

CHAPTER 12 HAZARD COMMUNICATION

12.1 INTRODUCTION

This directive establishes a formal procedure to ensure that accurate information concerning the hazards of chemicals used at Princeton Plasma Physics Laboratory (PPPL) is communicated to all personnel in a clear, concise manner. It is intended that concerns regarding chemical hazards be resolved at the lowest management level and to make information readily available.

12.2 POLICY

The PPPL will ensure that the hazards of all chemicals purchased are evaluated and that this information is transmitted to employees within their work areas. This transmittal of information is to be accomplished by means of a Hazard Communication Program, which is to include container labeling, material safety data sheets (MSDS), and employee training.

12.3 SCOPE

All employees, contractors, or subcontractors working at PPPL who are potentially exposed to hazardous chemicals are covered by the Hazard Communication Program.

12.4 DEFINITIONS (SEE GLOSSARY OF TERMS ON PAGE 11)

12.5 RESPONSIBILITIES

12.5.1 LINE ORGANIZATION

The Hazard Communication Program is a line responsibility extending throughout the line organization to all Laboratory employees.

12.5.2 ENVIRONMENT, SAFETY AND HEALTH (ES&H) DIVISION

The Industrial Hygiene Branch of the Environmental, Safety, and Health Division (ESHD-IH) will be responsible for administering PPPL's Hazard Communication Program. They will maintain or coordinate the:

- A. Hazard Communication Written Program

- B. List of hazardous chemicals
- C. MSDS management records
- D. In-house labeling
- E. Employee training materials

12.6 REQUIREMENTS

The Hazard Communication Program consists of the following:

12.7 WRITTEN PROGRAM

The complete written Hazard Communication Program contains PPPL's policy and the procedures for hazard determination, container labeling, MSDS management, employee training, and special topics, as well as the list of hazardous chemicals used at the facility. The official policy is contained within this Environment, Safety, and Health Directive and may also be found, along with a copy of the OSHA Hazard Communication Standard, in the Right-To-Know Information Stations located throughout the Laboratory (see Appendix A for the locations of these stations). Contact ESHD-IH if you would like to see the complete program including procedures.

12.8 HAZARD DETERMINATION

The OSHA Hazard Communication Standard requires chemical manufacturers and importers to evaluate chemicals they manufacture or import to determine if they are hazardous. Employers using chemicals may rely on the hazard determination performed by the chemical manufacturer or importer to identify the hazards of chemicals.

12.8.1 HAZARD DETERMINATION PROCESS

The PPPL is not a manufacturer or importer of chemicals but does receive chemicals from manufacturers and suppliers. These chemicals are used in fabrication, maintenance and cleaning processes related to the PPPL program. Items that are manufactured at PPPL are defined as articles and are therefore not covered under the Hazard Communication Standard because they:

- A. are formed to a specific shape or design during manufacture
- B. have end-use function(s) dependent in whole or in part upon its shape or design during end-use
- C. do not release, or otherwise result in, exposure to a hazardous chemical, under normal conditions of use.

Chemicals at PPPL shall not be combined unless the result is known. Where no chemical reaction occurs, the product is considered a mixture and is assumed to present the same hazards as do the components from which it is comprised. The PPPL relies on the information provided by the original chemical manufacturer and does not perform independent hazard determinations. If the hazards of a reaction product are unknown, they must be evaluated in accordance with industry standards.

12.9 MATERIAL SAFETY DATA SHEETS (MSDS'S)

ESHD-IH obtains MSDS's for chemicals from the suppliers of the chemicals, reviews the hazards in the MSDS's, utilizes this information for labeling and employee training, and makes those MSDS's available to employees in their work areas. The MSDS's are located in clearly marked binders in area Right-to-Know (R-T-K) Stations (Appendix A) and in the PPPL ES&H Division office. For more information on reading and understanding MSDS's, refer to Appendix B.

12.9.1 OBTAINING SUPPLIER'S MATERIAL SAFETY DATA SHEETS

A Material Safety Data Sheet must be obtained for each hazardous chemical purchased by PPPL. The ESHD-IH maintains a copy of the MSDS for each hazardous chemical in the workplace.

12.9.2 LOCATIONS

The locations of the the Right-To-Know Information Stations may be found in Appendix A.

