

Carnegie Mellon University

Hazard Communication Program

Prepared by:

Mark R. Banister, CIH, CCHO
Environmental Health and Safety

Revision 000: 28 August 2000

Revision 001: 18 August 2003

Revision 002: 9 March 2010

Carnegie Mellon University
Hazard Communication Program

Table of Contents

1. Introduction

- 1.1. Purpose
- 1.2. Policy
- 1.3. Scope
- 1.4. Availability of program
- 1.5. Managing and updating program

2. Responsibilities

- 2.1. University Administration
- 2.2. Area Manager, Supervisor or Department Head
- 2.3. Environmental Health and Safety Department
- 2.4. Employees Using Hazardous Chemicals

3. Hazardous Materials Location and Inventory

- 3.1. Defining hazardous materials
- 3.2. Listing of sites with hazardous materials present
- 3.3. Inventory information

4. Labels and Warnings

- 4.1. Labeling systems in use
- 4.2. Label requirements and procedures

5. Material Safety Data Sheets

- 5.1. MSDS requirements and procedures
- 5.2. Accessing MSDS on the web

6. Employee Information and Training

- 6.1. Training policy and requirements
- 6.2. Training specifications

7. Contractor /Visitor Information

- 7.1. Contractor procedures
- 7.2. Visitor procedures

1. Introduction

1.1 Purpose

The Carnegie Mellon University Hazard Communication Program (HCP) is designed to provide accurate, up-to-date information and appropriate training for all employees who use hazardous chemicals on-site. This written Hazard Communication Program describes the procedures used to convey information about hazardous chemicals and meets or exceeds the requirements of 29 CFR 1910.1200, OSHA's Hazard Communication Standard.

1.2 Policy

It is the policy of Carnegie Mellon University to ensure that employees are aware of the physical and health hazards associated with chemicals in their work area, and of the procedures for their safe handling and use.

1.3 Scope

The Hazard Communication Program applies to all *non-laboratory* employees at Carnegie Mellon University. Note that *Laboratory* employee use of hazardous materials is addressed in the Carnegie Mellon Chemical Hygiene Plan.

Certain provisions of this program are not applicable to employees whose use of hazardous chemicals consists only of handling closed containers. The sections on labeling, MSDS, and training (to the extent that they may protect themselves in the event of a leak or spill) ARE applicable in this circumstance.

1.4 Availability of the Program

This written program is available to all employees of Carnegie Mellon University who work with hazardous chemicals. A written copy shall be accessible at each work site. An electronic copy is accessible from any Carnegie Mellon computer terminal at the Environmental Health and Safety (EH&S) web site: <http://ehs-alert.fms.bap.cmu.edu/pdf/HazCommProgram.pdf>

1.5 Managing and Updating the Program

The Assistant Director of EH&S is responsible for the preparation and regular updating of the HCP.

2. Responsibilities

2.1 University Administration

University administration is responsible for providing executive support for the University's HCP by ensuring that there are sufficient monetary and personnel resources to administer the HCP.

2.2 Area Manager, Supervisor or Department Head

The Area Managers, supervisors or department heads (or their designees) are responsible for:

- Determining whether there are hazardous chemicals present in their work areas (EH&S is available to assist in this determination)
- Ensuring that chemical inventories are prepared for each area of their responsibility.
- Ensuring that the inventories are updated at least yearly in the format provided by EH&S.
- Ensuring that the inventory is accessible in the applicable work area either by posting or by on-line availability.
- Ensuring that all employees within their jurisdiction who work with hazardous chemicals receive training according to the requirements of the OSHA Hazard Communication Standard
- Ensuring that a new chemical is evaluated for its potential effect as a hazardous chemical before use (EH&S is available to assist in this function)
- Ensuring that for every hazardous material present, an MSDS is available for review by employees at the work area, either in a paper copy or via computer.
- Ensuring that all chemical containers are labeled according to the requirements of the OSHA Hazard Communication standard.
- Ensuring that that information (and training where appropriate) on chemical hazards present in the work area is provided to service contractors or maintenance personnel, as well as to visitors, where appropriate

2.3 Environmental Health and Safety (EH&S)

EH&S personnel are responsible for:

- Assisting area managers, supervisors and department heads in the determination of the presence of a hazardous chemical in a given workplace
- Assisting area managers, supervisors and department heads in the evaluation of new chemicals proposed for purchase
- Providing a framework for the creation and maintenance of a University-wide chemical inventory
- Providing information for chemical users to obtain Material Safety Data Sheets, including through internet resources.
- Performing hazard communication training for employees according to the OSHA Standard Requirements

- Preparing and updating the University's written program on the Hazard Communication Standard, and any related documents and/or policies
- Coordinating any response or interaction with OSHA regarding hazard communications
- Auditing the Hazard Communication Standard compliance of individual work areas as is deemed necessary

