



### Safety and Risk Management

1. Purpose: The Hazard Communication Standard states that all workers have a “right-to-know” what hazards they may come in contact with on the job. The program requires compiling a hazardous chemicals list, attaining appropriate Safety Data Sheets (SDS’s), ensuring that containers are labeled, and providing training to employees. This document establishes the objectives and administrative requirements for the Virginia Commonwealth University Hazard Communication Program. The program is intended to ensure compliance with the Occupational Safety and Health Administration Hazard Communication Standard 29 CFR 1910.1200.
2. Scope / Applicability: This program applies to all employees who work with, are exposed to, or supervise operations involving hazardous chemicals at Virginia Commonwealth University including the following departments: Athletics, Facilities Management, Recreational Sports, Arts, Student and Employee Health Services, and Division of Animal Resources. Laboratories are exempt from the Hazard Communication Program except for the following:
  - a) Ensuring labels on incoming containers of hazardous chemicals are not removed or defaced;
  - b) Maintaining all Safety Data Sheets (SDS) for hazardous materials used in the laboratories and ensuring they are readily accessible to employees; and
  - c) Providing employees information and training on the associated hazardous chemicals in their workplace.Laboratories are subject to the additional requirements under the Occupational Exposure to Hazardous Chemicals in Laboratories Standard, 29 CFR 1910.1450, which includes a written Chemical Hygiene Plan.

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#### 4. Definitions:

- **Chemical:** Any substance or mixture of substances obtained by a chemical process or used for producing a chemical effect.
- **Chemical Name:** The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Services (CAS) rules of nomenclature, or a name that clearly identifies the chemical for the purpose of conducting a hazard assessment.
- **Classification:** Means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of hazardous chemical in this section. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.
- **Container:** Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the link that contains a hazardous chemical.
- **Employee:** A worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers who encounter hazardous chemicals only in non-routine, isolated instances are not included.
- **Hazard class:** The nature of the physical or health hazards, e.g. flammable solid, carcinogen, oral acute toxicity.
- **Hazard statement:** A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
- **Hazardous chemical:** Any chemical which is a physical or health hazard, a simply asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.
- **Health hazard:** A chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.
- **Label:** An appropriate group of written, printed, or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.
- **Physical hazard:** A chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizers (liquid, solid, or gas); self-reactive; pyrophoric (liquid or solid);



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self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

- Pictogram: A composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazards of a chemical.
- Precautionary statement: A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper storage or handling.
- Product identifier: The name or number used for a hazardous chemical on a label or in the Safety Data Sheet.
- Safety Data Sheet (SDS): Written or printed material concerning a hazardous chemical which is prepared in accordance with 29 CFR 1910.1200(g).
- Signal word: A word used to indicate the relative of severity hazard and alert the reader to a potential hazard on the label. The signal word used in this section are "danger" and "warning". "Danger" is used for the more severe hazards, while "warning" is used for the less severe.
- Simple asphyxiant: A substance or mixture that displaces oxygen in the ambient atmosphere, and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.
- Work area: A room or defined space in workplace where hazardous chemicals are produced or used, and where employees are present.

#### 5. Responsibilities:

##### a. Safety and Risk Management (SRM) is responsible for:

- Developing the Hazard Communication Program and revising the program as necessary;
- Providing general information and training related to hazard communication for affected University employees;
- Identifying appropriate personal protective equipment (PPE);
- Assisting supervisors in identifying hazardous substances and operations present in the work area;
- Recommending appropriate engineering controls, administrative controls and personal protective equipment;
- Assisting departments in developing customized training regarding chemical hazards or practices specific to their work areas; and
- Assisting departments with informing outside contractors of chemical hazards that may be encountered while working at VCU.

