SECTION 4 CHAPTER 8
HAZARD COMMUNICATION - HAZCOM

Purpose

The company has developed policies and procedures to comply with federal regulations regarding hazardous materials. This chapter describes:

- the company hazard communication program
- the methods for inventorying and identifying hazardous materials
- safety procedures to protect against hazardous materials
- methods for emergency response

Scope

This chapter applies to all company locations and personnel and contractors involved in the handling, storage, and transportation of hazardous materials.

In this chapter

Complying with Federal Regulations

Purpose

This document describes the responsibilities of employers in complying with federal hazardous material regulations (OSHA 29 CFR 1910.1200). The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) 29 CFR 1910.1200 requires the development of a hazard communication program when employees may be exposed to any chemical in the workplace under normal conditions of use or in a foreseeable emergency. In 2012, OSHA revised the HCS to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). As a result, this program has been revised to comply with the requirements of the OSHA HCS 2012.

Employer responsibilities

Employers are responsible for:

- identifying the presence and use of hazardous chemicals
- compiling a list of hazardous chemicals
- developing a comprehensive hazard communication program to inform workers of operations where hazardous chemicals are present
- providing employees and new hires at their initial assignment effective information and training on hazardous chemicals in their work area

Limited responsibilities

Employers whose operations only involve handling of sealed containers of substances that are not intended to be opened under normal working conditions are responsible for:

- ensuring proper labeling of incoming containers
- maintaining, furnishing, and distributing SDSs
- providing information on operations where hazardous chemicals are present
- training employees in personal protection and emergency procedures in the event of a spill or leak

Laboratory responsibilities

Employers of laboratories are required to:

- ensure proper labeling of incoming containers
- maintain and furnish SDSs
- provide employee information and training

Program administration

Each Yard Manager is designated as the Program Administrator to:

- Inform and instruct the affected personnel when the program is updated
- Inform employees of the program contents
- Explain the hazardous properties of chemicals in the workplace
- Ensure safe work procedures are followed
- Provide PPE required to handle the hazardous chemicals
- Notify employees when chemicals are introduced into the workplace
- Ensure training is scheduled once a year or when necessary
- help the local safety representative evaluate the program

Identifying Hazardous Chemicals and Products

Purpose

This document describes:

- the definition of hazardous chemicals
- guidelines for maintaining an inventory of hazardous chemicals on a location

Identifying a hazardous chemical

A hazardous chemical is any chemical or mixture that presents a physical hazard or health hazard. They are established by recognized scientific testing methods performed by the manufacturer, importer, or other responsible party. OSHA publishes lists of all chemicals ruled hazardous.

Physical hazards are caused by chemicals that can explode, burst into flame, or create other harmful external conditions.

Health hazards are caused by chemicals that cause harm on entering the body. These include toxins, carcinogens, reproductive hazards, or any agent that damages the skin, lungs, blood, nervous system, mucous membranes, or eyes. A health hazard must be established by at lease one scientific study.

Inventory of all chemicals and products

Each Yard Manager needs to know which chemicals and products are present within their operations and facilities.

All chemicals and products, hazardous and otherwise, must be inventoried for each work area and location. A chemical inventory should be completed and maintained for each chemical/product and chemical mixture. **IF** another form is used, **THEN** it should include the following information:

- the common (brand or trade) name and chemical name of the chemical/product
- the work area that uses the chemical and amount used in normal operations
- the amount and location of the chemical at the site
- what the chemical is used for
- whether the manufacturer's label is affixed to the container and readable
- whether a current SDS is available

Information on chemicals present at a facility is provided in the SDS sheets shipped by the manufacturer. For more information on SDSs, see *Maintaining Safety Data Sheets* in this chapter.

Chemical information can be obtained through:

- Purchasing Department records
- physical audits

Thorough audits are necessary, since chemicals and products can bypass normal purchasing channels. Audits may be conducted by:

- Yard Manager
- employee designated to oversee areas where chemicals are stored
- local HSE Representative

Identifying hazardous materials

After the master inventory list has been created, the Yard Manager, with the assistance of the local HSE Representative will review and identify all hazardous chemicals/products by referring to the chemical's SDS.

Any chemical that is a physical or health hazard is considered to be hazardous, including:

- substances that are explosive, flammable, or combustible
- compressed gas
- oxidizers
- organic peroxides
- phyrophorics
- unstable chemicals
- water-reactive chemicals
- carcinogens
- irritants
- corrosives
- agents acting upon the blood or hematopoetic systems
- any mixture containing hazardous chemicals in concentration of one percent or more
- any mixture containing carcinogens in a concentration of .1 percent or more
- any mixture that contains hazardous chemicals that could exceed OSHA's permissible exposure limit (PEL) or the American Conference of Governmental Industrial Hygienist's (IACGIH's) threshold limit value (TLV) on release

Maintaining the hazardous materials list

Once the list has been completed, it must be kept up-to-date. Any new hazardous materials introduced in work areas must be added to the list as soon as possible.

