the job is necessary or not (e.g., can the part be replaced rather than cleaned). If you are a supplier, you may need to select options according to your customers’ needs as well as those of your own employees.
3. **Think about what could happen if you use the alternatives.** It is important that you have gathered all available information before this step so that you can make a realistic comparison of both the good and bad points. Remember that you must also consider the way employees use it and how likely it is that they may be exposed. Choosing an alternative chemical may require changes in:
 - the way the work is done,
 - the kind of equipment or parts (e.g., O-rings, gaskets or hose materials) needed to be compatible with the substitute chemical,
 - the ventilation system that may be required,

- the disposal methods, and
 - regulatory requirements that may apply.
4. **Comparing alternatives.** In this step, compare the alternatives with each other, and with the substance or process currently being used. HSE recognizes that it is hard to compare the risks of one chemical that is very flammable with one that is very toxic. They recommend thinking of the effects in simple terms such as “Is the substitute going to explode, or poison people? Will it only affect people who work with it, or could it affect other people in the area?” Remember to consider how and where the alternative will be used.
 5. **Decide whether to substitute.** This step is the most difficult. Remember that a change in one step of a process can affect many others. Consult with the workers who will be handling the material directly for their input. It is a good practice to introduce the substitute on a trial or small quantity basis at first.
 6. **Introducing the substitute.** Plan the change in material or process carefully. Remember to train and educate the workers involved.
 7. **Assessing the change.** Check to see if the substitution has produced the intended results. You may find monitoring the health of the workers, monitoring the level of contaminants in the air, or fulfilling legal requirements useful parameters to measure.

[Additional Resources](#)

Additional Resources

- [The MADE SAFE Hazard List of Chemicals, Materials & Ingredients](#)
- [Hazardous Chemicals Handbook](#)
- [OECD Substitution and Alternatives Assessment Toolbox](#)
- [Chemsec Marketplace](#)

HazCom Employer's Guide

Step 6: Develop a Written Program

What You NEED To Do

First of all, you should know that the main trigger to the requirement to develop a written plan is having hazardous chemicals, as defined by the HazCom Standard, in the workplace. There aren't many exceptions to this requirement, and in fact, a 2015 enforcement directive makes clear that an employer needs to develop a plan "whether the employer generates the hazard or the hazard is generated by other employers." So, if your own operations don't involve hazardous chemicals but the operations of your onsite contractors you do, you'd still need to develop a plan that specifically addresses those chemical hazards, including procedures for training your own employees about those hazards. [Download a model HazCom program that you can edit and implement.](#)

[BACK TO START](#) | [NEXT STEP OF 12](#)

As it turns out, there are only two situations in which employers subject to OSHA's HazCom Standard, who have hazardous chemicals in the workplace, do *not* need to have a Written HazCom Plan.

The first instance pertains to work operations where employees only handle chemicals in sealed containers that are not opened

under normal conditions of use, such as many storage and distribution warehouses. If you're an employer at such a facility you need to: ensure that labels on incoming containers of hazardous chemicals are not removed or defaced; maintain copies of SDSs received with shipments and obtain SDSs when requested by employees; make SDSs accessible to employees during each work shift; and provide employees with HazCom training. However, you would not need to have a Written Plan.

Even if your facility handles only sealed containers, you might still find it valuable to have a Written HazCom Plan, considering that you need a system for storing and providing access to SDSs, maintaining shipped container labels and providing employee HazCom training. In the event of an OSHA inspection, you'd need to convince the inspector you're meeting your compliance obligations, and without anything written down, which, for example, describes your training program, you may have some difficulty with that. For this reason, it's worthwhile to go beyond the regulatory requirement and draft a Written Plan. It can help explain and provide documented evidence of your HazCom management practices.

The second example of an employer who does not need to have a Written HazCom Plan pertains to laboratory operations subject to OSHA's [Laboratory Standard](#), which covers "laboratory use" of small amounts of a limited variety of chemicals on a non-production basis. If your laboratory operations fall under that category, you'd need to have a written [Chemical Hygiene Plan \(CHP\)](#) instead, which contains information and plans more specific to a lab environment, such as maintenance of fume hoods and decontamination procedures. But remember, if your lab engages in production-related operations, including quality control, the Lab Standard would not apply and you'd need to have a Written HazCom Plan for those operations.

[Learn the Background](#)

Learn the Background

As we can already see, we need a pretty good grounding in the HazCom Standard to understand the requirements. You need to walk before you can run, and you need to ground yourself in the HazCom Standard before you sit down to start writing your plan. While this may seem like an obvious, logical place to start, surprisingly, few people actually seem to do this, which may help explain why deficiencies with the Written HazCom Plan are among the most commonly cited HazCom violations for employers.

Be sure to get a broad understanding of the Standard as a whole, and of requirements for the Written Plan in particular, which are found in 1910.1200(e). These requirements include:

- A list of the hazardous chemicals known to be present. Another name for this is a “chemical inventory list.” This list needs to include all chemicals you’re required to have an SDS for and you have some options with how you structure it. If you have a smaller establishment, it can be simple to just list all the hazardous chemicals in your workplace. If you have a larger facility, it might make more sense to compile lists of hazardous chemicals by work area or department, and then to compile an overall, comprehensive list of hazardous chemicals for the full facility. However you go about the task, an important factor to account for is using a product identifier that matches the identifiers for those same chemicals on the SDSs in your SDS library, on your shipped container labels, and your workplace labels. This ensures there is no ambiguity about the identities of chemicals and allows them to be cross-referenced with other safety information in the workplace, helping to reduce risks and better protect employees.
- Methods the employer will use to inform employees of the hazards of non-routine tasks. This is an often-missed aspect of the HazCom Plan. Employers generally know they need to address exposures employees may have during usual work routines, but often fail to plan how to inform employees of hazards they may encounter during non-routine tasks. For

example, an employee working in a chemical mixing operation may occasionally need to drain and clean a reaction vessel. During this task, they may use cleaning solvents they don't normally use and potentially be exposed to fume concentrations far above those encountered during their normal job tasks.

- Methods of informing employees about the hazards of chemicals in unlabeled pipes in their work areas. You need to state who's responsible for informing workers about the identities and hazards of chemicals in unlabeled pipes before work begins in those areas.
- Methods of managing HazCom, including providing access to SDSs, at multi-employer worksites. The management goes in both directions. You need to determine how you will inform your own workforce about the hazards of chemicals brought onsite by other employers, as well as how you'll inform other employers and contractors about the hazards of your chemicals, and provide access to the SDSs and information about your workplace labeling system.
- Description of how the Written Plan will be made available to employees. You can maintain a hard copy of your plan, or store an electronic copy including but not limited to saving it on a desktop computer, an online resource, or a mobile device as long as your employees know how to access it.
- Description of labeling management practices. This should include details about your workplace labeling system. For instance, do you replicate the shipped label, or do you use a label with a product identifier and select other hazard communication information, and provide the remaining information on the shipped label using supplemental information like training, work instructions, or signs?
- Methods of storing SDSs and providing right-to-know access to them. Make sure you fill in the important details like the method of providing emergency back-up access.
- Description of your HazCom training program. We'll talk more about training in the next installment of our Intro to HazCom series. For now, remember that your training program has to inform your employees about the requirements of the

HazCom standard in general, and the details of HazCom management at your workplace in particular, and the health and physical hazards present at your site.

