

Yale University

Environmental Health and Safety

HAZARD COMMUNICATION PROGRAM

YALE UNIVERSITY
Environmental Health & Safety
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Hazard Communication Program

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Section I - Introduction

Under the Occupational Safety and Health Administration's Hazard Communication Standard (HCS), 29CFR1910.1200, employers must establish and maintain a program to evaluate and communicate the hazards of chemicals in the workplace. This standard requires that employers establish information and training detailing hazardous properties of chemicals in the workplace, safe handling procedures, and measures to be taken to protect workers from these chemicals. The standard also addresses the labeling of chemical containers and the management of information sheets. OSHA revised this Hazard Communication Standard to align with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and published it in the Federal Register in March 2012. This change was made to increase the quality and consistency of chemical safety information by adopting a standardized approach to hazard classification, labels, and safety information..

This written Hazard Communication Program outlines how Yale University is complying with all of the elements of the Hazard Communication Standard (HCS).

Research laboratories where relatively small amounts of chemicals are used in a non-production basis are exempt from the requirements of this program, but are required to comply with the elements of Yale University's Chemical Hygiene Plan.

Section 2: Scope

2.1 Employees Covered

This Program covers workers employed by Yale University who may be exposed to hazardous chemicals under normal operating conditions or reasonably anticipated emergencies. Workers who encounter hazardous chemicals only in non-routine, isolated instances, are not covered by this Program.

2.2 Research Laboratory Exemption

This Program does not apply to research laboratories where small quantities of chemicals are used on a non-production basis. Instead, such laboratories must follow the OSHA Laboratory Standard (29CFR1910.1450), and are covered by the Yale University Chemical Hygiene Plan. Each research laboratory has been provided with a copy of this Plan, and it is also available in Yale Environmental Health and Safety, and on the web at <http://ehs.yale.edu/>.

2.3 Substances Covered

All substances located at Yale University which pose a physical or health hazard are included, except those specifically exempted by this Standard. Exempted substances include hazardous wastes, consumer products, and articles as defined by OSHA.

Section 3: Responsibilities

3.1 General

Responsibilities for compliance with this program are as follows:

Yale Environmental Health and Safety (EHS)

- Developing and periodically updating the written Program;
- Developing and implementing training programs that comply with the requirements of the standard and also accommodate the needs of individual departments; and
- Provide updated information and training as necessary.

Individual Departments

- Ensuring that all employees receive Hazard Communication training prior to working with hazardous chemicals at their work site;
- Ensuring that all applicable containers are labeled appropriately;
- Keeping updated lists of chemicals in their work area; and
- Maintaining a current file of Safety Data Sheets for hazardous chemicals and products used in the workplace.

Employees

- Attending required safety training;
- Reading chemical labels and Safety Data Sheets when necessary, and following their instructions and warnings; and
- Asking for assistance if there are any questions or concerns that have not been answered by training, container labels, or SDSs.

3.2 Identification of Potentially Exposed Employees

Department managers, lead administrators, and area supervisors are responsible for identifying employees who may be exposed to hazardous chemicals either under normal working conditions or in reasonably anticipated emergencies. Identification of these employees may be based on various criteria including job descriptions, recommendations of supervisors, or information from job hazard forms. For the purposes of this program, potentially exposed employees often include:

- a) Facilities staff including custodial, utilities, grounds maintenance, and physical plant trade workers and activities.
- b) Stockroom, shipping, and receiving personnel who handle hazardous chemicals.
- c) Emergency response personnel including security, police, fire, and other safety personnel.
- d) Personnel who regularly work in proximity to hazardous chemicals during regular work functions.

e) Other departments where chemical handling may occur, such as dining hall, publishing and printing, art and library conservation, and drama department.

f) Clinical and other non-research laboratories

Employees who encounter hazardous chemicals in non-routine, isolated instances, such as office workers, mail clerks, or faculty, are not covered by this Program.

Section 4: Document Locations

4.1 Hazard Communication Plan

A hard copy of this Program is located at the Yale University Environmental Health and Safety office, 135 College Street, and is accessible between the hours of 8:30 a.m. and 5:00 p.m., Monday through Friday. It is also available on the web at <http://ehs.yale.edu/>.