2.4 Employees Using Hazardous Chemicals

All employees using hazardous chemicals in their work areas are responsible for:

- Receiving OSHA hazard communications training
- Following the procedures specified for the use and handling of hazardous materials, including storage, transport, labeling, protective equipment, etc.
- Knowing the location of the 1.) Written Hazard Communication Plan, 2.) Chemical inventory for their work area, 3.) Material Safety Data Sheets for the hazardous chemicals with which they work
- Understanding the health hazards of the hazardous chemicals with which they work

3. Hazardous Materials Location and Inventory

3.1 Defining Hazardous Materials

Hazardous materials shall be defined as either a health hazard or a physical hazard (or both).

"Health hazard" means a chemical for which there is 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 chemical which are carcinogenic, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, or agents which damage the lungs, skin, eyes, mucous membranes, liver, kidneys or other target organs.

"Physical hazard" means a chemical for which there is scientifically valid evidence that it is a corrosive, an oxidizer, a combustible liquid, a compressed gas, an explosive, a flammable, an organic peroxide, and unstable (reactive) or water reactive.

Carnegie Mellon University will rely on the hazard determinations made by the manufacturers of the chemicals that are used on-site. This hazard information is available from labels and MSDS. For by-products and intermediates produced on site, standard reference texts, toxicological databases, and the OSHA Hazard Communication Standard will be used to identify any hazards and to prepare appropriate labels. EH&S will coordinate these efforts along with the appropriate user.

3.2 Listing of sites with hazardous materials present

The following areas of the University have hazardous materials present (note that laboratories are not included in this listing):

Facilities Management Services
Housing Services
College of Fine Arts: (Art, Drama, Design, etc.)
Photographic development areas
Robotics
ASTM Warehouse services
Athletics
Printing, Copying and Publication Services
Student Health Services

[Note that custodial services are not performed by Carnegie Mellon employees]

3.3 Inventory Information

An inventory of hazardous chemicals present in each work area is to be prepared under the direction of the area supervisor, manager or department head. Chemical inventories should be created and updated in the university's Chemtracker system, accessible from the EH&S web site, www.cmu.edu/ehs.

The inventory of hazardous chemicals for each work area:

- Must be accessible to employees during their work shift
- Should be updated as changes are made
- Should be submitted to EH&S upon preparation and after each update

4. Labels and Warnings

4.1 Labeling systems in use

For incoming materials, Carnegie Mellon University relies on the manufacturer's label, providing it meets the requirements of the Hazard Communication Standard. This label will have the following information present:

- The identity of the hazardous chemicals contained
- Appropriate hazard warnings that provide at least general information regarding the hazards of the chemicals
- The name, address of the chemical manufacturer

Products with labels not meeting this requirement will either be returned to the manufacturer or relabeled properly. It is strongly encouraged that all employees order materials from manufacturers with compliant labels.

A secondary container is one in which the hazardous materials have been transferred from their original containers. All secondary container labels must have the following information present:

- The identity of the hazardous chemicals contained
- Appropriate hazard warnings that provide at least general information regarding the hazards of the chemicals

It is recommended that a label using the NFPA system be used. The NFPA graphic is a diamond, divided into four smaller diamonds of different colors. The blue, red and yellow portions address the hazards due to flammability, health effects, and reactivity, respectively. In each portion, a numerical rating is given, on a scale from 0 to 4, for the material in the container. The lower the number, the less the hazard in that particular classification. In the white portion, additional hazards are addressed, with a self-evident graphic, indicating, for example, water reactivity, biohazard, a respirator requirement, etc.

Note that the presence of the NFPA graphic indicates the hazard of the particular material only; the other label requirements [see 4.2 (b), below] must still be on the label as well. **EH&S will assist in the preparation of any secondary container labels needed by the university. Frequently, the information needed for the completion of the label information may be obtained from the MSDS for the material.**

4.2 Label requirements and procedures

4.2.1 Manufacturer-supplied labels shall not be removed or defaced except under the following conditions:

- The label does not meet the requirements of the standard
- The container has been emptied and will either be disposed of or used for a different material

4.2.2 The OSHA Hazard Communication Standard requires that labels for secondary containers display at least the following information:

- The identity of the hazardous material(s)
- Appropriate hazard warnings (i.e., text, pictures, symbols or any combination that provides at least general information regarding the hazards of the chemical and which, in conjunction with the other information immediately available to employees, will provide specific information regarding the physical and health hazards of the material)

- 4.2.3 Signs, placards, or other written materials may be used when labels are impractical for an *individual stationary process container* (such as a tank or pipe) as long as they supply the same information as a label.
- 4.2.4 Containers into which hazardous materials are transferred (on campus) must be labeled according to the specifications in (4.2.2) above, with the exception of containers that are intended only for the immediate use of the employee performing the transfer. For the purposes of this standard, "immediate use" means a container that will always be under the control of and used only by the person who performs the transfer and only within the work shift in which it is transferred.
- 4.2.5 The contents of any unlabeled containers may be sampled and analyzed at the "owning" department's expense to determine the identity of the material(s) in the container.
- 4.2.6 In the event in a change in the hazard information, it is the responsibility of the area supervisor, manager or department head to ensure that updated label information be present on a container label. When an updated MSDS is received, it must be reviewed to determine the need for different labeling information.