Before you even put pen to paper or fingers to keyboard, collect the information you need. Do a walk-through of your whole facility to identify chemicals, being sure not to miss chemicals in boiler rooms, maintenance areas, storage sheds, or inside reservoirs of large machines. Talk to supervisors and Purchasing Department representatives to fill in any gaps.

Go beyond identifying obvious chemical containers, too. Look for examples of unlabeled pipes that may contain chemical products. Also pay attention to the ways chemicals are used, and specific hazards that may be created from their use. Is there dust visible? What about fumes or vapors? These are details you'll need to know to be fully aware of the chemical hazards in your facility and the routes of exposures employees may have.

As all of the above requirements show, you'll need to be very familiar with not only the requirements of the HazCom Standard, but also specific operations at your establishment pertaining to hazardous chemicals. Which brings us to our next point.

[Write it Like You Mean It](#)

Write it Like You Mean It

I hope it's becoming clear by now, but let's state it right out: Writing a HazCom Plan is serious business.

Don't make the mistake that many employers make, and simply find a template from somewhere and stop customizing the template for your workplace after filling in some of the obvious details like company name and address. There are many templates out there issued by trade associations, safety organizations and professional groups, and it's fine to take advantage of that material. But take it for what it is: help on getting started, rather than a shortcut to your destination. [A better template](#) that

gives you the guidance needed to actually create a compliant written plan will give you a big advantage here.

In my experience, many employers who have a less than robust HazCom Plan are working from a perspective of trying to simply “meet obligations” or “document compliance,” which is to say that they see it largely as a paper exercise. That also explains why once employers complete the Written Plan, they tend to file it away, whether on a computer desktop or on a shelf, instead of actually using it on an ongoing basis to manage chemical safety.

That’s their loss. First of all, failure to have a Written Plan that accurately describes hazards and hazard communication practices at your establishment can lead to compliance violations, and fines. Federal OSHA issued 4,806 violations for Written Plan deficiencies between December 1, 2013 and July 30, 2018, and the agency recently increased monetary penalties by 2.5% compared with 2018 levels.

Remember that the plan has to be specifically about your hazards, your management practices, and your program details at your establishment. Make sure your plan includes all of the site-specific details listed in the “Learn the Background” section of this article. Additionally, make sure you’ve spelled out who’s responsible for key aspects of your program. A 2015 enforcement directive makes clear that OSHA expects your plan to designate the individuals responsible for managing labels on shipped containers, and workplace labels, and for obtaining and managing access to SDSs.

But the biggest loss that can happen if you treat your HazCom plan as just a paper exercise is the ability to improve safety for your workforce. It takes time and effort to develop a good HazCom Plan, but the reward is a blueprint for increasing chemical awareness, reducing risks of chemical exposures and related injuries, and potentially improving employee retention.

Spend the time to write a good plan, and use it as your playbook, which is what it’s intended to be.

Make Your Employees Aware of It

The effectiveness of your Written Plan, and the ultimate benefits of having it, are achieved when your workforce is aware of the Plan's existence, understand its content, and know where and how to access it.

When I was involved in corporate EHS, I used to find it useful to casually ask employees I passed walking through the facility if they knew where to find the HazCom plan if they ever wanted to review it. Many times they knew exactly where and how to do that, but other times they didn't. That usually meant that it was time for at least a quick refresher on the basics of the program with their department, and that it might also be a good idea to review the details of our HazCom training program and see if there were any reasons for the gap in awareness we were seeing.

If your workers have job assignments requiring travel between different workplaces, you may keep the written plan at the primary work location. However, in that situation it's going to be even more important to be inform all employees how to access the plan, and confirm their understanding.

We can start to see here that there is a close relationship between the requirement to have a HazCom plan and the requirement to conduct training. They reinforce each other and changes in one should lead to changes in the other.

[Update When Needed](#)

Update When Needed

When might we need to change our written HazCom plan? Basically, we'd need to update the plan whenever it no longer accurately described the chemical hazards and hazard communication practices at our facility.

For example, let's say that since the last time we updated our plan, we brought flammable chemicals on-site. That means we should

update our written plan to include the new information, as well as any relevant details about storage and safe usage practices, and if we've never provided training on flammable hazards before, the HazCom standard requires us to train employees on that hazard class. The mutually reinforcing relationship between the HazCom Plan and training should come into play here. The training should include the information about flammables in the written plan, and the plan should spell out the specific kinds of training employees need to have.

You should also update the HazCom plan, and the relevant aspects of training, if you make any other significant changes to your program, including workplace labeling, methods of providing access to SDSs, details of the written plan itself, or the identities of individuals with specific responsibilities, such as oversight of labeling and SDSs. If you have a plan with names of people who no longer work for your company listed for the latter, it's a sure sign that you're not updating your plan as often as you should, and could be risking violations and chemical-related incidents as a result.

Someone out there might now be thinking, "OK, but when do I *need* to update the plan? In other words, how long can I go without updating the plan before OSHA decides to give me a violation?" I can understand the motivation behind that question, but it's the wrong question.

It is of a matter for any given enforcement officer to decide whether the specific details she's seeing constitute a HazCom violation. But whether or not you will get a violation is not the only consideration, or even the most important one. The more important factor, since your plan is intended to be your playbook, is whether failure to update your plan will result in a loss of effectiveness of your HazCom program as a whole, and a loss in safety for your workforce. Any changes to your HazCom program that are not described in your plan probably also won't be adequately communicated to employees, and that may have a serious impact on your safety performance. Go beyond compliance, and strive for the most effective program possible.

Source:

<https://www.msdsonline.com/2019/03/08/intro-to-hazcom-part-four-writing-a-good-hazcom-plan/>

[Additional Resources](#)

Additional Resources

- [Sample HazCom Plan](#)
- [OSHA Fact Sheet](#)
- [NIH Hazard Communication Program](#)

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HazCom Employer's Guide

Step 7: Labelling Requirements

What You NEED To Do

All labels are required to have pictograms, a signal word, hazard and precautionary statements, the product identifier, and supplier identification. Any chemical in your workplace must have an SDS and a label that complies with HazCom standards. [Click here for the OSHA Brief on Hazard Communication Standard: Labels and Pictograms](#), and here for [some direction on identifying pictograms](#).