Informing Employees about Potential Hazards

Purpose

This section describes:
- the standards for hazard communication programs
- guidelines for keeping company employees and contractors informed on hazardous chemicals

The written program is available at the company's corporate office. Any time there are changes to the program, a company-wide alert will be issued indicating the changes made.

Additional information on hazard communication is detailed in the following sections:
- *Labeling Hazardous Materials*
- *Maintaining Safety Data Sheets (SDS)*
- *Providing Employee Training.*

OSHA standard

Hazard communications programs are required by OSHA's Hazard Communication Standard (29 CFR 1910.1200). These programs ensure that employers and employees are informed about these hazards.

Hazard communication program

An employer's hazard communication program must be detailed in a plan that includes:
- list(s) of hazardous chemicals present (for the workplace as a whole **or** for individual work areas and job sites)
- guidelines for container labeling, signs, and other forms of warning
- a plan for maintenance and distribution of safety data sheets (SDS)
- guidelines for informing employees (through the use of JSA) of the hazards associated with non-routine tasks or while working with chemicals in their work areas
- guidelines for informing contractors about potential dangers to their employees and appropriate personal protective equipment
- hazardous material training

A written plan for hazard communication must be kept available to:
- all employees
- their designated representatives
- OSHA representatives

New information

IF any information regarding a hazardous material changes, that information will be updated at the corporate office. **THEN** a company-wide alert will be distributed to all yards to inform employees of the changes.

Multi-employer job sites and or multi-worksites

All employees of a multi-employer job site and or multi-worksite will:

- complete a JSA to communicate hazards and hazardous chemicals at jobsites
- keep current SDS sheets current for the chemicals being used and available for review
- observe all hazard warnings
- take appropriate precautions
- wear personal protective equipment as required

The Hazard Communication Program will:

- be kept at the area office
- be made available to all employees, their representatives, and Federal Agencies, if requested

Transportation

Drivers transporting **any amount** of a hazardous material must:

- have shipping papers
- have emergency response information (ERG or SDS sheets)
- have each container secured to prevent movement associated with normal driving conditions
- have each container (drums, boxes, buckets) properly labeled with a DOT Haz-Mat label
- have each container properly marked with the proper Haz-Mat shipping name on the outside surface (**DO NOT** use industry trade names)
- have each container properly marked with the Haz-Mat identification number (i.e. "UN1993) on the outside surface
- transport hazardous materials in their original containers
- complete hazardous materials training as required by 49 CFR 172.704 in the following interval:
  - New employees working with properly trained personnel for 90 days
  - All employees who are trained, must be re-trained **every 3 years**

Drivers transporting **placard-able amounts** of hazardous materials must comply with the following requirements in addition to the above mentioned requirements.

- Commercial Drivers License
- "H" or "X" endorsement
- placards displayed on all four sides of the transport trailer or tractor, whichever applies

Labeling Hazardous Materials

Purpose

This document describes the labeling requirements for hazardous chemicals.

Labeling requirements

Manufacturers and distributors label, tag, or mark each container of chemicals with:

- the identity of the hazardous chemicals
- Pictograms
- appropriate hazard warnings, including
  health hazards
  fire hazards
  reactivity
- the name and address of the chemical manufacturer, importer, or other responsible party

For hazardous waste, labeling, tagging, and marking requirements must also satisfy DOT and OSHA regulations.

Information on the labels must be:

- in English
- legible
- visibly displayed

In addition to the English label, labels in additional languages may be included as necessary.

IF an incoming container

- has no label, **or**
- is incorrectly labeled or
- is defaced or removed

THEN reject the shipment. **ALL** labels are to be maintained, legible, and not be defaced or removed.

Applicable containers

The labeling requirements apply to the following container types:

- bags
- barrels
- boxes
- cans
- bottles
- cylinders
- drums
- any other portable containers of hazardous chemicals

Exception: **IF** an employee transfers a small quantity of a chemical or product from its original container into a portable container for immediate use by the end of a work shift, **THEN** the labeling requirements do not apply. However, each Yard Manager should assess the potential for mishap, and determine the appropriate labeling for containers in immediate use situations.

