
however, hard copies must be readily available to departmental employees. MSDSs can be obtained directly from the manufacturer or distributor - many companies will fax a copy immediately.

Labels And Other Forms Of Warning

OSHA requires that manufacturers of chemicals label their products with the following information:

- identity of the hazardous chemical
- appropriate hazard warnings
- the name, address, and phone number of the manufacturer

If chemicals are transferred to other containers, these containers must be labeled with the identity of the chemical and the appropriate hazard warning information.

Employee Information and Training

Before starting work, new employees are required to attend a new employee orientation program. Information about specific hazards within the work area is provided by the supervisor. This may include MSDSs, departmental policies, departmental safety procedures or other pertinent information. This training must cover (at a minimum) the following topics:

- chemicals used in various work procedures
- personal protective equipment to be worn to prevent or reduce exposures
- work practices which could reduce or eliminate exposures (e.g., universal precautions)
- safety and emergency procedures to follow if exposure occurs (i.e., spill cleanup kits, first aid, substance neutralizers, etc.)
- the location and availability of the chemical inventory, and MSDSs

Departmental training must be documented, and should include the employee's name, job title, social security number, date of training, and type of training offered. Retraining is required whenever a job process changes which involves different or additional hazards and as necessary to enhance employee awareness.

Chemical Effects

Chemical substances come in several different forms and can have different effects on your body. Some chemicals cause "acute" problems that you feel right away such as breathing difficulties and rashes. Other chemicals cause "chronic" problems where the effects of exposure may not be evident for months or even years. An example of chronic effects are the respiratory problems caused by smoking.

Types of Chemical Substances

Some forms of chemicals with which you may come in contact are:

- Fumes, Mists and Dusts - All of these substances are carried in the air and may be inhaled; they can cause breathing problems and may also cause burning and stinging of the nose, throat, and eyes. Adequate ventilation and proper protective equipment will limit your exposure to these substances.
- Solvents - These products are used in several work locations and are used to dissolve other substances. Common examples are degreasers and paint thinners. These products commonly affect the skin, causing drying and cracking. The fumes or vapors from these products may also cause breathing problems. Wear gloves and work in well ventilated areas when using solvents.
- Acids and Caustic Substances - These products damage the skin and burn the eyes. Examples are drain cleaners and oven cleaners. Protection from acids and caustics would include protective clothing, gloves and goggles.

If you have any questions regarding the safe use of chemicals in your work environment, please contact your supervisor. For additional information, please contact the Office of Environmental Health & Safety.

Office of Environmental Health & Safety: 828OEHS
Chemical & Biological Safety Section: 8284866
Radiation Safety Section: 8289131
Fire & Occupational Safety Section: 8287899

WORKERS RIGHT-TO-KNOW



Hazard Communication for a Safer Work Place

prepared by

The Office Of Environmental Health & Safety
Virginia Commonwealth University
VCU Medical Center

About This Brochure

This document provides VCU and VCUMC employees with important information regarding the safe use of chemical substances. Under the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, all workers are guaranteed the right to know about possible hazards associated with chemical substances found in their work environment. Please review this information carefully. It could help prevent serious injury to you or a fellow worker. This brochure is provided to all VCU and VCUMC employees. Individuals who work directly with hazardous chemicals will receive additional information and training from their supervisors.

Chemicals and Our Environment

There are more than a half-million different chemicals currently used in this country every day. Many more are introduced each year. They enhance our lives and have become an integral part of our lifestyles. Chemicals are found in nearly every work environment. Some are as common place as correction fluid, but in a research university and teaching hospital such as VCU and VCUMC, many complex and highly toxic chemicals are used as well. It is necessary to become familiar with all of the chemical substances present in your work environment, the appropriate precautions required to handle them safely, and the first aid and emergency procedures unique to those substances should an accident occur.

Routes of Entry Into the Body

There are three basic ways in which a chemical can enter the body:

1. **Inhalation** The most common way for a chemical substance to enter the body is by breathing a chemical that is mixed in the surrounding air. The lungs readily absorb particles and gases. Hazardous chemicals that can become airborne should only be used in well ventilated areas or while using proper respiratory protection.
2. **Ingestion** The second way that chemicals enter the body is through the mouth. Ingestion of chemicals is usually done unknowingly and unintentionally.

Occasionally, a person ingests a chemical they mistake for a food or beverage. More likely however, chemical ingestion occurs when an individual eats, drinks, or smokes contaminated food, beverage, or cigarettes. To prevent ingestion of chemicals, wash your hands thoroughly before breaks.

3. **Absorption** The third way that chemicals enter the body is through the skin. Chemicals such as organic solvents and mercury can be absorbed directly through the skin barrier. Other chemicals can cause damage to the protective layers of the skin and then be readily absorbed. To protect yourself from accidental absorption, wear appropriate personal protective clothing such as gloves, impervious aprons, face shield, etc.

The Hazard Communication Standard

The Hazard Communication Standard is not only a federal law but it is incorporated into the compliance criteria for nearly every accrediting agency (e.g., JCAHO, CAP, AALAC, and others). The following outlines the various steps required to comply with the standard:

- Develop and maintain an accurate inventory of hazardous materials present in the work environment.
- Collect and maintain material safety data sheets (MSDSs) for each item on the inventory.
- Make sure that hazardous chemicals are properly labeled. Under the law, the manufacturer has the responsibility to properly label their products.
- Train employees to safely handle hazardous materials. This includes selection, use and maintenance of appropriate personal protective equipment.
- Develop written standard operating procedures for safely managing chemical spills and nonroutine tasks.
- Inform employees about the availability and use of the chemical inventory, MSDSs, and standard operating procedures for managing hazardous chemicals safely.

Chemical Inventory

Departments at VCU and VCUMC must compile a list of hazardous chemical substances. The list must be maintained in an area which is readily available to all departmental employees. As new substances are purchased

or old ones are discontinued, the inventory must be updated to reflect these changes. The Office of Environmental Health & Safety (OEHS) maintains chemical lists representative of several general areas of the university and hospital such as nursing stations, housekeeping, general office, etc. These lists are available upon request. If a general list is utilized, it must be reconciled to accurately reflect the specific chemical inventory of the department.

Material Safety Data Sheets

The Hazard Communication Standard requires that manufacturers of chemical products provide the consumer with Material Safety Data Sheets (MSDSs). An MSDS must provide the following information:

- physical and chemical characteristics of the substance
- known acute or chronic health effects
- exposure limits
- whether or not the chemical is known to be a carcinogen (cancer causing)
- precautionary measures to take for handling the product safely
- emergency and first aid procedures
- the name of the organization that prepared the MSDS

Departments must maintain an accurate collection of MSDSs for each substance found in the chemical inventory. MSDSs are resources which can help one better understand safe handling of a chemical substance. MSDSs must be reviewed by all employees to help them fully understand the associated health hazards. MSDSs are not a tool to be used to manage an emergency. Emergency procedures must be anticipated, planned for and reviewed before an incident occurs.

MSDSs may be obtained in a variety of ways. Departments may contact OEHS for assistance. Requests must be typed and include: chemical name, product number, and manufacturer's name and address. The MSDS may have been shipped directly with the product. In this case, it should be photocopied and the original sent to OEHS - Box 980112. MSDSs may be accessed via the Internet or other computer media;