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Let's take a closer look at the requirements for shipped labels and workplace labels.

Shipped Label Requirements

Shipped Label Requirements

If you are a manufacturer, distributor or importer who ships chemicals to downstream users, you're going to need to develop shipped labels and affix them to the immediate containers of those chemicals before you ship them to customers.

Of course, the very first thing you need to do is to classify the hazards of your chemical products. [Appendix A of the HazCom Standard](#) describes how to classify the health hazards of your chemicals, and [Appendix B](#) describes how to classify the physical hazards of the chemicals. Once you've completed that process, you're ready to move on to [Appendix C](#), which tells you how to allocate physical and health hazard information on a shipped container label.

There are six required elements of a shipped label:

- **Manufacturer identification:** The name, address and telephone number for the chemical manufacturer. An OSHA [letter of interpretation](#) recently clarified that if you import chemicals, and the SDSs authored outside the United States list foreign phone numbers and addresses as primary contacts in Section 1, you may be responsible for authoring new SDSs containing domestic contacts in Section 1.
- **Product identification:** The identification of the hazardous chemical, either by the chemical name, CAS registry number or batch number.
- **Signal word:** This is a word used to indicate the severity of the chemical hazards. There are only two possible signal words you'll see: "Danger" and "Warning." The most severe hazards are designated by the signal word "Danger." What if the same chemical product has hazards that merit a "warning" and others that merit a "danger?" You'll still only see "danger" on the label, because it's the more severe of the two.
- **Hazard statement:** These are statements describing the

specific hazards of a chemical, such as “Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin.” Chemical manufacturers should always use the same exact statement for the same chemical hazards, so that the dangers are completely clear to all users.

- **Precautionary statement:** These are recommendations for measures users can take to minimize risks of use and storage, or to respond to chemical incidents. These statements may address storage practices, including incompatible materials to avoid. For example, keep drums of strong acids away from strong bases! (As a consultant, I once saw a location that had drums of sulfuric acid stacked directly on top of drums of sodium hydroxide. If you know even a little bit about chemistry, you know that’s probably not a good idea!) Statements may also include clean-up and disposal measures in the event of a release, and first-aid treatment following an exposure.
- **Pictograms:** In [Intro to HazCom, Part One](#), we talked a little about the reasons behind the United Nations’ (UN) development of the Globally Harmonized System. As you may recall, stakeholders from multiple countries and agencies discussed shortcomings with hazard communication regulations. The GHS incorporates methods to correct these issues, for example, by replacing the high degree of variability in SDS format with a standardized 16-section format. The GHS also harmonized the pictograms that could be used by chemical manufacturers to communicate the hazards of their chemical products.

There are 9 pictograms that can be used to represent the various hazard classifications. Eight of them are mandatory if triggered by the hazard classification process, while the ninth pictogram (for environmental hazards) is optional. The pictograms are shown below, and must be represented exactly as shown to avoid confusion.



These don't have to be presented in any particular order on the shipped label, but they must be present when required based on the classification process. You may provide any additional information you think might be helpful as long as the shipped label includes the six required elements above, and doesn't include any information that contradicts the required information or causes confusion.

What would OSHA consider to be contradictory or confusing information? Great question! One example might be a diamond-shaped symbol in red, white and black that is not one of the nine pictograms shown above. Such a symbol could be easily confused for a GHS/HazCom pictogram. In an emergency, any uncertainty about a

chemical's hazards is dangerous.

[Workplace Labeling Requirements](#)

Workplace Labeling Requirements

The first thing to know about workplace containers is that you most likely have a lot more of them than you realize.

You probably aware of some of the more visible containers, such as transfer buckets and safety cans, but you might not realize that machine reservoirs are workplace containers, too. These are the internal tanks within larger machines for holding oil or coolant. These tend to be out of sight and out of mind, because you don't notice them the way you notice a drum or tank sitting in the corner. However, you have obligations to communicate the hazards of these chemicals to your employees all the same.

In some workplaces, there may be dozens or even hundreds of machines with fluid reservoirs, and if you don't have a labeling system for those containers, your employees are at risk. Knowing the number and capacity of all of these containers will also help you determine the applicability of environmental regulations like [Spill Prevention Countermeasure and Control Act \(SPCC\)](#), or [Emergency Planning and Community Right to Know Act \(EPCRA\)](#) Tier II reporting.

While you're inspecting the reservoirs of large machines out on the shop floor, you may also want to direct your attention to the area underneath those machines. You'll likely see "drip pans" beneath the fluid hoses and fittings, as well as a little bit of leakage of whatever fluid is in the system – typically some form of oil. Hopefully you'll also see a workplace label on the pan indicating the fluid inside and any associated hazard information. If you don't, you at least can take consolation in knowing you're far from being the first person to forget to label these containers, but it's important that you get busy labeling them

right away!

So, a big part of getting workplace labeling right is recognizing all of your secondary containers, and making sure that any and all of them are labeled. Another important piece is understanding the HazCom Standard's requirements for workplace labeling.

Unlike the very prescriptive requirements for shipped container labels, HazCom requirements for workplace labels are more flexible. Employers do have a few options. You can either replicate the manufacturer's shipped container label, or you can create your own workplace labels containing the product identifier and a combination of other pieces of chemical hazard information. Please see the image below to get an idea what these options might look like.



But please realize that these options aren't equally good! The easiest, most effective option is to simply replicate the manufacturer's shipped label. Do this, and you've met your labeling obligations. If you choose an option other than that, you're going to need a system in place to provide any information from the shipped label that isn't directly included on your workplace label. That additional information may include training, work instructions, risk assessments, signage, and the SDSs for the chemical in question.

The key point here is that any alternative workplace labeling system, consisting of the label plus other information, must provide your workers with immediate access to specific information regarding the physical and health hazards of the chemical. Even more importantly, you'll need to be ready to prove to OSHA that your system works in the event they ever ask – such as during an inspection. That's why we recommend simply replicating the shipped label whenever possible.

If you consistently work with specific chemicals in your operations and place them in workplace containers, you can buy secondary containers from certain industrial supply stores that

come with pre-affixed labels containing the chemical name and other hazard communication elements, such as pictograms. In a recent [letter of interpretation](#), OSHA stated that the use of these pre-labeled containers is consistent with their workplace labeling requirements, as long as your system makes all hazardous chemical information available to workers. This includes any information from the shipped label that's not included on the workplace label. So again, use the labeling system that works best for you, but replicating the shipped label for use on your workplace containers remains the easiest, most direct way to demonstrate compliance in the event of an OSHA inspection.