4.2 Safety Data Sheets (SDS)

Each department covered by this standard must maintain SDSs for hazardous products they have or use. These SDSs may be reviewed and copied by any employee of Yale University, or their designated representative, free of charge, regardless of whether they have been exposed to that material. Yale EHS subscribes to Chemwatch, a chemical information management system. All Yale personnel can access SDSs easily through this system. Chemwatch is available on the EHS website at <http://ehs.yale.edu/>.

Section 5: Safety Data Sheets

5.1 General Information - Update to the MSDS Requirement

Safety Data Sheets (SDSs), formerly called Material Safety Data Sheet (MSDSs) provide basic safety information about a specific chemical substance or product. In March 2012, OSHA revised the requirements for providing safety information on chemicals. As part of this revision, the format and required content of these informational sheets were standardized. The new MSDSs are called Safety Data Sheets (SDSs) under this standard. Manufacturers were required to provide these standardized SDSs by June 2015.

5.2 Material Safety Data Sheets (MSDS) published before June 2015

There were no requirements for the format for MSDSs under the OSHA HSC prior to the 2012 revisions, and therefore the format of an MSDS may vary. However, all MSDSs were required to include the certain specific safety information:

- Manufacturer/Distributor address and phone number
- Identity used on label
- Hazardous ingredients (>1% concentration for most chemicals, >0.1% concentration for

- carcinogens)
- Physical and health hazards
- Identify whether it is a carcinogen
- Physical and chemical characteristics
- Routes of entry
- Exposure limits, if any
- Safe handling/ control measures
- Emergency and First Aid procedures
- Date the MSDS was prepared or revised

5.3 Safety Data Sheets (SDS) – published after June 2015

The revised Hazard Communication Standard requires that the information on the SDS be presented using specific headings in a specified sequence. The phrases used in SDSs are all standardized to ensure clarity and consistency between manufacturers. As of June 2015, all newly purchased chemicals must be accompanied by an updated SDS. These SDSs must contain the following 16 sections, in this order:

- Section 1. Identification
- Section 2. Hazard(s) identification
- Section 3. Composition/information on ingredients
- Section 4. First-Aid measures
- Section 5. Fire-fighting measures
- Section 6. Accidental release measures
- Section 7. Handling and storage
- Section 8. Exposure controls/personal protection
- Section 9. Physical and chemical properties
- Section 10. Stability and reactivity
- Section 11. Toxicological information
- Section 12. Ecological information
- Section 13. Disposal considerations
- Section 14. Transport information
- Section 15. Regulatory information
- Section 16. Other information, including date of preparation or last revision

For the purposes of this written program, MSDSs will now be referred to as SDSs.

5.4 Purchasing and Receiving Procedures

Vendors provide Safety Data Sheets with hazardous chemicals and products supplied to Yale University, including samples. New copies must be sent to the specific ordering department at Yale University whenever revisions are made to the Safety Data Sheet. Individual departments are responsible for securing an SDS if it is not sent by the manufacturer.

5.5 Accessibility

- SDSs are accessible to employees during their work shift in their department upon request to department supervisors and/or EHS. They are also readily available on the web. SDSs can be easily accessed using the Chemwatch Chemical Management system, which is located on the EHS website at <http://ehs.yale.edu/>.
- Yale University will make copies of SDSs available to all employees and to anyone who may request it, not only those who are covered by this program.
- SDSs are available to outside contractors upon request.

5.4 Replacement of Safety Data Sheets

Manufacturers and importers are required to replace out of date or incorrect data sheets. It is the responsibility of each department to periodically review and update its files. Responsibility for the accuracy of an SDS rests solely with the originator of the Safety Data Sheet. By June 2015, manufacturers and distributors are required to provide all customers of their chemicals with an SDS that meets the requirement of this standard.

5.5 Creation of a Safety Data Sheet

In the event that Yale University needs to create an SDS, Yale EHS should be consulted for assistance. This would only be required if a University worker or student is producing a new chemical and sending it to someone else to work with or use.

Section 6: Training

6.1 Introduction

All potentially exposed employees must be given information and training on the handling and safe use of hazardous chemicals in their work area. This training is given prior to their working with the hazardous chemicals, and whenever a new chemical hazard is introduced into their work area. Appendix A provides an outline of a typical hazard communication training class. All hazard communication training provided to Yale University staff since September 2012 has included the required information on the new label elements, including pictograms, and the safety data sheet format.

