

Clearheart Construction Co., Inc.

Hazard Communication

29 CFR 1926.59, Hazard Communication

29 CFR 1910.1200, Hazard Communication

29 CFR 1910.1200 Appendix A, Health Hazard Definitions (Mandatory)

29 CFR 1910.1200 Appendix B, Hazard Determination (Mandatory)

29 CFR 1910.1200 Appendix C, Information Sources (Advisory)

Note: The Federal Register of March 7, 1996,
removed 1926.59 Appendix C., [61 FR 9227, March 7, 1996]

29 CFR 1910.1200 Appendix D, Definition of Trade Secret (Mandatory)

29 CFR 1910.1200 Appendix E, Guidelines for Employer Compliance

HAZARD COMMUNICATION

OVERVIEW

Petroleum products, adhesives, sealants -- even saw dust from treated wood! What do these typical job site products have in common? They are all chemicals and their properties may cause harm to an employee if inhaled, ingested, or absorbed into the skin. A common error is thinking that a hazard communication plan is not needed because there are no "hazardous" chemicals such as nitroglycerin or sulfuric acid on the job site.

This plan will be maintained at each workplace and its provisions implemented. This plan describes how labels & other forms of warning, material safety data sheets, and employee chemical hazard information will be used to protect our employees.

There may be a tendency to think of common everyday products such as hand cleaners as just that -- hand cleaners. However, even these items are job site chemicals and, if misused, have a health hazard. What possible hazard could be associated with hand cleaner? Quick! Some gritty hand cleaner gets in your eye! What do you do?

This hazard communication plan is designed to make all employees aware that most, if not all, job site chemicals have a downside if improperly used, spilled, transferred or stored. The hazard may be a physical hazard such as an explosion or a health hazard such as cancer.

DEFINITIONS

Article:	a manufactured item which is formed to a specific shape or design during manufacture; has end use function(s) dependent in whole or in part upon its shape or design during end use; and does not release, or otherwise result in exposure to a hazardous chemical under normal conditions of use.
[Note: Articles are exempt from the Hazard Communication standard]	
Hazardous Chemical:	any chemical which is a physical or a health hazard.

Physical Hazard: a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric (will ignite spontaneously in air at a temperature of 130°F or below), unstable (reactive) or water-reactive.

Health Hazard: a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principals that acute or chronic health effects may occur in exposed employees.

To clarify the difference between acute and chronic, acute effects occur rapidly as a result of short term exposure and are of short duration. Chronic effects occur as a result of long term exposure and are of a long duration. These terms can overlap. For example, a mild heart attack, with no pain severity, would be termed acute within the first two hours, yet if there were long term effects, it would be termed chronic.

Exempt from hazard communication are “articles”. Note that a manufactured item that has a downstream use is not an article. The below example from 29 CFR 1926.59(f)(2) illustrates this point:

For a solid metal (such as a steel beam or a metal casting) that is not exempted as an article due to its downstream use, the required label may be transmitted to the customer at the time of the initial shipment, and not be included with subsequent shipments to the same employer unless the information on the label changes. The label may be transmitted with the initial shipment itself, or with the material safety data sheet that is to be provided prior to or at the time of first shipment. This exception to requiring labels on every container of hazardous chemicals is only for the solid metal itself and does not apply to hazardous chemicals used in conjunction with, or known to be present with the metal and to which employees handling the metal may be exposed (for example, cutting fluids or lubricants).

Almost all chemicals are considered hazardous -- a steel beam or metal casting does not immediately come to mind as a hazardous chemical. Without a material safety data sheet (MSDS) and/or a label, one cannot assume a chemical is safe.

Even filters for your equipment will have an MSDS. This is because, until it is placed in your equipment, it still has a down stream use and therefore until it is used it is not an article by definition.

Also exempt from the hazard communication standard are chemicals which are regulated by other government agencies such as hazardous waste, food, tobacco products, and normal consumer products that are used in the workplace in the same manner, frequency and duration as normal consumer use and produces the same or less exposure as normal consumer use.

CHEMICAL TYPES AS THEY RELATE TO HEALTH

Below is a list of categories of hazardous chemical types as they relate to health:

- a. Carcinogen or potential carcinogen as determined by the International Agency for Research on Cancer (IARC) or a carcinogen or potential carcinogen as listed in the Annual Report on Carcinogens published by the National Toxicology Program (NTP), latest edition, or as regulated by OSHA as a carcinogen.
- b. Corrosive: A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. This is not to be confused with, and does not refer to, action on inanimate surfaces.
- c. Highly Toxic: A chemical which is lethal to test animals under specific doses and time limits. Some tests require ingestion, some inhalation, some skin exposure, and some implantation.
- d. Irritant: A chemical which is not a corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.
- e. Sensitizer: A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure.
- f. Toxic: A chemical which is lethal to test animals under specific doses and time limits. A toxic chemical has a greater dose per weight than a Highly Toxic chemical.

g. Target Organ Effects:

Hepatotoxins: Chemicals which produce liver damage

Signs & Symptoms: Jaundice; liver enlargement

Chemicals: Carbon tetrachloride; nitrosamines

Nephrotoxins: Chemicals which produce kidney damage

Signs & Symptoms: Edema; proteinuria

Chemicals: Halogenated hydrocarbons; uranium

Neurotoxins: Chemicals which produce their primary toxic effects on the nervous system

Signs & Symptoms: Narcosis; behavioral changes; decreased motor function

Chemicals: Mercury; carbon disulfide
Agents which act on the blood or hemotopietic system: decrease hemoglobin function; deprive the body tissue of oxygen

Signs & Symptoms: Cyanosis; loss of consciousness

Chemicals: Carbon monoxide; cyanides

Agents which damage the lungs: chemicals which irritate or damage the pulmonary tissue

Signs & Symptoms: Cough; tightness in the chest; shortness of breath

Chemicals: Silica; asbestos

Reproductive toxins: Chemicals which affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)

Signs & Symptoms: Birth defects; sterility

Chemicals: Lead; DBCP

Cutaneous hazards: Chemicals which affect the dermal (skin) layer of the body

Signs & symptoms: Defatting of the skin; rashes; irritation

Chemicals: Ketones; chlorinated compounds

Eye hazards: Chemicals which affect the eye or visual capacity

Signs & Symptoms: Conjunctivitis; corneal damage

Chemicals: Organic solvents; acids

The above is to illustrate the broad scope of health hazards.

HAZARD DETERMINATION

The determination of chemical hazards is primarily the responsibility of the manufacturer and/or importer. It is performance-oriented and, surprisingly, there is no specific method required to determine if a chemical or chemical mixture is hazardous. Personal judgment of the evaluator is relied upon and it takes but one scientifically acceptable study to force a chemical onto the hazardous chemical list.

According to OSHA regulations, thousands of studies could indicate complete safety and one study indicate a hazard and the chemical will be deemed a hazard. We will rely on the evaluations of the chemical product's manufacturers or importers. Should hazard information be received from a source other than the manufacturer, it shall be placed in this Hazard Communication Plan.

LABELS

A label is any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

All chemicals used in or on the job site will be properly labeled using the manufacturer's labeling system. Labels will not be removed or defaced. If a chemical is not labeled, it will not be used with the following exception which is quite common with contractors:

portable containers into which hazardous chemicals are transferred from labeled containers need not be labeled if they are for immediate use of the employee who makes the transfer.

To simplify the above, one may take a hazardous chemical (*example*: paint) out of a labeled container and put it into a smaller, unlabeled container (*example*: paint tray), for immediate use. OSHA defines "immediate use" as being under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

The label must clearly state:

- a. the identity of the hazardous chemical(s).
- b. the appropriate hazard warning.
- c. the name and address of the manufacturer, importer, or other responsible party.

Appropriate hazard warnings would contain words, pictures or symbols indicating:

- a. instruction for proper and safe use. This would include obvious information such as, "do not ingest" or "do not spray in eyes" as well as less obvious information such as, "caustic, wear rubber gloves"
- b. first aid instructions
- c. fire containment instructions
- d. storage
- e. disposal instructions

Treat empty containers of hazardous materials as if they were full. Proper disposal is a must!

MATERIAL SAFETY DATA SHEETS (MSDS)

It is required that material safety data sheets (MSDS) be maintained for all hazardous chemicals in our inventory. The Safety Program Administrator will ensure that MSDS for our company are obtained from the manufacturer, supplier, or vendor. MSDS will be maintained in a readily accessible location to employees in each work area. The information contained on MSDS must be readily accessible to the individual(s) using the products and we will share that information with whom we may work.

MSDS must be made available upon request to employees, their designated representatives, the Assistant Secretary and the Director.

Chemicals come in all forms of matter: liquid, solid, and gas; they can be found as sludge, vapor, mist, dust, etc..

How would one know what a chemical smelled or looked like? How would one be able to administer first aid quickly? Where would you find the proper procedure for cleaning up a spill? Where would you find a listing of symptoms caused by inadvertent exposure to a chemical or chemical mixture? Where would you find fire fighting procedures? These questions and many others are answered on Material Safety Data Sheets (MSDS).

The Safety Director will be notified immediately if a chemical is in inventory without an MSDS. Should that event occur, the Safety Director will contact the manufacturer, vendor, or distributor requesting an MSDS.

Personnel utilizing a new chemical product will review the MSDS before initial use. New chemical products will be added to our List of Hazardous Chemicals.

While there is no specific format, the following information will be found on an MSDS:

- a. identity (chemical or common name) which will be the same as on the label and on the required list of hazardous chemicals.
- b. hazardous chemical ingredients -- both the chemical and common name(s).
- c. physical and chemical characteristics such as boiling point, flash point, solubility in water, etc.. Two of the most important items to be found in this category are appearance and odor. It is important to be able to identify chemicals rapidly and appearance and odor are of great value in initial determination.
- d. physical hazards which would include the potential for explosion, fire, and reactivity. Also included in this section are the flash point and auto ignition temperature. Special fire fighting procedures are also noted and should be carefully studied by potential users.