A good software-based chemical management solution can be a big help here. The right software can let you quickly print a workplace label that replicates the shipped label, giving you a consistent workplace labeling system that efficiently conveys chemical hazard information to your workers. Do you have smaller workplace containers such as test tubes and vials that don't have enough space for a full shipped label, and may often need to be replaced as they become illegible? A good solution will enable you to easily create and print labels containing selected GHS elements that, in combination with training and other elements, can help you provide the required hazard information to your employees.

Source:

<https://www.msdsonline.com/2019/01/28/intro-to-hazard-communication-part-three-labeling-requirements/>

[Additional Resources](#)

Additional Resources

- [OSHA Brief](#)
- [OSHA Quick Card](#)
- [A Guide to OSHA's New GHS Chemical Labeling Requirements](#)
- [What are the 6 Elements of a GHS Label?](#)

HazCom Employer's Guide

Step 8: Maintain SDS

What You NEED To Do

An important aspect of the HazCom program is to ensure that someone (e.g., the HazCom Coordinator or a designee) is responsible for obtaining and maintaining the SDSs for every hazardous chemical in the workplace. If an SDS is not received automatically from the distributor, one must be requested as soon as possible. If the request for an SDS does not produce the information needed, the local OSHA area office should be contacted for assistance.

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Paragraph (g) of HazCom 2012 states that employers must have an SDS in the workplace for each hazardous chemical they use.

If an SDS is missing, one must be requested from the distributor. To show good faith effort to obtain an SDS, it is prudent to document the request (e.g., keep copy of the letter or e-mail; make a note regarding telephone contact). A hazardous chemical for which there is no SDS on file should not be used until the SDS is obtained.

An important aspect of the HazCom program is to ensure that someone (e.g., the HazCom Coordinator or a designee) is responsible for obtaining and maintaining the SDSs for every hazardous chemical in the workplace. If an SDS is not received automatically from the distributor, one must be requested as soon as possible. If the request for an SDS does not produce the information needed, the local OSHA area office should be contacted

for assistance.

The SDSs have 16 internationally agreed upon components or sections that contain information for many different audiences (e.g., employers, workers, safety and health professionals, emergency responders, government agencies, and consumers). Consequently, the sections have been organized so that the information of most use to exposed workers, emergency responders, and others who do not need extensive technical detail is in the beginning of the SDS (Table 5).



For example, a description of a chemical's health effects appears in Section 2 (Hazard identification), but the toxicological data upon which the determination of these effects is based appears in Section 11 (Toxicological information). All of the sections are available to any reader, but there is a difference between what is necessary for a broader audience and what might be needed by others designing protective measures or providing medical services.

The information in some of the sections is non-mandatory because they address information that involves the requirements of other government bodies, and thus they are not under OSHA's jurisdiction. Even though these sections are not considered mandatory by OSHA, the sections are still required. They provide useful information related to ecological, disposal, and transportation-specific issues under the regulatory control of other agencies.

Employers must not only maintain copies of SDSs, they must also ensure that the SDSs are readily accessible to workers during their work shifts. Some employers keep the SDSs in a binder in a central location, others provide access electronically. However, if access to SDSs is provided electronically, there must be an adequate back-up system in place in the event of a power outage, equipment failure, or other emergency involving the primary electronic system.

Familiarity with the information in each section of an SDS will enable both employers and employees to quickly access this information in case of an emergency. A section-by-section description of the information required for each part of the SDS is available in Appendix D of HazCom 2012.

OSHA also developed a QuickCard™ on SDSs (OSHA 3493) available on the OSHA Hazard Communication website.

The SDSs must be in English, although the employer may maintain copies in other languages.

[Software](#) is available to help you easily author SDSs based on required standards, manage and maintain your collection of SDSs as well as access your safely cloud-based safety data sheets at any time.

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HazCom Employer's Guide

Step 9: Hazcom Training

What You NEED To Do

OSHA's [1910.1200 Hazard Communication Standard](#), commonly referred to as HazCom, are rules and regulations in place to ensure workers are informed of any chemical hazards they may encounter while on the job. The HazCom standard requires organizations have proper container labeling and safety data sheets to communicate the potential dangers the chemicals pose and what to do in the event of an emergency. As such, a critical part of OSHA's HazCom requirements is that employers need to provide employees with proper training on how to remain safe when working with hazardous chemicals. [Click here to assign HazCom training now.](#)

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When is HazCom training required?

HazCom training should occur at the time of an employee's initial assignment, and whenever a new chemical is introduced into their work area. It is not required to be re-administered annually.

While OSHA does not specify a particular format for such training, organizations should always aim for the most effective training format for the topic at hand. It's also important to remember that in addition to employee training, HazCom standards require chemical-specific information to always be available through labels and safety data sheets.

What does HazCom training need to cover?

The training can cover categories of hazards (e.g. carcinogenicity) or specific chemicals, but OSHA outlines several key topics that need to be included. For example, employees must be trained in the methods used to detect the presence of the hazardous chemicals in the work area. This includes how to read monitoring devices, as well as the visual appearance or odor when chemicals are released.

HazCom training must also include the various hazards that may result due to unprotected exposure to chemicals. This ranges from potential physical and health hazards, to more specific combustible dust and pyrophoric gas hazards. Any hazards that are not otherwise classified but may still pose a risk due to the presence of a chemical, must also be included. Furthermore, it is critical employees are trained in the measures they can take to protect themselves from these hazards. Any specific safety procedures that an organization has implemented to protect employees from exposure to hazardous chemicals should also be covered during HazCom training.

Finally, OSHA requires organizations to train employees in the details of their hazard communication program. Training should cover the explanation of chemical labels, the workplace's labeling system, safety data sheet (SDS), and the how employees can obtain and use appropriate hazard information.

What happens if you don't comply with HazCom standards?

Any organizations found to be noncompliant with HazCom Standards will face severe fines for endangering their employees. OSHA categorizes failure to abide by HazCom Standards as a “willful” violation, which as of 2022 can result in [a fine of up to \\$145,027 per violation](#), with this number to be adjusted for inflation each year. Violations can range from improper posting of safety data sheets to inadequate employee training in hazard communication.

The most efficient way to ensure HazCom Standards are being followed is to have a system that compiles all the necessary training data to be reviewed and tracked.

[Assign HazCom Training Now](#)

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HazCom Employer's Guide Step 10: Quiz/Knowledge Checks

What You NEED To Do

Your occupational safety and health responsibility to your employees is not that HazCom training is given, it is that HazCom training is understood. Use knowledge checks and reinforce your training to make sure that employees know their responsibilities and understand what they are required to do as a part of your HazCom program.

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Both workers and employers have a responsibility to work together when it comes to safety in the workplace.

Your responsibility as an employer doesn't stop once the training

session is completed, you need to ensure the training is absorbed.

