

POLICY / PROCEDURE

Hazard Communication - Orientation Handout

Among the chemicals and agents used in industry and in everyday life, many are potentially harmful. Some can cause a variety of health problems. Others can be a fire or explosion hazard. Proper equipment and safe procedures can remove or reduce a hazard and keep you safe.

Everybody who is exposed to a potentially hazardous materials or physical agent has the right to know what it is and what the hazards are. This not only gives you the information you need to make decisions, but it also allows you to do your part in keeping yourself, your family and fellow workers safe.

Because many employees did not have the proper information available about the chemicals that they worked with the Occupational Safety and Health Administration developed a standard entitled "Hazard Communication." This standard was created to use as a tool to educate employees on the risks and precautions that are essential when dealing with hazardous materials in the workplace.

The Hazard communication program consists of five important steps:

- Each employer must develop, implement, and maintain a written program. The written program must be present on site and available to all employees upon request.
- Every program must include some type of labeling program that explains container-labeling procedures for all hazardous materials.
- Copies of all Material Safety Data Sheets must be available to employees at all times. Hazard communications program must also ensure that employees are properly trained to understand and use MSDS forms.
- An employee training program must train employees in the proper use of personal protective equipment and emergency procedures.
- The program must also contain a current list of the hazardous chemicals present in the facility.

1 Hazardous Chemical Categories

The kinds of hazardous materials and agents to which workers can be exposed are introduced in this section. Some basic concepts, such as toxicity versus hazard and the physical forms hazardous chemicals can take are explained.

Any chemical or material that can cause harm to people or the environment is considered a hazardous material. Hazardous materials are grouped into six different families:

1. Flammable or combustible -- Any material that will burn or ignite when exposed to an ignition source. Gasoline and alcohol are examples of flammable liquids.
2. Corrosives - Any chemical causing visible destruction of or irreversible alteration in skin at the site of contact. Examples of these are acids and alkaline.
3. Irritants - Any material that causes a rash or reversible inflammation at the site of contact. Examples are alcohol and dust particles.
4. Reactive - Any chemical that when exposed to air, water, or another chemical reacts violently.
5. Oxidizers - Those chemicals that react when exposed to air or oxygen.
6. Toxic - Those chemicals that are poisonous to human or animals at certain levels of exposure. Examples are cyanides and ethylene oxide.

Figure 2

These family groups can be broken down into two main categories:

- Physical hazards -- Any chemical or material that can cause harm or damage to property or environment.
- Health hazard -- Any chemical that can produce acute or chronic effects on the body.

Physical hazards can be classed as:

- Fire hazards such as combustible or flammable liquids or gases that catch fire easily, burn rapidly, spreading quickly, and give off intense heat.
- Oxidizers cause other material to burn by releasing oxygen.
- Reactive chemicals that can react violently when exposed to air water extreme temperature or mixed with other chemicals.
- Corrosive materials like strong acids and bases that can cause destruction on contact.

Health hazards can be classed two ways:

- Acute hazard effects that are immediate but disappear once contact has been broken or shortly after exposure.
- Chronic hazard effects that is long-time or permanent. Effects may develop slowly, usually due to repeated or continuous exposure over a long period of time.

Dose-Response Relationship

The dose-response relationship involves two things; the amount of chemical exposure and the duration of exposure. OSHA has established exposure limits for certain chemicals. Permissible Exposure limits (PEL) or the ACGIH (American Conference of Industrial Hygienists) Threshold Value Limits (TLV), are based on a Time Weighted Average (TWA), which means the amount of time the average person can be exposed without any harmful effects. The dose-response relationship involves the level of chemical exposure versus the time of exposure. In other words, a worker can be exposed to a higher level of a chemical, for a shorter period of time.