12.9.3 ACTIONS

In order to ensure that there is proper hazard communication information present on site for every chemical, the following actions may be necessary:

- A. If a supplier cannot or will not supply an MSDS, and information concerning the substance is minimal or unavailable, the use of the substance will be discontinued when practicable.
- B. If a supplier claims that a substance is not hazardous, he must provide a letter with a written signed statement to that effect. This statement will be kept in the R-T-K Station.
- C. If delivery of a substance has been made without an MSDS and no MSDS is on file, ESHD-IH will request an MSDS from the supplier via the telephone. An initial request letter will then be sent to the supplier. A series of three (3) request letters will be sent by ESHD-IH if any of the initial requests do not receive an appropriate response. If an MSDS is not received following the third request, ESHD-IH will notify the OSHA area office of their unsuccessful efforts to obtain the MSDS.
- D. All MSDS's received at PPPL will be directed to ESHD-IH. They will compare them with the master chemical inventory and the master MSDS file. If the MSDS is an update or for a new material, they will update the master chemical inventory and master MSDS file. The ESHD-IH will review MSDS's to assure adequacy of existing training, labeling, handling procedures, and personal protective equipment and make the MSDS's available to the appropriate employees for input into their area Right-to-Know Station.
- E. If there is more than one supplier for a substance, all MSDS's will be made available in the R-T-K Station.
- F. If a substance must be used without an MSDS, the manufacturer will be notified that this is in violation of the OSHA Standard, and the manufacturer is jeopardizing PPPL's compliance with the standard. ESHD-IH will prepare a written statement describing efforts to obtain the MSDS and list any available hazard information on this substance. This statement will be placed in the R-T-K Station(s).

- G. Supervisors are to ensure that there are no products used in their work areas for which MSDS(s) are not available. If such a situation occurs, the supervisor is to notify ESHD-IH immediately.
- H. Employees who wish to purchase a new chemical product must first submit a Chemical Requisition Review Sheet in accordance with Environmental, Safety, and Health Directive (ESHD) 5029 to ESHD-IH. If possible, an MSDS should accompany each Review Sheet. Upon approval, the request can then be submitted to Procurement. If an MSDS is not already available at PPPL, a request is made for one by Procurement.

12.9.4 PROVIDING MSDS'S

The following applies to the availability and creation of MSDS's at PPPL:

- A. The MSDS's are required for many of the materials that PPPL utilizes. The PPPL does not write MSDS's as explained in the Hazard Determination section of this manual.
- B. The PPPL does not sell products on a commercial basis and, therefore, only provides manufacturer's MSDS's to employees and contractors that are on site.
- C. Additional copies of MSDS's for any materials that ESHD-IH has in its file are available upon request.

12.10 LABELING OF HAZARDOUS CHEMICALS IN THE WORKPLACE

The purpose of labeling is to provide employees with information concerning the potential hazards of chemicals used in their work areas. Each container in the workplace must be labeled, tagged, or marked with the identity of the hazardous chemicals contained and hazard warnings appropriate for employee protection. Hazardous chemicals in process equipment will be identified along with appropriate hazard warnings on a work area placard. These labels will be adequate to allow ready reference to the appropriate MSDS. The hazard warning must be stated in easily understandable English, which adequately conveys the hazards of the chemical within the container.

12.10.1 LABELING PROCEDURES FOR INCOMING CONTAINERS

Incoming containers of hazardous chemicals from manufacturers will be inspected by the warehouse manager upon delivery for the following requirements:

- A. The container must be in good condition.
- B. The container must be properly labeled by the supplier and must include the chemical name, name and address of manufacturer, and an adequate hazard warning.

If these conditions are not met, the Warehouse Manager will notify ESHD-IH, who will then notify the supplier. The PPPL will not move the containers or contents from the receiving area until the problems have been reconciled. When receiving any new chemicals for the first time, ESHD-IH will assure that an MSDS is on file prior to approving the use of the material.

12.10.2 LABELING PROCEDURES FOR PORTABLE CONTAINERS

Portable containers shall meet the following requirements:

- A. Employees will use purchased or computer-generated labels for any portable container used to store, transfer, or transport chemicals. These are available from ESHD-IH or the PPPL stockroom.
- B. Chemical containers are not to be reused without ESHD-IH approval unless those containers are specifically designed for such a purpose (such as flammable liquids safety cans.)
- C. Any employee using an empty container will completely remove or obliterate the original label on the container unless they plan to refill it with the same product.
- D. Prior to using a container for a new material, an employee will properly clean the container in accordance with all waste disposal and ESHD-IH requirements, then re-label it using a purchased or computer-generated label. The ESHD-IH will review MSDS's and suppliers' labels and assign an adequate hazard warning for materials used at PPPL.