Fixed or stationary containers

Storage tanks for diesel and gas require individual labeling. Their contents must be identified by:

- the NFPA fire symbol for reactivity
- appropriate signs
- placards

Pipes and piping systems

OSHA does not consider pipes and piping systems to be containers. However, each Yard Manager should determine appropriate hazard communication measures.

Before any employee begins work on unlabeled pipes, the employee's supervisor will contact the Yard Manager of the facility. The Yard Manager will identify the chemical in the pipes, if applicable.

The local supervisor will then meet with the employee to:

- review the SDS for each hazardous chemical involved
- determine the specific hazards involved and the precautionary measures to be taken
- explain the environmental controls and personal protective equipment that will be necessary for the task

Warning signs

Warning signs must be posted and maintained in hazardous chemical storage areas and work areas.

Unlabeled containers

IF an employee finds a container with no label, **THEN** he or she must report the problem to the supervisor immediately. The supervisor is responsible for labeling the container.

Do **not** deface or remove labels except to replace them with new labels.

Maintaining Safety Data Sheets (SDS)

Purpose

This document describes:

- the requirements for maintaining SDSs
- guidelines for use of SDSs
- the procedure for ordering SDSs
- the contents of an SDS

SDS requirements

Federal law requires all hazardous chemicals present at a facility to have a Safety Data Sheet (SDS), which identifies the chemical or product and each hazardous ingredient.

Chemical manufacturers and importers must provide SDSs before or when shipping a hazardous chemical to a workplace. **IF** an SDS is not attached to the inventory worksheet or on file, **THEN** the manufacturer must be contacted immediately for a copy of the SDS.

Availability of SDSs

SDSs must be readily available to all employees. As a part of their basic orientation, all employees are made aware of:

- the location and availability of SDSs
- purpose
- use of SDSs
- the type of information they contain
- how the SDSs are applicable to their jobs

SDSs may be kept at a central location for the use of employees required to perform work at multiple locations. Employees should have access to the SDSs through phone, radio, computer, or fax.

A complete set of SDSs covering all hazardous chemicals or products present at a facility should be maintained by the Yard Manager or other persons as necessary.
Example: The local supervisor may keep a master copy of the SDS manual, while other manuals are placed as necessary in the work areas.

SDSs must be provided to designated employee representatives or OSHA upon request. In addition, SARA Title III requires that SDSs be provided to the local emergency planning committee (LEPC) and local fire departments for emergency planning and community right-to-know purposes.

Work station listings

Each supervisor or yard manager must assemble a list of hazardous chemicals used or located in his/her work area.

Each work station must have a protective binder with:

- the listing of hazardous chemicals
- SDSs for every chemical on the list
- a copy of the Hazard Communication Program

The binder may **not** be removed from the workstation.

The supervisor or area manager must keep the materials in the binder current.

Using SDSs

Employees must refer to SDSs:

- prior to their initial exposure to or use of hazardous chemicals
- whenever there is a question about a specific chemical's
  hazards
  requirements for safe use and handling

SDS review

SDSs must be reviewed at least once a year in safety meetings.

Requesting an SDS from a vendor or manufacturer

SDSs may be requested by telephone or in writing.

IF an SDS is requested by phone, **THEN** the phone call must be documented, including:

- date and time of call
- name of person receiving the request

IF an SDS is requested in writing, **THEN** the letter must be sent by registered mail, with return receipt requested.

Contents of the SDS

Each SDS must be available in English. If necessary, provide versions in other languages as needed.

The SDS must contain:

1. Identity of the chemical and manufacturer
   the name of the product used on the label
   labeling requirements
   date of SDS preparation and last date of revision
   name, address, and telephone number of the party that prepared the SDS
2. Hazardous ingredients/identity
   the chemical and common names of the hazardous ingredients
   OSHA permissible exposure limit (PEL)
   ACGIH Threshold Limit Value (TLV)
3. Physical/chemical characteristics
   boiling point
   specific gravity
   vapor pressure
   melting point
   vapor density
   evaporation rate
   reactivity with water
   odor and appearance
4. Fire and explosion hazard information
   flash point
   flammable limits
   extinguishing media
   special fire fighting procedures
   unusual hazards
5. Reactivity data
   chemical stability
   hazardous polymerization
   incompatibility with other materials
   hazardous decomposition or by-products
   conditions to be avoided
6. Health hazard data
   signs and symptoms of exposure
   any medical conditions aggravated by exposure
   primary route of entry into the body (e.g. ingestion, inhalation, skin contact)
   listing in the NTP Annual Report on carcinogens
   identification as a potential carcinogen by the International Agency for Research on Cancer (IARC) or OSHA
   acute and chronic health hazards associated with exposure
   emergency and first aid procedures

7. Precautions for safe handling and use
   steps to be taken in case of spill or release
   waste disposal method
   precautions to be taken in handling and storing
   hygiene practices
   protective measures during repair and maintenance of contaminated equipment
8. Control measures
   ventilation
   engineering controls
   work practices
   personal protective equipment

Trade secrets

The specific chemical identity of a product may be withheld from an SDS for a product claimed as a trade secret. However, all other required information must be included. **IF** treatment is needed in an emergency **OR** a health care professional requests the product's chemical identity in writing, **THEN** the chemical identity must be provided.