Research in cognitive science and psychology shows that **testing**, done right, can be an exceptionally effective way to **learn**. Taking **tests**, as well as engaging in well-designed activities before and after **tests**, can produce better recall of facts—and deeper and more complex understanding—than an education without exams.

Of course, all of Safety *OnDemand* training includes quizzes and knowledge checks throughout the training, but here are some additional resources you can use to conduct some HazCom quizzes:

- [OSHA Pretest](#)
- [OSHA Post Test](#)
- [HazCom Questions and Answers](#)
- [OSHA HazCom Pictogram Challenge](#)
- [Hazard Communication Quizzes & Trivia](#)
- [GHS quiz: Match the pictogram to the hazard](#)
- [Hazard Communication Quiz](#)

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HazCom Employer's Guide

Step 11: Retrain/Retention

What You NEED To Do

It cannot be stated enough, **your occupational health and safety responsibility to your employees is not that HazCom training is given, it is that HazCom training is understood.** Use knowledge checks and reinforce your training to make sure that employees know their responsibilities and understand what they are required to do as a part of your HazCom program. [Click here to assign retraining to your employees.](#)
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OSHA Citation

Employees are to be trained at the time they are assigned to work with a hazardous chemical. The intent of this provision ([1910.1200\(h\)](#)) is to have information prior to exposure to prevent the occurrence of adverse health effects. This purpose cannot be met if training is delayed until a later date. The training provisions of the HCS are not satisfied solely by giving employee the data sheets to read. An employer's training program is to be a forum for explaining to employees not only the hazards of the chemicals in their work area, but also how to use the information generated in the hazard communication program. This can be accomplished in many ways (audiovisuals, classroom instruction, interactive video), and should include an opportunity for employees to ask questions to ensure that they understand the information presented to them. Training need not be conducted on each specific chemical found in the workplace, but may be conducted by categories of hazard (e.g., carcinogens, sensitizers, acutely toxic agents) that are or may be encountered by an employee during the course of his duties. Furthermore, the training must be comprehensible. If the employees receive job instructions in a language other than English, then the training and information to be conveyed under the HCS will also need to be conducted in a foreign language.

Reference Interpretation and Compliance Letters:

- [The employer must provide the 1910.1200 verbal training in a language that is comprehensible.](#) [04/10/88]
- [Training required for clean-up of hazardous waste and hazardous substances.](#) [06/10/91]

- See Also: OSHA Instruction CPL 2-2.38D, Inspection Procedures for the Hazard Communication Standard, 29 CFR 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59, 1928.21; [Appendix A](#), CLARIFICATIONS AND INTERPRETATIONS OF THE HAZARD COMMUNICATION STANDARD (HCS).

What are the Requirements for Refresher Training or Retraining a New Hire?

What are the Requirements for Refresher Training or Retraining a New Hire?

Additional training is to be done whenever a new physical or health hazard is introduced into the work area, not a new chemical. For example, if a new solvent is brought into the workplace, and it has hazards similar to existing chemicals for which training has already been conducted, then no new training is required. As with initial training, and in keeping with the intent of the standard, the employer must make employees specifically aware which hazard category (i.e., corrosive, irritant, etc.) the solvent falls within. The substance-specific data sheet must still be available, and the product must be properly labeled. If the newly introduced solvent is a suspect carcinogen, and there has never been a carcinogenic hazard in the workplace before, then new training for carcinogenic hazards must be conducted for employees in those work areas where employees will be exposed. It is not necessary that the employer retrain each new hire if that employee has received prior training by a past employer, an employee union, or any other entity. General information, such as the rudiments of the HCS could be expected to remain with an employee from one position to another. The employer, however, maintains the responsibility to ensure that their employees are adequately trained and are equipped with the knowledge and information necessary to conduct their jobs safely. It is likely that additional training will be needed since employees must know the specifics of their new employers' programs such as where the MSDSs

are located, details of the employer's in-plant labeling system, and the hazards of new chemicals to which they will be exposed. For example, [\(h\)\(3\)\(iii\)](#) requires that employees be trained on the measures they can take to protect themselves from hazards, including specific procedures the employer has implemented such as work practices, emergency procedures, and personal protective equipment to be used. An employer, therefore, has a responsibility to evaluate an employee's level of knowledge with regard to the hazards in the workplace, their familiarity with the requirements of the standard, and the employer's hazard communication program.

Reference Interpretation and Compliance Letters:

- [Retraining employees who have been previously trained by another employer.](#) [05/06/88]
- [Hospital technicians required to attend HCS training and a clarification of coverage of pharmaceuticals under the HCS.](#) [09/01/89]
- [Employers are responsible for training new employees on the HCS.](#) [05/11/88]

[Assign HazCom Training Now](#)

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HazCom Employer's Guide

Step 12: Audit

What You NEED To Do

Each year, the Occupational Safety and Health Administration (OSHA) releases a list of the [10 most frequently cited](#) safety and health violations for the fiscal year. Violations of the Hazard Communication Standard are always near the top of the list. Here are several important compliance points for environment, health, and safety (EHS) managers that can help them prevent their organizations from becoming the next statistic. [Download a self-audit checklist.](#)

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HazCom applies to every employer whose workers may be exposed to hazardous chemicals and requires the employer to make employees aware of these hazards. So, if you have hazardous chemicals at your workplace, here are four key compliance points to keep in mind as you manage workplace health and safety.

[Four Key Compliance Points](#)

Four Key Compliance Points

Compliance point 1: Make sure there is a **list of hazardous substances** used in your workplace and a **safety data sheet (SDS)** readily available for each substance used. You must prepare a list of all hazardous chemicals known to be present in the workplace as part of your written hazard communication program (more on this in point 2 below) using a product identifier that is referenced on the appropriate SDS. If an SDS is missing, you must get it from the manufacturer, distributor, or other source. The list will eventually serve as an inventory of every substance for which an SDS is required. Manufacturers, importers, or distributors must provide an SDS to their customers for each hazardous chemical at the time of the first shipment of the chemical. If you rely on SDSs supplied by a manufacturer, importer, or distributor, you are not liable for their accuracy as long as you have accepted the SDS in “good faith”; that is, without blank spaces or obvious inaccuracies. If you encounter any inaccurate or missing information on an SDS, you should report it to the chemical manufacturer or distributor.

Compliance point 2: Make sure you have an updated **written hazard communication program** that deals with SDSs, labeling, and training. The written hazard communication program is the blueprint for HazCom—and it is the first thing an OSHA compliance officer or inspector will ask to see. It does not have to be long or spell out your program in meticulous detail, but it must be well thought out, clear, and comprehensive, at the very least outlining all the parts of the program you are implementing. The written program should be readily accessible and available to all employees. It must describe the labels and other forms of warning in the workplace, the SDSs, and how the employee information and training requirement will be met.

