

Hazard Communication

The Occupational Safety and Health Administration (OSHA) hazard communication standard (HCS), also known as the “employee right-to-know” standard, is found at 29 CFR 1910.1200 of the general industry standards and incorporated into the construction standard at 29 CFR 1926.59. HCS was developed to protect employees from exposure to hazardous products and chemicals. This standard requires all employers to develop a written program addressing labeling and warning requirements, material safety data sheets (MSDSs) and employee training on hazardous materials. The standard also requires employers to develop and maintain a list of all hazardous substances in the workplace and a description of the methods the employer will use to inform employees of the hazards related to nonroutine tasks in the workplace.

From the initial effective date of this standard, HCS violations have been among the most frequent citations issued by OSHA in the construction and general industries because it can be difficult to comply with all of its administrative requirements. This section discusses the HCS standard’s requirements, including those involving employee training. Following this chapter is a sample written program that roofing contractors can adapt and use in their own companies’ health and safety programs.

How to Comply

The following is a six-step approach for complying with the standard. Although there are only six main steps, each involves many smaller steps.

1. Know the standard. It is up to roofing contractors to understand the elements of this fairly complex standard and become familiar with their responsibilities. This is an employee-right-to-know law—employees have the right to know about the standard, the hazardous chemicals and products found in the workplace, and the methods of protecting themselves from chemical exposure.

2. Develop a chemical inventory list. A chemical inventory list is included in the sample written program following this chapter. An employer should walk around the office, yard and project sites, recording the product names of all chemicals, along with the manufacturers’ names, addresses and telephone numbers. Something as simple as a tube of caulking compound is a product that contains chemicals for which an employer must maintain an MSDS and list the product on the chemical inventory. Each chemical’s location also should be noted. (This is a good time to properly dispose of half-empty and unneeded cans of paint, adhesive and other materials.)

The completed chemical inventory list should be kept with the written program because it may need to be amended as new chemicals are purchased.

3. Label all containers. All containers should be labeled with at least the following information:

- Identity of the chemical*
- All potential hazards associated with the chemical*
- Manufacturer's name, address and telephone number*

One common problem facing companies is the use and labeling of portable containers. Portable containers should be dedicated for one specific use and labeled with the identity of the hazardous chemical inside and appropriate hazard warnings so employees will have general information as to the hazards relating to the chemical. The employer is not required to label portable containers into which hazardous chemicals are transferred from properly labeled containers when the material transferred is for the immediate use of the person performing the transfer. For example, if paint thinner is poured from a labeled original container into a bucket for the purpose of cleaning some parts, the bucket does not need a label if the person transferring the thinner is the one who will use it immediately.

OSHA states containers of this type do not need to be labeled if the entire contents are used in one shift by only one person, with the contents being used completely or returned to their original containers. The containers cannot be passed from one employee to another, and employees cannot leave unlabeled, partially filled containers overnight.

Labels are available from any safety supply company. For maximum employee comprehension, labels should be as simple as possible. One style of labeling should be used consistently. Color-coded labels accompanied with numbers and pictures or icons are helpful when there are crew members who do not read English.

4. Obtain MSDSs. An MSDS is needed for each chemical at the workplace. If an MSDS is not received with a shipment, the manufacturer should be contacted to request one for inclusion in the MSDS file. A sample MSDS request letter is included in this chapter, and all MSDS request letters should be retained as evidence of due diligence to obtain the required MSDS.

5. Develop a written program. Many contractors either neglect to develop a written program at all or fail to include the minimum requirements. Each written program must contain the following information:

- Container-labeling information*

- *Material safety data sheets*
- *Methods of training*
- *Chemical inventory lists*
- *Hazards of nonroutine tasks*

Some companies choose to incorporate the program's written text, chemical inventory list and all MSDSs pertinent to their operations together in one binder. For smaller companies with limited types of roofing operations, this may be adequate. Larger, more diverse companies may want to develop several written programs, each pertaining to a separate roofing operation or application. In such cases, the written text will be the same for each program, but the chemical inventory list and MSDSs will vary.

For example, because most built-up roofing projects require the same basic materials, a roofing contractor can develop one written program—including text, chemical inventory list and MSDSs—for built-up roofing operations. The same can be done for sheet metal projects, steep-slope projects and so on. When a particular project is complete, the company's HCS administrator should update the written program to include any new chemicals used on the job.

Some companies elect not to take this approach because of the amount of paperwork involved. Instead, a contractor may elect to prepare an HCS program at the onset of the project based specifically on contract requirements.