5. Material Safety Data Sheets

5.1 MSDS requirements and procedures

A Material Safety Data Sheet (MSDS) is required to be available to employees in their work area, for every hazardous chemical in the area's inventory. It is the responsibility of the area manager, supervisor or department head to ensure that this requirement is met. No chemical may be used on-site unless the MSDS has been received and is available in the work area in which the chemical is to be used. If no MSDS is present, one of the following must be performed to obtain one:

- Contact the manufacturer and request an MSDS
- Go to the EH&S web site and view or print an MSDS from the database there
- Return the product to the manufacturer

All MSDS used in the university must meet the requirements outlined in the Hazard Communication Standard, 29 CFR 1910.1200 (g)(2). Any MSDS not meeting this requirement must be removed from the work site. Note: MSDSs in the format labeled "OSHA Form 20" are *not* acceptable.

The area supervisor, manager or department head is responsible to ensure that only the current MSDS is placed in the active file or book. All outdated MSDS must be removed from circulation.

It is recommended that the MSDS be present in hard copy format in each work area, although it is permitted to meet this requirement through MSDSs available on the CMU web page. The format and mechanism of the availability of MSDSs is left to the discretion of the area manager, supervisor or department head. The most current version of the MSDS shall be retained.

MSDS shall be available in each work area where the hazardous chemical is used.

5.2 Accessing MSDS on the EH&S Website

5.2.1 Go to EH&S home web page (www.cmu.edu/ehs)

5.2.2 Select "MSDS Links"

5.2.3 Select a manufacturer link where appropriate. For general databases, select MSDS-search, CCINFOweb or Vermont SIRI MSDS. Another helpful site not currently linked from this webpage is www.MSDSolutions.com.

6. Employee Information and Training

6.1 Training Policy and Requirements

Carnegie Mellon provides training to all persons handling or using hazardous chemicals. This training will be performed at initial assignment and again when a new hazard is introduced into the workplace. The initial training will be performed by the EH&S department and will be documented by them. It is the responsibility of the area supervisor to ensure that employees attend training when it is necessary.

6.2 Training Specifications

Hazard Communication training shall address the following topics:

- Description of the OSHA Standard
- How to read MSDS and where they are located in the employee's work area
- How to read container labels
- Where the inventory is located in the employee's work area and where the hazardous materials are located or being used in the area
- Where to locate a copy of the written Hazard Communication Plan and the OSHA standard
- Specific information on the chemical the employee will work with, such as possible health or physical hazards (and how to detect them), ways to protect oneself from exposure, use of protective equipment or engineering controls, and emergency response procedures.

7. Contractor/Visitor Information

7.1 Contractor Procedures

The area manager, supervisor or department head is responsible for conveying hazard information to all contractors working in their area(s).

Specific information that must be provided to contractors includes:

- Either the MSDS or the location of the MSDS for the material(s) which they may come in contact with
- Instruction in the use of the labeling system present in the area
- Instruction in the proper handling procedures for any hazardous material(s) present in the area, where applicable
- Instruction in the use of any protective equipment or engineering controls used when handling the material(s), if applicable
- Instruction in the emergency response procedures, such as for fire, explosion, chemical leak, chemical exposure or health problem

7.2 Visitor Procedures

For the protection of visitors present in areas where hazardous chemicals are stored or used, information must be given on these chemicals appropriate to the potential for exposure. The area manager, supervisor or department head is responsible for providing this information. The potential for exposure is dependent on whether the visitor is escorted or not, and the potential for exposure. Escorted visitors with little or no potential for exposure need only receive basic warning information. Unescorted visitors should follow the requirements for contractors (section 7.1) where there is potential for exposure to hazardous chemicals.

8. References

- A. 29 CFR 1910.1200, The Hazard Communication Standard, see link below:
- B. *Chemical Hygiene Plan* (CMU written document addressing laboratory exposures)
- C. *Radiation Safety Plan* (CMU written document addressing radiation exposures)
- D. *Hazardous Waste Policy and Procedure* (CMU written document addressing hazardous waste activities)

All above items are linked from this location:

<http://www.cmu.edu/ehs/chemical/forms.html>