6.2 Training Materials

Yale Environmental Health and Safety has training programs available in a variety of formats to fit the audience receiving the training. Hazard Communication training is given in classroom settings, is available on-line, and is given in conjunction with many annual departmental safety training programs.

6.3 Training Circumstances

Exposed employees must be trained under the following circumstances:

- a) All workers, covered by this standard, who are exposed to hazardous materials at work. This includes:
 - New employees
 - Transferred employees
 - Whenever new hazards are introduced into the work area
- b) Workers will receive at least their normal rate of pay to attend hazard communication training, which is provided at no expense to the employee.
- c) Hazard communication/chemical safety training, including the elements required by the update of this standard, is repeated department-wide on a periodic basis.

6.4 Hazard Communication Training Providers

- a) Environmental Health and Safety Professional Staff
- b) Departmental Managers/ Supervisors/ Designated Trainers may provide this training to covered employees only after they have been trained to do so by Yale Environmental Health and Safety or a qualified member of their Department.

6.5 Attendance Records

A record of attendance that includes the name, Net ID, and department of each employee attending training on hazard communication will be taken and kept on file at Yale Environmental Health and Safety. A complete computerized training record is also kept for each safety course taken by each employee.

Section 7: Container Labeling

7.1 General Requirements – Labels prior to June 2015

All containers of hazardous chemicals must be properly labeled in accordance to the requirements of this standard. The label and information must be in English. For containers purchased before June 2015, labeling requirements must include the following, at a minimum:

- a) Identity of hazardous chemical.
- b) Appropriate hazard warning, including both physical and health hazards.
- c) Name and address of chemical manufacturer, importer, or other responsible party.

7.2 General Requirements – Labels on Chemicals purchased after June 2015

OSHA adopted a new hazardous chemical labeling requirement as a part of its recent

revision of the Hazard Communication Standard. These changes were enacted to help ensure improved quality and consistency in the classification and labeling of all chemicals, and to enhance worker comprehension. The revised standard requires that information about chemical hazards be conveyed on labels using quick visual notations to alert the user, providing immediate recognition of the hazards. Labels must also provide instructions on how to handle the chemical so that chemical users are informed about how to protect themselves.

Under the revised standard, all chemical containers purchased after June 2015 must be labeled with the following information:

- a) product identifier
- b) signal word (Danger or Caution)
- c) standardized hazard statement(s)
- d) standardized precautionary statement(s)
- e) pictogram(s)
- f) name, address and telephone number of the chemical manufacturer, importer, or other responsible party.

Inspection of Incoming Containers

Shipping and receiving personnel and others involved in unpacking chemicals are trained by their managers or supervisors to inspect each incoming container to insure that when it is received, each container is labeled in accordance with University's HCS regulations. EHS should be notified of any containers that do not conform to the above requirement.

7.3 Secondary Containers

A secondary container is one that is used to transfer hazardous chemicals from a primary container for more convenient use. Secondary containers of hazardous materials must be labeled according to requirements listed above. However, secondary containers into which hazardous chemicals are transferred from labeled containers and which are intended for only the immediate use of the employee who performs the transfer are exempt from the labeling requirements. Once the container is left unattended, it must be properly labeled with the identity and complete hazard warning.

7.4 Placarding

The employer may use signs, place cards, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual stationary process containers as long as the alternative method identified the container to which it is applicable and conveys the required information.

Section 8: Non-Routine Tasks

When an employee is to perform a non-routine task presenting hazards for which he or she

has not already been trained, the employee's supervisor will be responsible for discussing with the employee the hazards of the task and any special measures, including personal protective equipment or environmental controls, that should be used to protect the employee. Yale Environmental Health and Safety will assist with the training for non-routine tasks, as necessary.

Section 9: Contractors Working In Yale University Facilities

9.1 General Information

Yale Environmental Health and Safety, working with the Yale Project Manager or Building Superintendant, is responsible for advising outside contractors of any chemical hazards that are known to be present in our facilities and that may be encountered by contractors working at Yale University. This is accomplished through this document, a renovation clearance program, and in some cases, through individual meetings between the contractor and Yale Environmental Health and Safety, the Yale Building Superintendant, and/or the Yale Project Manager.