6. Provide training. The goal behind HCS training is to provide employees with information and training about hazardous chemicals they may encounter in the workplace. Training may address broad categories of hazards (e.g., explosives, flammable liquids, carcinogens) or each specific hazardous chemical (by label and MSDS) that the employee may encounter in the workplace. Employers are responsible for administering additional training when the hazards for particular employees change or new employees are hired. All training should be documented with the date of training, topics covered during the training session and the trainer's name.

The minimum OSHA training requirements include:

- *Methods and observations that may be used to detect the presence or release of hazardous chemicals in the work area (such as monitoring conducted by the employer, visual appearance or odor of hazardous chemicals when being released, and so on). The MSDS describes these characteristics.*
- *The physical and health hazards of all chemicals in the work area*
- *The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented*

to protect employees from exposure to hazardous chemicals. These may include work practices, emergency procedures and personal protective equipment (PPE) to be used.

- *The details of the hazard communication program developed by the employer, including an explanation of the labeling system and MSDSs, and how employees can obtain and use the appropriate hazard information*
- *An explanation of hazard communication, including a description of company operations where chemicals are present, explanation of the company's written hazard communication program and its contents, location of the written program, and means by which employees can obtain a list of hazardous chemicals and MSDSs from the employer*

Material Safety Data Sheets

Roofing contractors are required to have MSDSs for each hazardous chemical that is used in the workplace. It is the manufacturer's (or supplier's) responsibility to provide the appropriate information on each MSDS and include it with the initial shipment or first shipment after an MSDS is updated. Current MSDSs are often available for immediate download from a manufacturer's Web site. The date of receipt and last use of a product should be recorded. Marking the date of last use may be beneficial should insurance claims or lawsuits arise.

When a product is received that contains a label indicating there is a hazard, an employer must obtain an MSDS for that chemical. The MSDS must be readily available upon request by employees, designated representatives, the assistant secretary of labor for OSHA and the director of the National Institute for Occupational Safety and Health. MSDSs must be readily accessible during each work shift to all employees in their work areas. MSDSs may be kept at a central location at the company's primary workplace or at the central office, provided employees can obtain the required information in an emergency. Because quick action is important in an emergency, it is recommended that a copy of the compliance program and applicable MSDSs be maintained at each work site. Many contractors maintain MSDS binders specific to the type of work that a roofing crew may perform, and the binders are kept in the work truck of each crew to ensure ready access. The standard does allow for electronic access to program information by fax or microfiche, but this method may cause delay in getting information to a job site to assist in the treatment of an injured worker.

While OSHA has developed a preferred format for a comprehensive MSDS, the format of those received from manufacturers and suppliers may vary. OSHA requires MSDSs to be in English and, at a minimum, include the following information:

Product Identification

The name of the product, trade name or synonym, or chemical name used on the label. This can be the common and chemical name of a single substance or the common and chemical names of a mixture.

Physical and Chemical Characteristics

This information includes characteristics of a chemical, such as its vapor pressure or flash point.

Physical Hazards

The chemical's potential for fire, explosion or reactivity must be set out such as:

- *Flash point—the temperature at which the chemical gives off enough vapor that, when mixed with air, will ignite if an ignition source is introduced. Examples of ignition sources are sparks, matches, hot kettles and radiating heat.*
- *Extinguishing media—the material—whether water, firefighting foams, dry chemical, dry powder or carbon dioxide—that will put the fire out, along with those that are ineffective at extinguishing a fire of this type*
- *Special firefighting procedures—this information is only for fire-fighting professionals with specialized training and special firefighting PPE. These procedures should not be attempted by the roofing company.*
- *Unusual fire and explosion hazards—information regarding incompatibilities or the substance's reactivity with other substances*

Health Hazards

This information should set out the signs and symptoms of exposure to the hazardous chemical and any medical conditions that may be aggravated by exposure to the chemical.

Primary Routes of Entry

Chemicals may enter the human body through different means, such as inhalation (breathing in the vapors); ingestion (swallowing the chemical); injection (by some mechanical means under the skin); or absorption (skin contact). Although all these methods can occur in a workplace situation, some are less likely than others. Chemicals can be ingested accidentally through contact with food or drink, and material can be injected by mishandling of pressurized equipment like airless sprayers.

OSHA Permissible Exposure Limit (PEL)

This information details exposure limits, called PELs, set by OSHA and other entities detailing the quantity of a chemical that a person can be exposed to without suffering ill effects. Some manufacturers may include Threshold Limit Values (TLVs) for chemicals. These are limits developed by the American Conference of Governmental Industrial Hygienists (ACGIH). It represents the maximum amount of a substance that someone can be exposed to without experiencing any effects. The TLV can be expressed in three ways: as a time-weighted average (TWA), based on an eight-hour exposure; as a short-term exposure limit (STEL), based on a 15-minute exposure; and as a ceiling (C), which is an instantaneous exposure that, when reached, means the exposure cannot be repeated for the rest of the day.