Handling contractors

Before an outside contractor or vendor works in any area of the Company:

- the contractor must:
  provide a list of all hazardous chemicals he or she will bring into the work areas
  present a current SDS for each chemical (to be requested via fax if SDS is not provided)
  demonstrate compliance with Company policies and federal regulations
- the Company supervisor who is in charge of the task performed by the contractor must:
  provide a list of all hazardous chemicals in the area where the contractor will be working
  provide a current SDS for each chemical

Vehicles

Any company vehicle carrying a chemical requiring an SDS must have copies of the SDS in the vehicle.

Providing Employee Training

Purpose

This document describes the requirements for hazardous chemical training.

Providing training

Employers must provide chemical hazard information and training to employees who:

- are exposed to hazardous chemicals in their job duties
- could be exposed to hazardous chemicals in foreseeable emergencies (e.g. equipment failure, tank rupture)

Employees receive their training:

- at the time of their initial assignment to a work area where hazardous materials are present
- whenever a new hazard is introduced into their work area

General training

Employees must complete the "Hazard Communication: The Right to Know" training program as a general introduction to:

- the employee information and training standards in the OSHA Hazard Communication Standard
- the operations in their work areas where hazardous chemicals are present
- the location and availability of:
  the written Hazard Communication Program
  the list of hazardous chemicals
  appropriate SDSs

This training is presented once a year in a safety meeting.

Specific training

The extent of specific training for an employee or group of employees is based on:

- exposure/potential for exposure to hazardous chemicals
- job positions
- job assignments
- information provided by the chemical inventory worksheets

This training must include:

- information on the hazards, labeling, safe use, handling, and storage requirements of the chemicals
- methods for detecting the release of hazardous substances (e.g. personal monitoring, continuous monitoring devices, visual appearance or odor, etc.)
- personal protective measures
- the location and use of the chemicals
- the appropriate SDS for each substance
- the location of the SDSs
- details of the written Hazardous Material Program plan and its location

Giving training

Specific substance training may be presented by the supervisor or other appropriate person.

Personal protective equipment

Employees who are required to use respiratory protection in a work area must meet the necessary requirements of the facility's respiratory protection program prior to initial assignment. Refer to the *Respiratory Protection*-for more information.

Maintaining records

Supervisors are responsible for maintaining hazard communication training records. Each training must have a participant's list or sign-in sheet that includes:

- date of training
- specific hazardous chemical(s) covered
- name of the training presenter
- signatures of each employee attending the training

Tests and training evaluations should also be used to evaluate the training.

New information

When an employer, manufacturer, or importer becomes aware of new or significant information regarding:

- the hazards of a chemical
- ways to protect against chemical hazards,

this information will be added to the SDS within three months

The Company is responsible for providing training on this new information to employees.

Protecting Against Hazardous Materials

Purpose

This document describes the guidelines for protecting employees from hazardous materials.

Providing first aid

IF employees are exposed to or injured by hazardous materials **and** require first aid treatment, **THEN**:

- consult the SDS for information regarding the chemical
- telephone 911 (if it is an emergency involving life threatening consequences)
- arrange for transportation to the nearest medical facility for help immediately

Personal protective equipment

Employees must wear standard PPE when working with or near hazardous materials:

- hard hats
- safety glasses
- coveralls
- protective footwear

Additional PPE will be specified in the SDS.

Control measures

Facilities must develop control measures to reduce or restrict exposure to hazardous materials. These measures must be reviewed once a month or as needed at safety meetings.

Substitution of products

When possible, products of chemicals containing nonhazardous substances should be substituted for those containing hazardous substances.
Examples: using mineral spirits in place of benzene, or fiberglass in place of asbestos.

Minimizing quantities

Only those chemicals and products necessary to an operating activity or job should be kept in work areas and at company facilities. Drums and other containers of unused or half-used hazardous materials and other wastes should be removed from locations.