Compliance point 3: Make sure each container that holds a hazardous substance is **labeled** with a product identity and a hazard warning. You must ensure that each hazardous chemical covered by HazCom has an appropriate label that remains firmly attached and legible. You must also make sure that all employees that may be exposed to the chemical know how to read the label and use the information it conveys to protect themselves.

Companies that manufacture or import chemicals are required to create the standardized label for a particular chemical that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Precautionary statements must also be provided. If you purchase chemicals, you can rely on the labels provided by your suppliers.

As an alternative to labeling your individual process containers, you may:

- Substitute various types of standard operating procedures, process sheets, batch tickets, blend tickets, and similar written materials for container labels on stationary process equipment if they contain the same information as the labels, and the written materials are readily accessible to employees in the work area throughout each work shift.
- Post signs or placards that convey the hazard information if

there are a number of stationary containers within a work area that have similar contents and hazards.

- Use alternative labeling systems such as the National Fire Protection Association (NFPA) 704 Hazard Rating and the Hazardous Material Information System (HMIS) as long as those systems are consistent with the GHS labeling system.

All information supplied on the alternative labels must be consistent with the GHS label system; for example, there must be no conflicting hazard statement and pictogram.

Compliance point 4: You must develop a HazCom **employee training program** that includes:

- An explanation of what an SDS is and how to use and obtain one;
- SDS contents for each hazardous substance or class of substances;
- An explanation of “A Right to Know”;
- Identification of where an employee can see your written hazard communication program;
- Location of physical and health hazards in particular work areas and specific protective measures to be used;
- Details of the hazard communication program, including how to use the labeling system and SDSs;
- How to obtain information on the types, selection, proper use, location, removal, handling, decontamination, and disposal of personal protective equipment; *and*
- Whom to contact in an emergency.

Yes, this is a lot of information and some of it is fairly complex. However, this final compliance point is crucial—not only for compliance matters but also for the health and well-being of all of your employees. Do not treat training like a chore! Create a program that clearly communicates these important concepts, ensures the engagement of all employees, and promotes long-term retention of information and skills.

Source:

<https://ehsdailyadvisor.blr.com/2020/11/four-key-compliance-points>

[Helpful Tools](#)

Performing annual audits of your HazCom program ensures that you never let your compliance slip and that you are always protecting your employees. Here are some sample tools you can use to help in your next audit:

- [Self Audit Checklist for OSHA Hazard Communication Standard](#)
- [Hazard Communication Program Audit](#)
- [Educational Field Services/Regulatory Partnership Statement \(EFS/RPS\) HazCom Audit](#)

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Chemical Storage Is A Matter Of Safety And Common Sense Meeting Kit

There are many work situations where chemicals are routinely relied upon to get the work done. But just as important as the safe handling of these chemicals, is their safe storage.

SEGREGATION

There are a variety of strategies used to effectively segregate incompatible chemicals. One of the most common and effective

strategy for storing chemicals utilizes **a simple three-step approach.**

1. Materials are sorted by physical state (solids, liquids, and gases).
2. Next materials are sorted from other incompatible materials.
3. The compatible materials within a Chemical Storage Group should be organized so that it will be easy to find and return containers.

POTENTIAL HAZARDS/DANGERS FOR SAFE STORAGE OF CHEMICALS

- The greater the variety and quantity of chemicals stored, the greater the warehouse risk.
- Warehouse operations will be more difficult because more hygienic conditions and special personal protective equipment (PPE) will be necessary.
- Intensive training must be provided to the entire team of warehouse workers on chemicals and safety.
- Storing chemicals for long periods will pose an added risk to the installation.
- If the established safety measures are not observed, the risk of explosion is high.

KEY CHEMICAL STORAGE PRINCIPLES

- Label all chemical containers fully including the owner's or user's name along with the date received.
- Provide a specific storage space for each chemical, and ensure return after each use.
- Store volatile toxics and odoriferous chemicals in ventilated cabinets.
- Store flammable liquids in approved flammable liquid storage cabinets. Small amounts of flammable liquids may be stored in the open room.
- Separate all chemicals according to compatible groups.

- Use appropriate resistant secondary containers for corrosive materials.
- Seal containers tightly to prevent the escape of vapors.
- Use designated refrigerators for storing chemicals. Label these refrigerators CHEMICAL STORAGE ONLY—NO FOOD. Never store flammable liquids in a refrigerator unless it is specifically designed and approved for such storage. Use only explosion-proof (spark-free) refrigerators for storing flammables.
- On an annual basis at least, trained personnel in your workplace should perform a complete inventory of every corner, cabinet, closet and container on premises.
- Expiry dates must be adhered to, since many peroxidizable compounds (among others) become dangerously volatile after just a few months. Buy and store only the minimum amount necessary.

BEST CHEMICAL STORAGE PRACTICES

- Do not store chemicals on bench tops.
- Keep SDSs on file and available.
- Keep chemicals in storage except when in use.
- Label all chemical containers—even those with only water.
- Develop procedures to prevent and/or contain spills.
- Encourage orderly and tidy work practices.
- Provide adequate security to prevent access of hazardous materials by unauthorized personnel.
- Avoid storing materials on top of cabinets. Clearance from the ceiling must be 18 inches for sprinklered labs and 24 inches for not sprinklered.
- Ensure container weight does not exceed the load rating of the shelves.
- Wall mounted shelving is not recommended for chemical storage.
- Corrosive liquids shall be stored below eye level.
- Do not store chemicals in fume hoods
- Keep chemicals away from heat or direct sunlight
- Chemical storage cabinets in hallways should be labeled with

the Group name and be kept locked at all times.

FINAL WORD

The three-step approach is the most effective strategy for safe chemical storage: Materials should be sorted by physical state, then with other compatible materials, and finally sorted into easily accessible and returnable containers.

Chemical Storage Is A Matter Of Safety And Common Sense Meeting Kit – Spanish

QUÉ ESTÁ EN RIESGO

Hay muchas situaciones de trabajo en las que se confía habitualmente en los productos químicos para realizar el trabajo. Pero tan importante como la manipulación segura de estos productos químicos, es su almacenamiento seguro.

SEGREGACIÓN

Hay una variedad de estrategias utilizadas para separar eficazmente los productos químicos incompatibles. Una de las estrategias más comunes y efectivas para el almacenamiento de productos químicos utiliza un simple enfoque de tres pasos.

1. Los materiales se clasifican por estado físico (sólidos, líquidos y gases).
2. A continuación, se clasifican los materiales de otros materiales incompatibles.
3. Los materiales compatibles dentro de un grupo de

almacenamiento de productos químicos deben estar organizados de manera que sea fácil encontrar y devolver los contenedores.