##### b. Affected supervisors are responsible for implementing the Hazard Communication Program at the local level of operation and ensuring the



safe use of hazardous substances for all areas under their supervision. Supervisors are also responsible for:

- Notifying all employees of the purpose and intent of the Hazard Communication Program prior to working with hazardous chemicals at their work site;
- Identifying hazardous chemicals in their work area that may pose a potential health or physical risk to their employees;
- Ensuring all affected employees complete general Hazard Communication training and providing department specific training relating to hazard communication and safe work practices and procedures prior to working with hazardous chemicals;
- Maintaining a hazardous chemical inventory and updating the list on an annual basis;
- Ensuring Safety Data Sheets (SDS) for all hazardous materials in their work area are readily available for employees;
- Ensuring that all hazardous materials are properly labeled and that these labels are not removed or defaced;
- Providing personal protective equipment;
- Adequately informing contractors and other outside personnel sharing the same work area of the hazardous substances to which their employees may be exposed; and
- Requesting assistance from SRM as needed to implement this program.

c. Affected employees are responsible for:

- Complying with the Hazard Communication Program procedures;
- Participating in general and department specific training sessions;
- Reviewing chemical safety information on the label and/or SDS prior to using a chemical, following instructions and warnings;
- Asking for assistance if there are questions with interpreting the information and instructions presented in training classes or on the product SDS/label;
- Reporting unlabeled chemicals and materials to their supervisor;
- Knowing the location of SDS sheets and using the information provided on the SDS;
- Reporting any chemical exposures, injuries or ventilation issues to their supervisor; and
- Using engineering controls and personal protective equipment.

d. Contractors are responsible for:



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- Providing information and training relevant to OSHA Communication Standard to their employees;
  - Notifying the VCU Project Manager if they will be using a hazardous chemical which could result in exposure to university staff, students and visitors, during preconstruction meetings; and
  - Ensuring SDS for their hazardous chemicals are accessible to VCU Project Manager and present at project location.
- e. VCU's Project Manager is responsible for:
- Providing SRM with required SDS' from the contractor when the project involves the use of hazardous chemicals;
  - Ensuring that the contractor submits a contingency plan for any incidental hazardous chemical; and
  - Ensuring work involving the use of hazardous chemicals is conducted in a manner that minimizes any potential exposure to VCU employees, students, or visitors including attempting to replace hazardous materials with suitable environmentally friendly substitutes when possible.
6. Non-routine operations: Employees may periodically be required to perform hazardous non-routine tasks. A non-routine task is one that the employee does not normally perform and the employee has not been trained. This may include when an employee is to work with a chemical under conditions that arise infrequently. The employee's supervisor is responsible for ensuring that their employees are informed of the hazards and required control measures, including safe work practices, and proper personal protective equipment. Supervisors are responsible for contacting SRM if additional assistance is needed completing this requirement.
7. Chemical Inventory: Departments are required to compile and maintain a chemical list of the hazardous chemicals and products in their work areas. The inventory must contain the following information:
- a. Chemical name, CAS #, and state (liquid, solid, gas) as specified on the container label or SDS;
  - b. Location (room number or work space and building) where the chemical is stored;
  - c. Average quantity of the chemical generally kept in that location;
  - d. Name of person responsible for chemical; and
  - e. Name of chemical manufacturer.
- Departments are responsible for annually updating the workplace chemical inventory upon the introduction of a new chemical and at least by December 31.



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8. Safety Data Sheets: A SDS containing the information required by the Federal Hazard Communication Standard will be kept for each substance listed on the hazardous chemical inventory. SDS detail the precautions and controls necessary for handling chemicals and to provide health and safety information about the specific hazards of that chemical. SDS are accessible by one of the following methods:
  - Contacting the chemical manufacturer/distributor
  - Accessing [MSDS online](#)
  - Accessing BioRaft
  - a. Updates: If new and significant health information comes to light about any hazardous material on the inventory, a revised safety data sheet should be issued and employees who handle or might be exposed to the material will be notified of any updates required to protect their health and safety.
  - b. SDS will be retained by the department as an exposure record for 30 years. If the chemical is no longer used, the SDS may be archived.
  - c. SDS shall be readily accessible to all employees who handle or might be exposed to hazardous chemicals.
  