Storage

Chemicals and products must always be kept in suitable labeled containers. The containers must be kept closed and in approved storage areas when not in use. Flammable substances must always be stored:

- away from sources of ignition
- in containment areas specifically designed for flammable storage

Moving chemical between containers

Use a bung and a spout to move chemicals between containers. **Never** puncture a container.

Place a drip pan under the spout of each container.

Disposing of empty containers

Contact the third-party vendor for the chemical to dispose of empty containers.

IF you wish to re-use a container, **THEN** use it **only** for the chemicals it previously contained.

Pipes and piping systems

Valves on pipelines must be checked regularly to ensure that they are not leaking.

Particles

Substances likely to release particles should be dampened before handling. Floors and work surfaces should be dampened and/or wet-cleaned. Affected processes include: grinding, milling, sandblasting, and manufacturing.

Using air monitors for H_2S

Use air monitors to ensure that:

- the air in a work area is free of contamination by H_2S, **OR**
- exposure limits are kept to acceptable levels

These devices must be calibrated and maintained on a regular basis. Alarms should be set for practical levels to provide adequate warning. A level that is set too high may not give personnel time to safely clear the area, assess the problem, or make repairs.

All employees must be familiar with the use and operation of any monitoring device in their work areas.

For more information refer to the chapter *Protecting Against Hydrogen Sulfide.*

Using closed systems

Closed systems are enclosures that are sealed to prevent any exchange between the hazardous substance inside the system and the air outside the system. They prevent any direct contact between the workers and the substance. They are required for several substances established as carcinogens.

Examples of closed systems:

- Direct pumping from tank truck to storage tank and from storage tank to reaction vessels or other closed sites.
- The glove box, which allows workers to handle a highly toxic substance without direct contact. The glove box is recommended for:
  laboratories handling disease producing bacteria, carcinogens, or other extremely toxic substances
  handling isocyanites and other severe allergens
  any substance with a TLV of less than 0.01 parts per million (PPM)

General ventilation

General ventilation is primarily used to keep workers comfortable by regulating the air temperature. However, it can be designed to dilute airborne contaminants with fresh air. Dilution is frequently used to reduce carbon monoxide levels in warehouses, assembly plants, and other large open work areas.

Enclosing ventilation systems

An enclosing system surrounds the work process with an enclosure. A fan pulls the air into the enclosure and away from the worker. The air is then moved through ductwork to another area, usually outside. The air may be filtered to remove hazardous products. Affected processes include: welding, painting.

Example: A standard ventilation hood.

Receiving ventilation systems

Receiving systems catch substances in motion and direct them away from the worker.

Example: Hoods used in sawing, grinding, and spray painting operations.

Exterior ventilation systems

Exterior systems provide exhaust ventilation at a point removed from the actual work process. The further the system is from the work process, the less effective it is.

Examples: Systems used in foundries and smelters, slot hoods.

Ventilation maintenance

Ventilation systems require regular inspection and maintenance, including:

- changing filters as needed
- system balancing
- replacement of fan belts and other parts
- removing settled dust
- cleaning blades to prevent off-setting waste
- breakdown maintenance as needed

Note: Some ventilation systems, such as those used in some paint booths, may have monitors to let you know when the filter needs replacing.

Disposal of hazardous materials

Unnecessary hazardous materials and waste products must be stored, transported, and disposed of according to applicable hazardous waste regulations and company procedures. Consult with your Supervisor before disposing of any hazardous waste.

Personal protective equipment

Wear the personal protective equipment required by the material's SDS sheet.

Refer to the chapter on “Personal Protective Equipment” for more information.

First Aid

IF employees are exposed to or injured by hazardous materials **AND** require first aid treatment, **THEN**:

- consult the SDS for information regarding the chemical
- call 911 (if it is an emergency involving life threatening consequences)
- arrange for transportation to the nearest medical facility for help immediately

Non-Routine Task

Purpose

This document describes the guidelines for employees performing non-routine task.

Scope

This applies to all Company locations and personnel and contractor involved in handling hazardous materials.

Employer Responsibilities

IF employees are given a non-routine task (a task not normally performed) that has the potential for exposure to hazardous chemicals, they will require additional training to complete the task.
Examples:

- cleaning tanks
- entering a confined space, sump or well cellar

NOTE: Company policy forbids entering a confined space unless all requirements of OSHA 1910.146 are complied with.

Employee Responsibilities

Employees must wear standard PPE when working with or near hazardous materials:

- hard hats
- safety glasses
- coveralls
- protective footwear

Additional PPE will be specified in the SDS or through the additional training before the job is commenced.