- e. health hazards which include first aid procedures, signs and symptoms of exposure, medical dangers, exposure limits, routes of entry, precautions for safe handling, potential carcinogen information, and whether professional medical response is required after a mishap.
- f. chemical reactivity which includes stability, incompatibility with other chemicals, hazardous decomposition products and hazardous polymerization. Special conditions to avoid may also be included.
- g. spill and/or leak procedures which include approved waste disposal methods.
- h. special handling information which includes appropriate hygienic practices, protective equipment requirements, and needed ventilation.
- i. special precautions which would include applicable control measures known to the manufacturer and/or importer. Should it be determined there are special advisories that pertain to our company, the advisories will be placed in this section of the MSDS.
- j. the name, address and telephone number as well as the date of preparation or revision must be included.

Of course, you are not required to memorize nor are you expected to know all the information contained therein; however, you are expected to know where to find information when it is needed and you are expected to ask any questions to clear up any uncertainties that you may have concerning chemicals in the workplace.

Particular attention should be paid to:

- a. Identification/detection of a hazardous chemical. This would include odor and color as well as container labeling.
- b. Physical hazards of the hazardous chemical. This information would include the potential for fire, explosion, and reactivity. Reactivity, in chemistry, is defined as "the reciprocal action of chemical agents upon each other; chemical change." The MSDS will indicate proper procedures for fire extinguishing, including special precautions, if needed.
- c. The health hazards of the chemical. Routes of entry are noted. A chemical may enter the body through ingestion, inhalation, absorption, or injection. Signs and symptoms are indicated such as irritation of the skin, redness of the eyes, nausea, etc.. Health hazards are defined as acute, chronic or both. Carcinogenicity is

indicated. First Aid procedures are explained as well as notes to a treating physician, if appropriate.

Methods to lessen or prevent exposure are explained. The need for protective equipment such as rubber gloves, disposable suits, respirators, goggles, etc. is explained. Hygienic work practices are re-enforced such as keeping the product away from food and washing hands after use.

The MSDS has a wealth of information which is to be made available to all employees and to anyone who wants to review them. There is nothing secret about an MSDS; its whole purpose is the dissemination of information. It provides awareness.

Should an employee not be able to read English, the information contained on MSDS and labels (and any other warning sign) will be given orally or written in that employee's language. The actual labels, MSDS, and all warning signs must be written in English.

LIST OF HAZARDOUS CHEMICAL PRODUCTS

A list will be maintained of all hazardous chemical products in our inventory with their MSDS. A list will also be prepared for each job site listing the chemical products used on the job. With the list of hazardous chemical products on the job site will be the actual MSDS. These lists will be arranged alphabetically using an identity that is referenced on the appropriate Material Safety Data Sheet.

TRAINING AND DOCUMENTATION

The Safety Director is responsible for employee training and will ensure that all new employees receive training on our Hazard Communication Plan **prior to initial work assignment**. Training will include:

- a. Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area. The primary method to detect the presence of a release is sight and smell. As mentioned above, the appearance and odor of a hazardous chemical can be found on the MSDS for that chemical.
- b. Physical and health hazards of the chemicals in the workplace. Again, this information is found on the appropriate MSDS.
- c. Measures to take to protect the employee from chemical hazards. This Hazard Communication Program, the specific MSDS, as well as oral and hands on training and instruction provide the basis for measures to protect one's self. Where required protective equipment will be provided. Never minimize the value of protective safety equipment. For example, the use of relatively inexpensive eye protection could easily save your eyesight.

Each employee will sign a form indicating that they have attended training and understand the above.

Annually, all employees will receive refresher training to ensure that awareness is maintained. Furthermore, with the introduction of each new hazard, not necessarily each new chemical, training will be given with specific emphasis on emergency procedures as noted on the MSDS. This training will include procedures for handling leaks and spills, personal protection equipment if required, decontamination procedures, etc..

NON-ROUTINE TASKS

Prior to performing a non-routine task, an employee will be given information by a competent person or supervisor concerning the hazardous chemicals to which he may be exposed. This information will include:

- a. Specific chemical hazards
- b. Protective/safety measures the employee may take.
- c. Measures taken to lessen the hazards including ventilation, respirators, presence of another employee and emergency procedures.

CHEMICALS IN UNLABELED PIPES

Should work activities be performed in areas where chemicals are transferred through unlabeled pipes, the employee shall be informed by the competent person or supervisor of:

- a. The chemical in the pipes.
- b. Potential Hazards.
- c. Safety precautions to be taken.

SHARING OF INFORMATION

On multi-employer job sites, the competent person on the job site will inform those with whom we work of any hazardous chemical products we are using and will provide them with the appropriate MSDS for their review. MSDS for all chemical products used on the job site will always be readily available.

Should we introduce a new chemical product to the job site that contains a physical or health safety hazard, the product's MSDS will accompany that product and, before use, employees will be given instruction on the products hazards. This information will be shared with other contractors with whom we may be working. Employees are to be kept informed of the chemical products being used by other contractors if they pose a safety hazard.

