

Hazard Communication and Employee “Right-to-Know” Guide

This guide must be readily available in all areas where potentially hazardous chemicals are used or stored. Prepared in compliance with 29 CFR 1910.1200

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Dartmouth College Hazard Communication Program

Introduction: The use of potentially hazardous chemicals is necessary in operating and maintaining an educational institution. In addition, the use of potentially hazardous chemicals is necessary in teaching and research laboratories. Recognizing that the use of potentially hazardous chemicals poses risks to people and the environment, Dartmouth College is committed to responsibility in the purchase, storage, use and disposal of all chemicals. To achieve this goal, the Dartmouth College *Hazard Communication Program* (DartHCP) provides a framework and set of guiding principles on chemical safety at Dartmouth College.

The DartHCP complies with the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (29 CFR 1910.1200).

Purpose: To reduce and control the risks associated with the use of potentially hazardous chemicals to Dartmouth employees, the community and the environment. This written program outlines the information, services and training available at Dartmouth College on the safe use, handling, storage and disposal of potentially hazardous chemicals.

Scope: This program applies to all College employees, facilities, and properties. In addition, it applies to all contract personnel working on behalf of the College.

Responsibilities:

Responsibilities of the Non-Laboratory Supervisor

- Conduct an initial evaluation of his or her areas and activities to determine the applicability of the DartHCP to areas of responsibility.
- Collect and organize required information on hazardous chemicals and ensure its availability to his or her employees working with potentially hazardous chemicals.
- Complete the web-based or classroom training module on hazard communication. Ensure that all staff who work with or may be exposed to potentially hazardous chemicals complete or receive this training.
- Supervisors and their qualified designees are specifically responsible for the following:
 - Identify chemicals that pose potential health and physical risks
 - Develop and maintain a list of hazardous chemicals used.
 - Ensure availability and access to Safety Data Sheets (SDSs)
 - Organize and participate in employee training.
 - Coordinate medical consultation as needed.
- On an on-going basis, supervisors are expected to provide oversight in controlling exposure(s) to potentially hazardous chemicals by establishing standard operation procedures (SOPs).

- SOPs must (at a minimum): (1) ensure proper labeling of chemical containers, (2) outline the requirements for the use of available engineering controls and PPE (i.e., ventilation, process enclosures) and (3) consider and control exposures that may affect nearby work areas through planning and prior notification.

Responsibilities of the Principal Investigator (PI) or Laboratory Supervisor

- The use of potentially hazardous chemicals in teaching and research is addressed in the Dartmouth College *Chemical Hygiene Plan* (DartCHP), therefore PIs and/or laboratory supervisors are exempt from some provisions of this plan (DartHCP). Laboratory supervisors *do not* have to develop or maintain an inventory or list of hazardous chemicals in their laboratory (except in situations requiring prior approval under the DartCHP).
- All other requirements for non-laboratory supervisors apply to supervisors, faculty and staff in Dartmouth teaching and research laboratories.

Responsibilities of Each Employee

- Complete hazard communication training.
- Conduct his or her work in a safe and responsible manner according to established SOPs and information available from container labels and SDSs.
- Protect yourself by the diligent use of required personal protective equipment.
- Protect others by considering any exposures that may affect nearby work areas.
- Protect the environment by following established waste disposal practices.
- Inform your supervisor and/or EHS of apparent or potential safety and health hazards.

Contractors and Project Managers

- Before beginning work, contractors working for Dartmouth College are required to provide the Project Manager with copies of SDSs for all chemicals to be used while working at Dartmouth.
- The Project Manager is responsible for reviewing the list of chemicals and SDSs to identify chemicals that may pose potential problems and then notifying EHS. The Project Manager is also responsible for planning and coordinating advance notification of areas that may be affected.
- The contractor is required to post signs, barricades and other forms of warning while chemicals are in-use. The Project Manager is responsible for ensuring that the contractor(s) take reasonable and prudent precautions when using chemicals--such as ventilation, off-hours scheduling, etc. The Project Manager is also responsible for ensuring that the contractor removes all their unused and waste chemical products.

Environmental Health and Safety (EHS)

- Oversee the development and implementation of the DartHCP at institutional and departmental levels.

- Assist departments and supervisors in the interpretation and implementation of this policy as well as provide employee training on the policy.
- Provide technical advice when requested or needed to identify, evaluate and control potential chemical hazards.
- Make recommendations on resource commitments necessary to ensure the viability of the program.
- Maintain necessary records to ensure OSHA compliance.

Dartmouth College Hazard Communication Plan (DartHCP) Components:

The DartHCP consists of three key components:

- Identification of hazardous chemicals
- Availability and maintenance of Safety Data Sheets and other forms of warning i.e. labels
- Employee training

Identification of Hazardous Chemicals:

For non-laboratory areas, an inventory of chemicals must be prepared and maintained. This is done by using existing purchasing information -- supplemented with an audit of products in use. Supervisors must inform employees of this inventory and its location.