- E. Area Safety Coordinators (ASC's) are to ensure that all containers within their respective areas are properly labeled and report improper or lack of labels to ESHD-IH.

12.10.3 LABELING PROCEDURES FOR PROCESS EQUIPMENT

- A. Certain pieces of equipment used at PPPL contain hazardous chemicals such as hydraulic fluid and cutting oil. Each piece of equipment containing these materials will be identified on locally posted placards and on a list which shall be kept by the ES&H Division. The list shall include the identity of the equipment, the chemicals used with each machine, the potential hazards of the chemicals, recommended safety precautions, and appropriate protective equipment.
- B. Area labels will be posted where steel, aluminum, and/or other raw materials are stored or used unless the items are individually labeled. The area placard will state the material's name and any appropriate hazard warnings.
- C. Above-ground pipes that contain hazardous chemicals shall be marked in accordance with the American National Standard Institute system for identification of Piping Systems, ANSI A13.1 (most recent issue).

12.10.4 LABELING OF PRODUCTS

The PPPL does not manufacture any products for sale which would be considered hazardous chemicals under the Hazard Communication Standard, and as such has no manufacturers' labeling requirement.

12.11 NON-ROUTINE TASKS

Employees must be informed of the hazards of non-routine tasks.

12.11.1 EXAMPLES

Examples could include: changing the oil in equipment, equipment maintenance or repair, coil repair and use of methylene chloride, acid backwash to drain filtration systems, and the maintenance of boiler systems. Some chemicals used in these non-routine tasks are used in daily operations, and no special training is required. Other tasks that are truly non-routine, utilizing unusual chemicals, require special training to ensure the use of proper personal-protective equipment and the proper handling of the chemicals.

12.11.2 AWARENESS

- A. It is the Supervisor's responsibility to review non-routine tasks to determine the potential for chemical exposure. Assistance can be provided by ESHD-IH. The Supervisor must inform the employees of the hazards associated with the tasks, as well as the appropriate safety precautions and protective equipment that must be used.
- B. Employees occasionally perform minor maintenance duties such as painting. When the exposure to paint or other maintenance chemicals is similar to that of a consumer, employees do not require additional training.

12.12 CONTRACTORS

12.12.1 RESPONSIBILITY

The PPPL brings many contractors on site. Contractors must be informed of PPPL's Hazard Communication Program. Potential hazards are to be identified; and the labeling systems, locations of MSDS's, and the chemical inventory must be explained. Each contractor signs a copy of a PPPL form signifying that the program has been explained to them.

12.12.2 CONTRACTOR HAZARDOUS CHEMICAL USE

If outside contractors use chemicals, they must provide a list of the chemicals and MSDS's on all chemicals to the ES&H Division twenty-four (24) hours before they begin their operations and shall be responsible for the removal of all unused portions of those chemicals and their waste products from the site.

12.13 TRAINING REQUIREMENTS

12.13.1 GENERAL

All employees who are or potentially may be exposed to hazardous chemicals, under normal operating conditions or in foreseeable emergencies in the workplace, must be provided the required information and training. At PPPL, all employees shall receive the Basic Hazard Communication Training as part of the General Employee Training within one week of employment and every two years thereafter. Chemical-specific training entitled Phase II Hazard Communication will be given annually to all employees who work with or around chemicals on a regular basis. Supervisors shall provide training to employees before their initial work assignment and whenever any new hazards are introduced to their work area.

12.13.2 COURSE CONTENT

Outlines of the following courses may be found in Appendix C.

Basic Hazard Communication

This course must include at a minimum:

- A. the requirements of the Hazard Communication Standard and this policy
- B. the location and availability of the employer's written hazard communication program, lists of chemicals, and associated material safety data sheets
- C. an explanation of the labeling system
- D. an explanation of material safety data sheets
- E. how to obtain and use appropriate hazard information
- F. how labels are keyed to MSDS's

Phase II Hazard Communication

This course shall include at a minimum:

- A. all methods and observations that may be used by the employee to detect the presence or release of all hazardous chemicals in the work area, including any monitoring conducted by PPPL or any continuous monitoring devices that are being used in the workplace
- B. the physical and health hazards of all chemicals in their work areas
- C. the measures employees can take to protect themselves from these hazards, including engineering controls, administrative controls, and personal protective equipment

Supervisory Training

This course shall include all of the requirements of the Phase II Hazard Communication course, but shall cover only the chemical hazards new to the employees being taught.