CUÁL ES EL PELIGRO

RIESGOS/PELIGROS POTENCIALES PARA EL ALMACENAMIENTO SEGURO DE PRODUCTOS QUÍMICOS

- Cuanto mayor sea la variedad y la cantidad de productos químicos almacenados, mayor será el riesgo del almacén.
- Las operaciones en el almacén serán más difíciles porque se necesitarán más condiciones higiénicas y equipos especiales de protección personal (EPP).
- Hay que proporcionar una capacitación intensiva a todo el equipo de trabajadores del almacén sobre los productos químicos y la seguridad.
- El almacenamiento de productos químicos durante largos periodos supondrá un riesgo añadido para la instalación.
- Si no se observan las medidas de seguridad establecidas, el riesgo de explosión es alto.

COMO PROTEGERSE

PRINCIPIOS CLAVE DEL ALMACENAMIENTO DE PRODUCTOS QUÍMICOS

- Etiquete todos los contenedores de productos químicos de forma completa, incluyendo el nombre del propietario o del usuario junto con la fecha de recepción.
- Proporcione un espacio de almacenamiento específico para cada producto químico y asegure su devolución después de cada uso.
- Almacene los tóxicos volátiles y los productos químicos odoríferos en armarios ventilados.
- Almacene los líquidos inflamables en armarios aprobados para el almacenamiento de líquidos inflamables. Las pequeñas cantidades de líquidos inflamables pueden almacenarse en la sala abierta.
- Separe todos los productos químicos según los grupos

compatibles.

- Utilice recipientes secundarios resistentes adecuados para los materiales corrosivos.
- Selle los contenedores herméticamente para evitar el escape de vapores.
- Utilice refrigeradores designados para almacenar productos químicos. Etiquete estos frigoríficos como ALMACENAMIENTO DE PRODUCTOS QUÍMICOS ÚNICAMENTE – NO DE ALIMENTOS. Nunca almacene líquidos inflamables en un refrigerador a menos que esté específicamente diseñado y aprobado para dicho almacenamiento. Utilice únicamente frigoríficos a prueba de explosiones (sin chispas) para almacenar productos inflamables.
- Al menos una vez al año, el personal capacitado de su lugar de trabajo debe realizar un inventario completo de todos los rincones, gabinetes, armarios y contenedores de las instalaciones.
- Hay que respetar las fechas de caducidad, ya que muchos compuestos peroxidables (entre otros) se vuelven peligrosamente volátiles al cabo de pocos meses. Compre y almacene sólo la cantidad mínima necesaria.

MEJORES PRÁCTICAS DE ALMACENAMIENTO DE PRODUCTOS QUÍMICOS

- No almacene los productos químicos en las mesas de trabajo.
- Mantenga las fichas de seguridad archivadas y disponibles.
- Mantenga los productos químicos almacenados excepto cuando se utilicen.
- Etiquete todos los recipientes de productos químicos, incluso los que sólo contienen agua.
- Desarrolle procedimientos para prevenir y/o contener los derrames.
- Fomente el orden y la limpieza en el trabajo.
- Proporcione la seguridad adecuada para evitar el acceso de personal no autorizado a los materiales peligrosos.
- Evite almacenar materiales encima de los armarios. El espacio libre desde el techo debe ser de 18 pulgadas para los laboratorios con rociadores y de 24 pulgadas para los que no tienen rociadores.

- Asegúrese de que el peso del contenedor no supere la capacidad de carga de las estanterías.
- No se recomienda el uso de estanterías montadas en la pared para el almacenamiento de productos químicos.
- Los líquidos corrosivos deben almacenarse por debajo del nivel de los ojos.
- No almacene los productos químicos en las campanas de humos
- Mantenga los productos químicos alejados del calor o de la luz solar directa
- Los armarios de almacenamiento de productos químicos en los pasillos deben estar etiquetados con el nombre del Grupo y mantenerse cerrados en todo momento.

CONCLUSIÓN

El enfoque de tres pasos es la estrategia más eficaz para el almacenamiento seguro de productos químicos: Los materiales deben clasificarse por su estado físico, después con otros materiales compatibles y, por último, en contenedores fácilmente accesibles y retornables.

Chemical Inventory Lists
Picture This – Spanish

INFOGRAFIA PELIGROS QUÍMICOS

Es aquel riesgo que puede ser producido por una exposición no controlada a agentes químicos y que puede producir efectos agudos o crónicos y la aparición de enfermedades.

CLASIFICACION SEGUN SU ESTADO FISICO

- LIQUIDO
- SOLIDO
- GASEOSO



POR SU COMPOSICIÓN

ELEMENTALES: Están conformados por átomos o moléculas, el hierro, la plata, el cobre, el yodo.

COMPUESTOS: Son moléculas que están conformadas por dos o mas elementos, el cloruro de sodio

PUROS: Son aquellos elementos homogéneos en toda su extensión. Por ejemplo, 100% ácido sulfúrico.

MEZCLAS: No forman nuevas sustancias, no reaccionan y por tanto se pueden separar



POR SUS PROPIEDADES

Volátiles: sustancias líquidas o sólidas que se caracterizan por dejar escapar fácilmente vapores o partículas en condiciones ambientales normales. Por ejemplo, la gasolina, el éter, el alcohol.

Solubles: Son sólidos, líquidos, gases o sus estados intermedios, que se incorporan total y fácilmente en otra sustancia, el azúcar es soluble en el agua, generalmente llamada solvente.

Estables: Son aquellas que en condiciones ambientales y de uso normales, se mantienen inalteradas. Por Ejemplo, el oro, el platino.



Fuente: <https://es.scribd.com>

Chemical Inventory Lists

Picture This

CHEMICAL HAZARDS

FIVE TIPS TO STAY SAFE

32 MILLION
WORKERS ARE AT RISK
OF EXPOSURE TO
ONE OR MORE
CHEMICAL HAZARDS.

1. Always read the label on the container and follow listed precautions.
2. Know where to find the Safety Data Sheets (SDS) and never use a chemical if you are unsure of what it is and how to protect yourself.
3. Always wear your personal protective equipment when handling chemicals.
4. Know where the nearest eye-wash station is to your work area.
5. Good personal hygiene and regular workstation cleaning will help reduce the amount of chemical substances absorbed by the body.



