

SECTION	V.	Chemical Safety
Chapter	2.	Hazard Communication
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HAZARD COMMUNICATION

INTRODUCTION

PURPOSE

This program applies to all non-laboratory work areas; chemical safety in laboratories is covered by the Chemical Hygiene Program. The Hazard Communication Program, as its name indicates, involves chemical safety education through communication of information. Its intent is for Duke employees to learn about and respect the chemical products they use in their job functions. Through this communication process, employees will gain better understanding of how to use chemicals safely and how to react if they become exposed to chemicals.

DEFINITIONS

Hazardous Chemical - Any element, chemical compound or mixture of elements and/or compounds which is a physical hazard or health hazard. For the purpose of this program this definition includes pharmaceutical agents which are in powder or liquid form, not intended for immediate patient use.

Health Hazard - A chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "Health Hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucus membranes.

RESPONSIBILITIES

Departments shall:

- Develop and maintain an accurate list of all chemical products used in departmental work areas.
- Maintain Material Safety Data Sheets for all hazardous chemicals listed on the inventory.
- Ensure that MSDS's are readily accessible to employees during all hours that employees work in the area.

- Prepare MSDS's for chemical products formulated or manufactured by their department.

Supervisors shall:

- Conduct additional on-the-job training for specific chemical substances used in their workplaces.
- Review the hazard information on all new chemical products brought into the workplace.
- Request additional information from OESO as necessary.

OESO shall:

- Conduct Hazard Communication Training as part of employee orientation.
- Maintain a master archive of MSDS's for distribution to users.
- Assist departments in the preparation of MSDS's.

Contractors who bring hazardous chemicals onto Duke University property shall:

- Make the company's Hazard Communication Program available for review at the work site.
- Maintain an up to date list of hazardous chemical with all corresponding MSDS's.
- Be aware of all information contained in the Contractor Safety Guidebook (Supplement H).

PROCEDURES

MATERIAL SAFETY DATA SHEETS

A Material Safety Data Sheet or MSDS is an information sheet, published by the manufacturer of the chemical product, which provides chemical data and safe handling information. Information provided includes:

- Identification of Product and Manufacturer.

- Hazardous ingredients of the product.
- Physical and chemical characteristics.
- Fire and explosion hazard data.
- Reactivity data.
- Health hazard data.
- Precautions for safe handling and use.
- Control measures.
- Disposal data.
- Emergency response data.

Supplement J contains a list of terms used in MSDS's along with their definitions.

OBTAINING AN MSDS

In some cases, MSDS's are received directly from the manufacturer. If this happens, make a copy of the MSDS for the department file and send the original to OESO.

If MSDS's are needed for chemical products, the Departmental Safety Coordinator must send a MSDS request form (Supplement K) to the OESO. Manufacturer's name and chemical identity are the minimum data necessary to obtain an MSDS; however, it is very important to list as much information as possible on the form. OESO will obtain the MSDS and forward a copy to the requesting department.

MSDS's for pharmaceuticals may be obtained from the Pharmacy Drug Information Center which can be reached by calling 684-5125.

In an emergency involving chemicals, call Duke Public Safety at 911.

MANUFACTURE OF CHEMICAL PRODUCTS AT DUKE UNIVERSITY

A MSDS must be prepared by the manufacturing department for all chemical products formulated or manufactured by Duke University. The OESO will provide assistance as necessary. Any distribution of Duke-manufactured chemical products must be accompanied by the MSDS.

CHEMICAL PRODUCT LISTS

Lists should reflect the identities of chemical products used in departmental work areas. Departments may choose to either develop lists for the whole department or for each work area individually.

LABELING

All containers of hazardous chemical products must be labeled as follows:

- The name of the product as it is listed on the MSDS.
- Appropriate hazard warnings, including both physical hazards and health hazards.

When a chemical product is transferred to another container, all label information must be placed on the new container, except when the new container is intended for the immediate use by the employee performing the transfer and the container does not leave the possession of that employee.

STANDARD OPERATING PROCEDURES

Use of the following chemicals require a Standard Operating Procedure (SOP) prepared by the using department, and prior approval from OESO:

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Arsenic (inorganic compounds)	Ethylene Oxide
2-Acetylaminofluorene	Formaldehyde or Formalin
Acrylonitrile	Lead
4-Aminodiphenyl	Methyl Chloromethyl Ether
Asbestos	Methylene Chloride
Benzidine	4,4-Methylenedianiline
Benzene	Methoxy Ethanol Acetate
1,3-Butadiene	α -Naphthylamine
bis Choromethyl ether	β -Naphthylamine
Chromium (hexavalent compounds)	N-Nitrosodimethylamine
1,2-Dibromo-3-Chloroprene	β -Propiolactone
3,3-Dichlorobenzidine	Vinyl Chloride
4-Dimethylaminoazobenzene	
Ethyleneimine	

METHODS OF INFORMING CONTRACTORS OF THE HAZARDOUS CHEMICALS IN THE WORKPLACE

If chemicals are to be used by Duke University personnel in the same area that contractor employees are assigned, the Duke Project Manager has the responsibility of informing the contractor of potential hazards in the work environment. The Project Manager must specifically discuss the following:

- How to read and understand product labels.
- How to obtain copies of MSDSs for products used by Duke personnel.
- What precautionary measures the contractor should take during both normal operating conditions and during foreseeable emergencies.

TRAINING

Hazard Communication training is conducted in three stages. The first two are mandatory, the last is recommended at a three year interval.

The initial stage is done as part of the New Employee Orientation. This consists of general information about chemical safety and is intended to prepare the employee for workplace specific hazard training.

The second stage is conducted by the supervisor in the employee's work area. This training includes:

- Identification of all chemical hazards in their workplace.
- Measures employees can take to protect themselves.
- Methods of detecting releases and assessing potential for exposure.
- Identification and use instruction of all chemical safety resources including MSDSs, SOP's, Chemical Lists, Emergency Response Information, and other department specific resources.
- Identification and use instruction for all safety equipment and personal protective equipment.

The final stage is a general update recommended for all employees every three years.

REFERENCES

Code of Federal Regulations, Title 29, Part 1910.1200 (OSHA), *Hazard Communication* (Supplement L)