National Toxicology Program (NTP)

If a chemical is listed in the NTP Annual Report on Carcinogens or has been listed as a potential carcinogen by the International Agency for Research on Cancer or OSHA, that information must be part of the MSDS for the chemical.

Precautions

Safe handling and use precautions known to the manufacturer must be included in the MSDS. This includes hygienic practices, protective measures during repair and maintenance of contaminated equipment, and spill and leak cleanup procedures.

Control Measures

Engineering controls, work practices and PPE generally applicable to the use of the chemical and known to the manufacturer must be set out.

Emergency and First-aid Procedures

First-aid treatment for exposure must be set out.

Date

The date the MSDS was prepared or last revised must be stated on the MSDS.

Contact Information

The name, address and telephone number of the preparer or distributor of the MSDS who can provide additional information on the chemical and appropriate emergency procedures to be followed must be included.

Exclusions

The standard excludes a number of particular materials from all requirements of the Hazard Communication Standard. Materials excluded from the requirements are:

- *Hazardous waste under EPA, to include Resource Conservation Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)*
- *Hazardous substances being remediated or removed*
- *Tobacco and tobacco products*
- *Wood and wood products (Note: Not exempt are wood or wood products that have been treated with a substance considered hazardous under this standard and may be sawed or cut or might otherwise generate dust.)*
- *Articles—that is, items—such as asphalt shingles that are manufactured and formed to a specific shape or design, which have specific end-use functions dependent upon their shape or design and do not release any hazardous substances under normal use (Note: Steel I-beams may not fit this definition because welding on steel releases a byproduct.)*
- *Food or alcoholic beverages for consumption*
- *Drugs, including over-the-counter items*
- *Cosmetics and consumer products*
- *Ionizing and nonionizing radiation*
- *Biological hazards*

These items do not need MSDSs nor should they be included in the hazard communication program.

Sample Program

Hazard Communication Program

Introduction

In order to fulfill its obligation to protect the health and safety of employees, [company name] has developed the following hazard communication standard (HCS) program to comply with Occupational Safety and Health Administration (OSHA) standards 29 CFR 1910.1200 and 29 CFR 1926.59. [Company name] will develop hazardous chemical lists, obtain MSDSs for each hazardous material used and provide training to our employees so they have a thorough understanding of what is required by the standard.

The program administrator will be [name and title of responsible person]. Copies of the written program, including the chemical inventory list and material safety data sheets (MSDSs), will be made available on request. Additionally, a copy of the written program will be kept at each job site for the duration of the project. The site copy will be maintained by the project manager and made available on request. The master copy will be retained in the main office.

Scope

This program applies to all normal and emergency work operations, as required by local, state and federal regulations.

Chemical Inventory List

A chemical inventory list will be developed by the program administrator. The master list will be kept at the main office. A project-specific chemical inventory list will be developed for each project and maintained at the job site along with the appropriate MSDSs. When new chemicals arrive at a project site, a copy will be made of the MSDS, and the original will be sent to the home office. Any new chemicals will be added to the project's chemical inventory list as needed.

Hazard Determination

It will be the policy of [company name] not to evaluate hazardous chemicals purchased from suppliers or manufacturers. The suppliers and manufacturers will be relied on to supply the information needed to satisfy standard requirements. The MSDS will be reviewed for completeness, and additional information from the manufacturer will be requested if needed.

Material Safety Data Sheets

All MSDSs will be maintained by the project administrator. As new contracts are awarded, a project-specific HCS program will be developed for use in the field. The program will consist of the written program, a proposed chemical inventory list (generic in nature initially and modified as the project progresses) and all appropriate MSDSs. The project manager will be responsible for maintaining the program for the project's duration. When the job is complete, the project-specific HCS program will be returned to the program administrator for updating as needed.

If a chemical arrives without an MSDS, the program administrator office will be notified. The program administrator will begin the process of obtaining the MSDS. If the project is completed before the MSDS arrives, the home office will pursue the matter until the MSDS arrives. All letters sent to the manufacturer will be copied and sent to the project site for filing in the project-specific HCS program.

Container and Warning Labels

The program administrator will have the responsibility of acquiring hazard warning labels and making them available for each project. Labels will be consistent throughout the entire company. They will contain, at minimum, the following information:

- *Identity of the chemicals*
- *All potential hazards associated with the chemical*
- *Manufacturer's name, address and telephone numbers*

Each project manager or other designated person will have the responsibility of ensuring all labels are affixed on containers properly. As new products arrive at the project, the project manager or other designated person will inspect the containers for labels. If the container is in need of a label, the project manager will affix one. No product will be used until it is properly labeled.