A worker can be exposed to chemicals in three ways. These are called routes of entry. The three most common routes of entry are:

- Absorption - Skin and eye contact -- hazardous chemicals can cause vision problems or blindness, burns, rashes, allergies, and other reactions. Some chemicals can even get into the bloodstream and poison you through the skin.
- Inhalation -- inhaling hazardous chemicals can cause headaches, dizziness, nausea, unconsciousness, asphyxiation and even death. There is also a risk of damage to your lungs, throat, or respiratory system.
- Ingestion -- swallowing hazardous chemicals can poison you or damage your internal organs. Workers who do not wash their hands before eating or smoking may ingest small amounts of chemicals. These small amounts of chemicals can act as poisons to the body.

Hazardous materials in your body may cause problems that may not show up for a long time; cancer, reproductive difficulties, lung disease and sensitization are just a few. The best way to protect against the dangers involved in working with chemicals is to learn how to work with them safely. Chemicals cannot do your thinking for you. Being safe is up to you.

2 Signs and Labeling

Pay attention to warning signs. They tell you that hazardous materials are present and what you should and should not do around them. Make sure you pay attention to what these signs tell you.

Read all labels carefully. You should always read the labels on the containers of materials you handle. Labels must be legible, in English and prominently displayed. If no label is present, do not use the material until you have learned the necessary safety precautions to take. Labels are designed to inform the users of important information such as:

- What is in the container
- Possible hazards
- Type of personal protective equipment needed
- First aid information
- Symptoms of overexposure
- Additional information such as manufacturer name and emergency phone numbers

Most labels at a minimum will provide information such as:

- NFPA hazard codes
- Product name
- Hazard statement
- Signal word

First aid information may be available on larger labels. An explanation of label information is listed below.

- NFPA Hazard code -- National Fire Protection Association 704M system indicates severity of hazards in 3 different categories. Red indicates flammability. Yellow indicates reactivity and Blue is for health hazards. Each square contains a number ranging from 0-4. Zero (0) represents no significant hazard. Four (4) represents a very serious hazard.
- Product Name -- chemical name
- Signal Word -- a word such as warning, caution, or danger. Indicates the degree of hazard a certain chemical may present.
- Hazard statement -- a brief statement on the dangers involved with the use or mishandling of a given material.

Labels may be obtained through the Warehouse Manager or designated employees.

Any new chemical being introduced into the area on a temporary basis must be approved through the site manager or the Warehouse Division Safety Manager and/or the YLA, Inc. Safety & Quality Department prior to use.

3 Material Safety Data Sheets

Labels do not always provide all the information that you need when dealing with a hazardous substance. Because of this, OSHA developed a short technical bulletin called the Material Safety Data Sheet or MSDS for short. Each manufacturer that makes and distributes hazardous substances is required to provide companies who purchase the substances a MSDS for each chemical.

Each MSDS consists of nine sections. There is no single mandatory form for the MSDS. However, the information included on each form is fairly consistent.

Figure 2
Page 3 of 6

- SECTION I. Material Identification
This section contains the name of the chemical, synonyms that it may be called and manufacturers, name, address, and emergency phone number. This section may also contain the Chemical Abstract Service (CAS) number and chemical formula.
- SECTION II. Ingredients and Hazard
This section lists the primary ingredients or its components and the percentage by weight or volume of each component listed. Any hazard data, such as the eight-hour TWA (time weighted average) or lethal dose (LD), can also be found in this section.
- SECTION III. Physical Data
Physical characteristics of the chemical can be found in this section. This section will give information such as appearance, odor, boiling point, evaporation rate and specific gravity.
- SECTION IV. Fire and Explosion Data
Flashpoint, flammability limits and the type of extinguishing media needed to put out fires that involve this chemical can be found in this section. Other information may pertain to special precautions for firefighters.
- SECTION V. Reactivity Data
Describes possible reactions when a chemical is combined with other chemicals, water or air and what toxic substances could be emitted when a chemical is exposed. This section also tells about the stability and hazardous decomposition of a chemical.
- SECTION VI. Health Hazard Data
This section lists the TLV (threshold limit value) or the PEL (permissible exposure limit). Also listed are the effects of overexposure and the emergency first aid procedures to follow when an exposure has occurred.
- SECTION VII. Spills leaks and Disposal Procedures
Steps that must be followed in the event of a release or spill. The information should include control and cleanup procedures, waste disposal and contact person if the release will endanger the local environment.
- SECTION VIII. Special Protective Information
This section describes the type of personal protective equipment required and the conditions under which they must be used.
- SECTION IX. Special Precautions and Comments
This section lists the precautions to be taken for safe handling and storage. This section also contains information not addressed elsewhere in the MSDS.