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Chemical Storage Is A Matter Of Safety And Common Sense Stats

and Facts

FACTS

1. All stored chemicals should have their corresponding Safety Data Sheet (SDS) readily accessible at the location(s) where they are stored. Safety Data Sheets are required by government regulation for all hazardous chemical substances produced and/or sold in the United States. The use of all hazardous materials should be consistent with the provisions and precautions listed in the Safety Data Sheet.
2. A perpetual inventory of hazardous chemical substances should be maintained in the primary storage area for general control.
3. All locations where chemicals are stored and/or issued from should have appropriate inventory issue logs, as well as personal protective equipment. Caustic, flammable, and highly poisonous chemicals should be maintained under lock and key.
4. Any organization storing hazardous chemicals should have written policy requiring compliance with all federal, state, and local regulations governing the management and disposal of hazardous materials.
5. Because of the varying risks posed by volatile chemicals, it is necessary to identify and categorize all chemicals a business handles and to store properly and track chemical products in use within the organization.

STATS

- In April 2013, a stockpile a tenth the size of the one in Beirut blew up a West Chemical and Fertilizer Company facility in Texas, killing 15 people and injuring 160.
- A pair of chemical plant explosions in December 2019 led to a voluntary evacuation order for Port Neches, Texas, a coastal city of roughly 13,000 people.

- A chemical plant explosion in southeastern Kansas in November 2016 led to possible contamination of the water supply and discontinuation of water service to a nearby northeastern Oklahoma city.
 - Ignorance and complacency are the cause of most flammable chemical accidents. A study conducted by the National Fire and Protection Association linked 454 deaths and 3,910 injuries to flammable and combustible liquid fires. All of these injuries and deaths could have been avoided if flammable chemicals had been properly stored and secured.
 - At least 6,928 accidents involving toxic chemicals have occurred in the United States in the last five years, killing more than 135 people and injuring nearly 1,500, according to a Government report.
-

Chemical Storage Is A Matter Of Safety And Common Sense Stats and Facts – Spanish

HECHOS

1. Todos los productos químicos almacenados deben tener su correspondiente Ficha de Datos de Seguridad (FDS) fácilmente accesible en el lugar o lugares donde se almacenan. Las hojas de datos de seguridad son exigidas por la normativa gubernamental para todas las sustancias químicas peligrosas producidas y/o vendidas en los Estados Unidos. El uso de todos los materiales peligrosos debe ser coherente con las disposiciones y precauciones enumeradas en la Hoja de Datos de Seguridad.
2. Se debe mantener un inventario perpetuo de las sustancias químicas peligrosas en el área de almacenamiento primario

para su control general.

3. Todos los lugares en los que se almacenen y/o se expidan sustancias químicas deberán contar con los correspondientes registros de expedición de inventarios, así como con equipos de protección personal. Los productos químicos cáusticos, inflamables y altamente venenosos deben mantenerse bajo llave.
4. Toda organización que almacene productos químicos peligrosos debe tener una política escrita que exija el cumplimiento de todas las normas federales, estatales y locales que rigen la gestión y eliminación de materiales peligrosos.
5. Debido a los distintos riesgos que plantean los productos químicos volátiles, es necesario identificar y clasificar todos los productos químicos que maneja una empresa y almacenar adecuadamente y hacer un seguimiento de los productos químicos en uso dentro de la organización.

ESTADÍSTICAS

- En abril de 2013, un depósito de una décima parte del tamaño del de Beirut hizo estallar una instalación de la West Chemical and Fertilizer Company en Texas, matando a 15 personas e hiriendo a 160.
- Un par de explosiones de plantas químicas en diciembre de 2019 provocaron una orden de evacuación voluntaria de Port Neches, Texas, una ciudad costera de unos 13.000 habitantes.
- La explosión de una planta química en el sureste de Kansas en noviembre de 2016 llevó a una posible contaminación del suministro de agua y a la interrupción del servicio de agua en una ciudad cercana del noreste de Oklahoma.
- La ignorancia y la complacencia son la causa de la mayoría de los accidentes con productos químicos inflamables. Un estudio realizado por la Asociación Nacional de Protección contra Incendios relaciona 454 muertes y 3.910 lesiones con incendios de líquidos inflamables y combustibles. Todas estas lesiones y muertes podrían haberse evitado si los productos químicos inflamables se hubieran almacenado y asegurado adecuadamente.

- En los últimos cinco años se han producido en Estados Unidos al menos 6.928 accidentes relacionados con productos químicos tóxicos, que han causado la muerte de más de 135 personas y casi 1.500 heridos, según un informe del gobierno.
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Childcare Worker Safety Meeting Kit

Workers in childcare facilities educate and care for infants, toddlers, and preschool age children. Childcare may not seem like a hazardous occupation, but every workplace has hazards and risks. Childcare workers should pay attention to their own safety while they nurture children.

HAZARD IDENTIFICATION/ELIMINATION

Keeping children and workers safe is a key responsibility of all childcare centres. It is simply impossible to watch all children all the time, so hazard identification and elimination becomes a key part of the strategy. Hazard identification is not something that simply can be done every quarter and then forgotten. Daily checks should be conducted of all indoor and outdoor areas. A system should be in place that ensures all hazards are reported and acted upon. To support these daily checks, there should be regular safety audits conducted as well as having food safety plans and infection control policies and procedures in place.

COMMON RISKS AND HAZARDS FOR CHILDCARE WORKERS

- Workers being required to lift, carry, or move children and/or objects.

- Workers having to work at low levels (think floor and children sized furniture)
- Tripping and slipping hazards
- Using furniture to reach high points on walls (chairs and artwork)
- The risk of communicable diseases
- Work stress
- Harassment and bullying

COMPREHENSIVE HAZARD IDENTIFICATION CHECKLIST

Hazards are present in many different forms. Armed with a simple checklist, childcare workers can look at the childcare centre and identify any potential hazards that could cause harm to children or workers.

Things to critically examine include:

- Floors – particularly split-level areas with steps,
- Ladders – are they properly maintained and used where appropriate
- Slippery surfaces,
- Processes that involve lifting, carrying, or working at low levels
- Processes that involve moving objects – have people been trained to take the appropriate steps?

Mechanical or electrical risks can be caused by any piece of machinery, equipment, or kitchen appliance. Besides representing mechanical hazards, there is also some risk of fire if items are not properly maintained. Things to look for include:

- frayed power cords
- unplugged power points

Chemical risks can be present in substances that contain acids, poisons, or aggressive cleaning agents. Risks from exposure or improper use include fire and poisoning. Things to look for:

- Chemical bottles or containers stored within reach of children.

Biological risks include such nasties as bacteria, viruses, mould, and vermin. Where these things are present there are risks of cross-contamination and food poisoning. Things to look for:

- Evidence of vermin (droppings)
- Dampness on walls or ceilings
- Broken insect screens
- Psychosocial risks can be evidenced by such things as workplace stress, bullying and harassment.

FINAL WORD

Keeping workers and children safe is the responsibility of all childcare facilities. Childcare workers from the outside may not appear to encounter hazardous situations, but there is more than meets the eye. There are many dangerous and hazardous risks for workers and children in childcare operations.