All portable containers will be dedicated to a single chemical and labeled with the appropriate information. The only exception to this rule is buckets of hot asphalt. Because of the elevated temperatures of hot asphalt, labeling becomes impractical. The training program will specifically address this exception, informing all affected employees about wearing proper personal protective equipment (PPE) and other hazards associated with hot asphalt.

If a label falls off, it will be the responsibility of the project manager to replace it. If a label falls off in the home office area, it will be the responsibility of the program administrator to replace the label. In both circumstances, the container will be removed from service until a new label is affixed.

Nonroutine Tasks

On occasion, [company name] may be required to perform nonroutine tasks that may involve the use of hazardous substances. If such a need arises, a special training course will be conducted to inform employees of the potentially hazardous chemicals they may be exposed to during the nonroutine operation and measures they can take to avoid those exposures.

Informing Contractors

Any contractor with employees working in the [company name] workplace will be informed of the hazardous chemicals to which the contractor's employees may be exposed while performing their work. The contractor will take appropriate protective measures as set forth by the MSDS provided. [Company name] management also will confer with the contractor's management as appropriate to discuss any hazards particular either to the work the contractor will be performing or the work area in which the work will be performed. Management or the program administrator will describe the labeling system the company uses.

In addition, [company name] will require any contractor who intends to bring any hazardous chemicals to the workplace to provide an MSDS for each such chemical. The contractor will further be required to explain (orally or in writing) any precautionary measures necessary to protect employees during normal operation conditions or in foreseeable emergencies. The contractor also will explain the company's system for labeling hazardous chemicals. [Company name] will train, or require the contractor to train, any [company name] employee who may be exposed to hazardous chemicals used by the contractor as provided in the employee training section.

Training

Employees who potentially could be exposed to hazardous chemicals will receive training in the elements of the hazard communication standard. During their initial training, they also will receive an overview of the chemicals typically used in the roofing industry. As new hazards are introduced, additional training will be conducted. Occasionally, we will use tool box safety talks to discuss a specific chemical used at a project site. The typical training session will address the following:

- *A summary of the company's written program and the OSHA HCS*
- *Methods of detecting hazardous chemicals, including a description of the hazards' chemical and physical properties*
- *Health hazards and signs or symptoms of exposure*
- *Proper work practices for working with a hazardous substance*
- *PPE selection*
- *Emergency procedures and first aid for spills and other exposure*
- *Location of MSDSs and the written program*

- *How to read an MSDS*
- *The type of labeling system the company uses and how to interpret the information contained on the label*
- *How to obtain additional information*

This training program will be conducted initially and as new hazards are introduced. Periodic training will be conducted to further inform our employees of hazardous chemicals and the methods of safeguarding themselves. At least annually, refresher training will be conducted to reacquaint everyone with the standard and discuss any changes made to the program.

The training program elements will be reviewed at least annually.

Foremen and superintendents will receive additional training so that all field supervisors will feel confident answering any questions the roofing crew may have. At a minimum, field supervisors should be able to select the proper PPE for any given chemical and direct technical questions to the safety director.

At the conclusion of each training session, a question-and-answer period will be held so employees can voice any further concerns on the topic. Each employee will sign an attendance form and write down his or her social security or employee identification number. The form will indicate where and when the training was conducted, what was covered and who conducted the session. It will be dated and signed by the trainer. If a particular MSDS was discussed, a copy of it will be attached to the attendance form.

Chemical Inventory List

(The following information should be gathered for each product used)

MSDS ON FILE? Y/N

ID NO.

PRODUCT NAME

*MANUFACTURER'S NAME and
ADDRESS, CITY, STATE*

*MANUFACTURER'S TELEPHONE
NUMBER AND EMERGENCY TELEPHONE NUMBER*

Material Safety Data Sheet Request Letter

*[Manufacturer's Name]
[Manufacturer's Address]
[Manufacturer's City, State and ZIP code]*

[Date]

To Whom It May Concern:

On [date shipment was received], we received a shipment of [type of material received], stock number [item's stock number] and did not receive a material safety data sheet (MSDS). Under the Occupational Safety and Health Administration Hazard Communication Standard 29 CFR 1926.59 (29CFR 1910.1200), we are required to obtain and maintain MSDSs for all hazardous substances used in our organization.

Please send the MSDS to the following address:

*[Company name]
[Address]
[City, State, and ZIP code]
Attn.: Safety Director*

Please consider this a standing request to your company to supply us with any information concerning the safety and health aspects of this product that may become known in the future.

Thank you for your timely response to this request. If you have any questions, please call [telephone number].

*Sincerely,
[Company name]*

[Name and Title]