6.1.1. Material Safety Data Sheets are available to every employee. If you require additional information on Material Safety Data Sheets, or need copies for those chemicals that you work with, please contact site Management, the Warehouse Division Safety Manager or the YLA, Inc. Safety & Quality Department.

Figure 2

4 Employee Hazard Communication Training

New employees and contract employees must receive chemical awareness training prior to receiving work assignments. General information will be given during the orientation process. Specific job related chemicals will be discussed by the on-the-job trainer and/or the area manager/supervisor. Formal hazard communication / spill response (first responder) training will be given within one month after initial hire date and as needed thereafter (if applicable). Training shall be conducted by a certified in-house trainer or qualified outsourced training group.

At a minimum, the training will consist of (1) components of the hazard communication program and (2) discussion of the following topics (if applicable):

- Explanation of the Hazard Communication Standard
- Operations in the work area where chemicals are present
- Location of written program
- Location of hazardous chemical list
- Location of Material Safety Data Sheets
- Reading and interpretation of MSDS forms
- Reading and interpretation of chemical labels

Training will be held in an open discussion type meeting to allow question and answer sessions. Generally, training will last approximately 30-60 minutes. Films or videos on hazard categories, view graphs on labeling requirements and MSDS will be presented. Proper use of personal protective equipment will also be discussed.

Each employee will be asked to sign a roster that will contain information such as employees' name, signature and date of training. This information will be inputted into a spreadsheet or data base system for future reference.

Emergency Procedures for Spills and Leaks

Sometimes, no matter how careful you are, a chemical spill or leak can occur. If this happens, follow the emergency plan for chemical spills and leaks, and keep these general procedures in mind:

- Evacuate the area, if necessary
- Notify management, who will then notify the Warehouse Division Safety Manager and the YLA, Inc. Safety & Quality Department

The emergency phone number for all buildings is:

Each site will need to customize this

911 You may have to dial an 8 then 911 depending on your phone system (i.e.8911)

- Stay out of the area unless you have been assigned, trained, and properly dressed for a response activity.

YLA, Inc. has on site first responders trained to handle containment of spills, first aid / CPR (safety committee members), and/or fire extinguisher usage on a limited basis. Their duties include responding to emergency spills or leaks and to stop the spill or leak as well as to notify the applicable vendors to clean up the spills, basic first aid and CPR procedures, and small scale fire containment procedures.

Figure 2
Page 5 of 6

If you or another worker is exposed to a hazardous chemical and are in need of medical attention, contact the nearest person as soon as possible. The site management group must also be notified so they can make the determination to notify the appropriate medical personnel. Always keep your supervisor informed of any emergency, especially those involving potential chemical exposure. Sometimes it may be necessary to have assistance in determining if an exposure has occurred. Qualified personnel make this determination. Contact your supervisor, site executive or the Warehouse Division Safety Manager and/or the YLA, Inc. Safety & Quality Department if you have any questions.

Chemicals perform many valuable roles. It is important to learn how to handle and use them with care. Following these guidelines will help protect you and your fellow workers.

- Read the label and the material safety data sheets (MSDS) before using any chemical.
 - Follow the manufacturer's instructions and your company's procedures.
 - Use protective equipment and practice good hygiene.
 - Know what to do in an emergency.

If you are not sure about any aspect of working with chemicals, talk to your supervisor or Warehouse Division Safety Manager and/or the YLA, Inc. Safety & Quality Department today. It's better to ask questions now than to risk your health and safety.

Figure 2
Page 6 of 6