HAZARD COMMUNICATION PROGRAM

Prepared by the Environmental Health and Safety Office

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Purpose

To provide guidance and direction for the dissemination of necessary and required information such that employees will be aware of the hazardous chemicals in the workplace and methods available to prevent or reduce exposure to the potential hazards they present.

Background

The North Carolina Department of Labor adopted the federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard commonly referred to at the Globally Harmonized System of Classification and Labeling of Chemicals ("GHS").

Scope

The requirements of this document apply to all Davidson College employees who could be exposed to or contact with hazardous chemicals. This program includes the following components:

- Safety Data Sheets
- Labeling
- Employee Training
- Written Plan
- Chemical Inventory

Laboratories are exempt from this program, rather these facilities must comply with the Davidson College Chemical Hygiene Plan.

Responsibilities

The success of the Hazard Communication Program depends upon the cooperation of every affected employee.

The Environmental Health and Safety Manager leads the program and is the technical resource for all operations related to hazardous chemicals. The EHS Manger is also the administrator of the CHIMERA chemical inventory program.

Managers and supervisors have the responsibility of maintaining their chemical inventories, either manually or via CHIMERA.

Definitions

CHIMERA: The computerized chemical inventory system used at Davidson College. The chemical inventory in CHIMERA is maintained by affixing bar code labels on primary containers. CHIMERA also furnishes SDS and hazard information for all chemicals.

Affected Employee – Any employer who may be exposed to hazardous chemicals under normal working conditions or in foreseeable emergencies.

Hazardous Chemical: Any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

Hazard Classification – To classify chemicals based on physical or chemical hazards.

Safety Data Sheet – Written or printed material concerning a hazardous chemical which contains information regarding a chemical's manufacturer, constituents, physical properties, reactivity, spill guidelines, personal protection, special precautions, etc.

Hazard Classification

Chemical manufacturers and importers are required to evaluate chemicals produced in the workplaces or imported and to classify the chemicals based on potential health and physical hazards in accordance with specific guidelines outlined in the OSHA Hazard Communication Standard. The hazard classifications assigned to chemical substances are provided by product labels and Safety Data Sheets (SDSs). Employees should follow the chemical hazard classification given by the product manufacturer. Please contact the EHS Manager for assistance in determining the hazard classification of a chemical mixture.

Hazardous Chemical Inventory List

The Chemistry, Biology, Physics, Animal Care, Environmental Science departments shall generate and maintain a current chemical inventory by using the CHIMERA system. The inventory must be reviewed annually, usually in May. CHIMERA can be accessed by the following link:

https://auth.chimeracloud.org/login?redirect_uri=https%3A%2F%2Fchimeracloud.org%2Fchimera%2Fportal.php&response_type=code&client_id=66mrqsjh0lslt7504lphum8bpd&state=SQIy4sWUczcDhoX9OcYbGLnmg2eCCKBm&scope=email%20openid

Note that other departments with small quantities of chemicals are still required to keep an accurate chemical inventory. These inventories are managed manually rather than utilizing CHIMERA. Any employee who has questions about the chemical inventory list should contact their immediate supervisor or the EHS Manager.

Safety Data Sheets (SDS)

Each department manager or supervisor shall ensure that SDSs are readily accessible to employees. An employee or contract worker cannot be denied access to SDSs. Employees should not be allowed to use any chemical for which a SDS is unavailable.

The CHIMERA SDS file is accessible to all employees. The CHIMERA files are quite comprehensive and should be the first source to access an SDS. The CHIMERA SDS inventory is accessible to any Davidson employee and does not require user authorization or training. The CHIMERA SDS can be accessed via the following link:

http://chimeracloud.org/sds

If an SDS is not available via CHIMERA, please search using the Internet or contact the manufacturer directly. Some manufacturers maintain that an SDS is not required and will not furnish them. In these cases, the chemical manufacturers must provide information clarifying why a SDS does not have to be supplied (e.g., proprietary or unknown constituents). This documentation shall be retained and a decision regarding whether to use this specific chemical will be made after consultation with the EHS Manager.

Labels and Other Forms of Warning

All hazardous chemicals are required to be properly labelled unless they are exempt from the OSHA standard. OSHA either exempts or does not require labeling for certain chemicals covered by other regulations. These chemicals are regulated by the Toxic Substances Control Act (TSCA), the Food, Drug and Cosmetics Act (FDA), spirits, and consumer products. If hazardous chemicals are not exempted or covered under other regulations, labels are required.

Departments that utilize CHIMERA shall affix a numerical chemical resistant barcode label on each primary chemical container. Each label will have a unique sequential number.

Vials and other small containers can be difficult to label because of their size. In these instances, place these items in test tube rack, boxes or other containers and label the larger containment or holding apparatus.

Standard Operating Procedures (SOPs)

Each department manager or designee shall evaluate the use of chemicals to determine the potential hazards associated with the work tasks. This hazard evaluation must include the chemical or combination of chemicals that will be used. If any job function has the potential to cause serious injury a set of Standard Operating Procedures (SOPs) must be generated and utilized.

All SOPs shall contain, at a minimum, the following information:

- A concise, step-by-step set of instructions on how to perform the task.
- Statements addressing the potential hazards.
- Required controls to eliminate or mitigate the dangers posed by the hazards such as engineering and administrative controls and/or personal protective equipment.

Employees must receive instruction on all applicable SOPs prior to the assignment of a particular task. All SOPs will be reviewed annually by supervisor and revised as needed.

Contractors

All contractors should adhere to this program while under the supervision of Davidson employees.