From the chemical inventory, potentially hazardous chemicals are identified. SDSs must be obtained for each hazardous chemical. Attention must be given to the following considerations:

- ✓ Quantity of the chemical used.
- ✓ Physical properties of the chemical.
- ✓ Potency and toxicity of the chemical (both acute and chronic).
- ✓ How the chemical is used.
- ✓ Available controls (engineering, PPE, etc.).

Hazard Information at the Work Site:

Labels

- Labels on chemical containers provide an immediate source of information on the hazards associated with the chemical. Under the Hazard Communication Standard, chemical manufacturers, distributors and importers are required to use labels that include pictograms¹, a signal word, hazard and precautionary statements, the product identifier, and supplier identification.

¹ See page 9 for pictogram chart

SAMPLE LABEL

PRODUCT IDENTIFIER

CODE

Product Name

SUPPLIER IDENTIFICATION

Company Name

Street Address

City

State

Postal Code

Country

Emergency Phone Number

PRECAUTIONARY STATEMENTS

Keep container tightly closed. Store in cool, well ventilated place that is locked.

Keep away from heat/sparks/open flame. No smoking.

Only use non-sparking tools.

Use explosion-proof electrical equipment.

Take precautionary measure against static discharge.

Ground and bond container and receiving equipment.

Do not breathe vapors.

Wear Protective gloves.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Dispose of in accordance with local, regional, national, international regulations as specified.

In Case of Fire: use dry chemical (BC) or Carbon dioxide (CO₂) fire extinguisher to extinguish.

First Aid

If exposed call Poison Center.

If on skin (on hair): Take off immediately any contaminated clothing. Rinse skin with water.

HAZARD PICTOGRAMS



SIGNAL WORD

Danger

HAZARD STATEMENT

**Highly flammable liquid and vapor.
May cause liver and kidney damage.**

SUPPLEMENTAL INFORMATION

Directions for use

Fill weight:

Lot Number

Gross weight:

Fill Date:

Expiration Date:

- For stock solutions or other in-house mixtures, the person using the chemical is responsible for proper labeling of all secondary containers. The in-house label must include:
 - ✓ Commonly Accepted Name or Chemical Formula
 - ✓ Special Warnings
 - ✓ Individual Responsible
 - ✓ Date Made

- Containers that are "in immediate use" (and are not going to be left unattended or unused for more than twenty-four hours) are exempt from these labeling requirements.

Safety Data Sheets (SDSs)

Like labels, the Hazard Communication Standard requires that a SDS be developed for all potentially hazardous chemicals. Unlike a label, SDSs contain more detailed information. It is a 16 section document that provides information to workers on safe handling of the particular chemical. Sections 1-8 contain general information about the chemical, identification, hazards, composition, safe handling practices and emergency control measures (e.g., firefighting). Sections 9-11 and 16 provide other technical and scientific information, such as physical and chemical properties, stability, reactivity, toxicological information, exposure control. Sections 12-15 contain ecological, transportation and other regulatory information as well as disposal considerations. SDSs must be available to employees who work with (or may be exposed to) potentially hazardous chemicals.

At Dartmouth, SDSs sheets are readily available in one of two ways. First, the college maintains a computer accessible system available through the EHS web site: https://dartmouth.bioraft.com/raft/research_tools/MSDS. This system is primarily intended for chemicals found in our teaching and research areas.

In departments that do not have access to the on-line MSDS system or where proprietary products are used (i.e., custodial and maintenance), all MSDSs are to be kept in a labeled binder at the work-site or in a centrally accessible location.

Employee Training and Information:

All employees working with potentially hazardous chemicals must receive training and information on the provisions of the DartHCP relevant to their work. The training provided must be specific to the work to be done--yet sufficiently broad enough to enable the individual to apply their knowledge in other similar situations.

Environmental Health and Safety has developed a web based training module that provides an overview of this policy and the essential concepts in hazard communication. Additionally, EHS provides a variety of regulatory training that encompasses hazard communication as part of the curriculum. EHS is available to provide specialized or unique training as needs are identified.










In addition to the training provided by EHS, the supervisor or qualified designee must provide instruction and information specific to the employee's responsibilities and assigned tasks before they begin working with potentially hazardous chemicals. The information provided to the employee must be specific--based on established SOPs--and appropriate for the needs of the individual(s). As new chemicals are introduced into the workplace, or potential hazards change, the supervisor is responsible for ensuring that existing information and training be updated to reflect these changes.

Program Evaluation:

This program will undergo an audit and periodic update.

July, 2013

HCS Pictograms and Hazards

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| <p style="text-align: center;">Health Hazard</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity | <p style="text-align: center;">Flame</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactives ▪ Organic Peroxides | <p style="text-align: center;">Exclamation Mark</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory) |
| <p style="text-align: center;">Gas Cylinder</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Gases Under Pressure | <p style="text-align: center;">Corrosion</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals | <p style="text-align: center;">Exploding Bomb</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Explosives ▪ Self-Reactives ▪ Organic Peroxides |
| <p style="text-align: center;">Flame Over Circle</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Oxidizers | <p style="text-align: center;">Environment (Non-Mandatory)</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Aquatic Toxicity | <p style="text-align: center;">Skull and Crossbones</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> ▪ Acute Toxicity (fatal or toxic) |