9. Labeling System: All containers will be labeled to identify contents to ensure that appropriate information concerning the hazards of a chemical are accessible to employees. Chemical manufacturers, importers, and distributors shall ensure that each container of hazardous chemicals is appropriately labeled with the following information:
  - Product identifier used on the safety data sheet;
  - Signal word;
  - Hazard statement(s);
  - Pictogram(s) (See Appendix A);
  - Precautionary statements; and
  - Name, address, and telephone number of the chemical manufacturer, importer, or other responsible partySupervisors are responsible for ensuring that containers of hazardous chemicals are appropriately labeled. If the chemical label becomes damaged, illegible, or is removed from a container, it shall be replaced immediately. Replacement labels must include the same information that was provided on the manufacturer's label. Labels are not to be removed or defaced unless the label is being replaced with an updated warning label.
  - a. Secondary container labeling: Chemicals that are transferred from their original container into a secondary container shall be labeled with the product identifier, signal word, and pictograms used in the SDS. See below for example of approved secondary label:



Product ID: _____			
Signal Word: <input type="checkbox"/> DANGER <input type="checkbox"/> WARNING <input type="checkbox"/> N/A			
Precautionary and Other Information: _____	PPE Code: _____		

- b. Portable containers for immediate use: Portable containers into which hazardous chemicals are transferred from labeled containers, and which are intended only for the immediate use (end of work shift) of the employee who performed the transfer are not required to be labeled.
10. Training and Recordkeeping: All employees working with or potentially exposed to hazardous chemicals will be appropriately informed and trained concerning the potential hazards of those chemicals. Both general and department specific training must be completed before an employee's initial assignment working with hazardous chemicals.
- a. General training will include an introduction to the following:
- Requirements of the Hazard Communication Standard
  - Location and availability of the written Hazard Communication Program
  - Details of the Hazard Communication Program including requirements of the labeling system, safety data sheets, and how employees can obtain and use the information
  - Methods and observations that may be used to detect the presence or release of a hazardous chemical into the work area (e.g. environmental monitoring, visual appearance or odor of hazardous chemicals, etc.)
  - A review of Safety Data Sheets and how to read the sheet (e.g. what each section contains and where to look for specific information)
  - General measures employees can take to protect themselves from chemical hazards, including work practice controls, emergency procedures and personal protective equipment
  - Labeling system requirements
- b. Department-specific training shall be conducted before initial assignment involving hazardous materials and whenever a new hazard (e.g. new class of chemical hazards, a change in assignment or a new process which may be hazardous) is introduced into an employee's work area. Department specific training may be designed to cover specific chemicals or categories of hazards (e.g. flammability, corrosivity). Department supervisors are



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responsible for providing department specific training to covered employees. Departmental training records shall be kept by the department and be provided to SRM upon request. Department-specific training shall include the following:

- Operations in their work area where hazardous chemicals are present
  - Specific chemical hazard classes found in the work area and the hazards associated with these classes
  - Specific location and availability of the department's Safety Data Sheets
  - Specific labeling system that ensures all containers of hazardous chemicals are labeled with the product identifier and words, pictures, symbols, or combination thereof and the location of appropriate chemical labels;
  - Explanation of departmental specific secondary labelling system and requirements of the system;
  - Engineering controls and personal protective equipment available and appropriate emergency procedures for chemicals found within the work area as outlined by the safety data sheet.
- c. Recordkeeping – All training records will be maintained by the department for a duration of 30 years from date of inception.

#### 11. References:

- OSHA Regulations 29 CFR 1910.1200
- VCU Chemical Hygiene Plan
- Environmental Health and Safety and Risk Management policy: located in VCU [Policy Library](#)





#### Appendix A: Global Harmonized System Pictograms

Health Hazard

- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

Flame

- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

Exclamation Mark

- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity (harmful)
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

Gas Cylinder

- Gases Under Pressure

Corrosion

- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

Exploding Bomb

- Explosives
- Self-Reactives
- Organic Peroxides

Flame Over Circle

- Oxidizers

Environment (Non-Mandatory)

- Aquatic Toxicity

Skull and Crossbones

- Acute Toxicity (fatal or toxic)