Individual contractors are responsible for providing their own employees with information and training concerning the health hazards, safe handling procedures, and appropriate protective measures to be used with the hazardous substances they bring on campus. It is also the responsibility of each contractor bringing chemicals on site to provide the University with the appropriate hazard information on these substances. They are required to inform the Project Manager, Yale Building Superintendant, and/or Environmental Health and Safety if they will be using hazardous chemicals in a manner which could result in a potential exposure to Yale University employees working in adjacent areas.

9.2 Renovation Clearances

The Yale Project Manager initiates a renovation clearance by completing their portion of a renovation clearance form and submitting it to EHS. Yale EHS will then survey the areas identified for renovation and remove potentially hazardous chemicals or materials that are associated with activities that took place within that space. After completing the survey and removal of potentially hazardous materials, EHS will clear the area for work, and the completed and signed form is returned to the Yale Project Manager. No renovation work should begin until the appropriate written clearances have been received. Contractors are informed to stop work and contact EHS if they find any potentially hazardous materials (such as mercury in vacuum or plumbing utilities) during the course of their work.

9.3 Contractor Conduct Within Research Facilities

Contractors working in buildings housing laboratory research facilities may be working in close proximity to active research laboratories. Whenever possible, the contractor's employees should stay in the hallways and stairwells while moving to

and from their work site to avoid potential exposures to hazards associated with working research laboratories. If it is necessary to enter a laboratory, the contractor's employees should step inside the door and before proceeding further, contact a laboratory worker who can identify any potential hazard that the employee should be aware of and direct them accordingly. The contractor's employees should refrain from touching anything in the laboratory during their stay. Contractors must wear all required PPE when entering a laboratory, including safety glasses.

9.4 Contractors Obligations

Contractors that are planning to use hazardous chemicals (sealants, oil based paints, etc.) within Yale University facilities must inform the Yale Project Manager, Yale Building Superintendent, and/or EHS, and specifically identify the materials to be applied and the safeguards/exposure controls to be used to protect Yale employees working in adjacent areas. Contractors must also remove all chemical hazardous wastes generated during their operations and all "residual" waste chemical substances brought on site.

9.5 Chemical Emergency

Contractors must evacuate the building immediately whenever the building fire alarm sounds. Evacuees should move up wind from the building staying clear of driveways, access routes, and sidewalks. No one may re-enter the building until directed to do so by the on scene commander. The contractor should always identify the shortest route from the work location out of the building and make their employees familiar with this route prior to beginning work in that area.

If the contractor discovers a fire or any other emergency condition such as a hazardous gas leak, hazardous material spill, smoke, or the odor of burning, the contractor should evacuate and notify the appropriate group(s) listed below to obtain help immediately:

Fire/Security/Ambulance

911 (any phone)

Chemical Spills

203-785-3555 (Yale Environmental Health and Safety)

Contractors should be prepared to contain and clean up spills of the materials they bring on site. Yale Environmental Health and Safety should be notified of larger spills or uncontrolled releases of substances brought on site by contractors.

9.6 Safety Data Sheet Availability

Yale University maintains Safety Data Sheets for all hazardous materials handled by Yale University employees during their work shift. These Safety Data Sheets will be made available to the contractor's employees or their designated representatives

upon request.

Appendix A: Training Program Outline – Chemical Safety for Non-Laboratory Workers,
“HAZCOM 2012”

1. Hazard Communication Standard
 - A. Scope and Application
 - B. Components
 - C. Availability and Accessibility of Information
 - D. HAZCOM 2012 Requirements
 - New Label Elements
 - SDS Format
 - Pictograms
2. Chemical Hazards
 - A. Physical and Health Hazards
 - B. Acute vs. Chronic
 - C. Routes of Exposure
 - D. Signs and Symptoms of Overexposure
3. Chemical Incidents
 - A. Methods to Detect the Presence or Release of Hazardous Chemicals
 - B. Emergency Equipment and Procedures
 - C. Spill Cleanup Information
 - D. Notification Procedures
4. Protective measures
 - A. Personal Protective Equipment
 - B. Ventilation
 - C. Safety Equipment
5. Chemical Waste
 - A. Hazardous Waste Disposal
 - B. Disposal Policies and Procedures
6. Question and Answer Period