Training

Employees working with hazardous chemicals shall receive documented hazardous communication training. Refresher training is required whenever a new hazard is introduced into the work area. Additionally, CHIMERA training will be provided to employees in departments where this system is utilized. CHIMERA training is required before a user is granted access to this system.

The hazard communication training shall consist of the following elements:

- Explanation of the Hazardous Communication Standard 1910.1200
- Accessibility to the written Hazard Communication Program, Safety Data Sheets, and other information regarding potential hazards

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the workplace
- Identification of other non-chemical hazards in the work area
- The measures that employees can take to protect themselves from these hazards, such as SOPs, emergency procedures, engineering/administrative controls and personal protective equipment.

CHIMERA training shall include instruction regarding the entry of chemicals into the inventory system, affixation of bar code labels, generation of reports, inventory review, and use of bar code scanner. Once this training has been successfully completed, the CHIMERA administrator (EHS Manager) shall grant user authorization based on job responsibility. All requests regarding CHIMERA training should be directed to the EHS Manager.

Recordkeeping

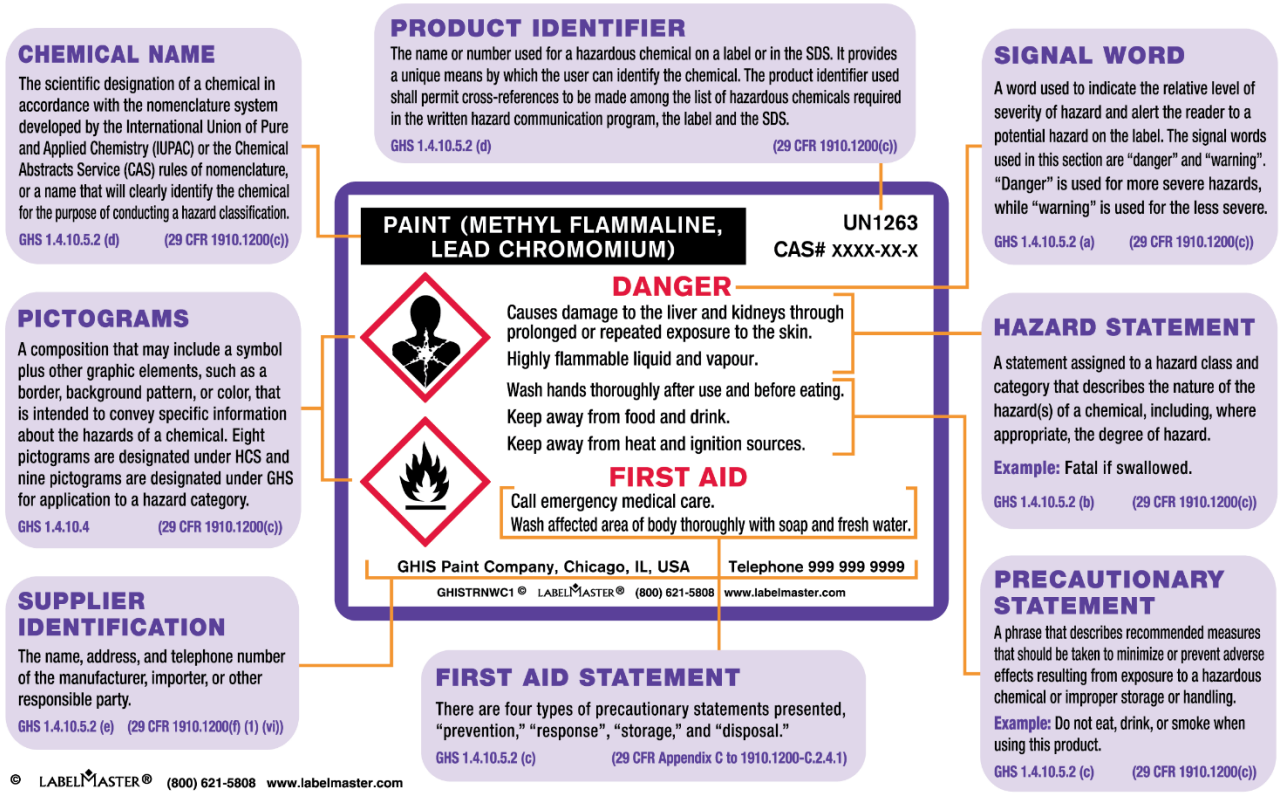
Relevant SDSs shall be retained for a period of thirty years. Employee training documentation shall be retained indefinitely.

Chemical and Hazard Identification

The OSHA Hazard Communication Standard requires all employers to provide information to their employees about hazardous chemicals they may potentially be exposed to. This information is disseminated using labels, signs, Safety Data Sheets (SDS) and training. SDSs should be maintained and easily accessible to laboratory employees. The CHIMERA chemical inventory system provides SDSs for all chemicals in each laboratory. Additionally, there is a CHIMERA SDS search engine that can be used for any chemical, irrespective of whether these chemicals are in a particular laboratory.

Global Harmonization Standards (GHS)

Recently OSHA modified the Hazard Communication Standard to better align with the international community. This modification, called the Global Harmonization Standards (GHS) significantly changed the labeling requirements. The GHS system of labeling requires the chemical name to be listed along with signal words to quickly identify the main hazard, hazard statements, precautionary statements, and pictograms. The manufacturer's GHS label and instructions listed below reflect these changes:



Container Labeling

The label on each chemical container must include:

Product Identifier: Chemical name and ingredient disclosure.
Signal Words: "Danger" or "Warning" are used to emphasize hazards and indicate the relative level of severity of the hazard, assigned to a GHS hazard class or category.
Hazard Statements: Standard phrases assigned to a hazard class and category that describe the nature of the hazard.
Precautionary Statement: Supplements the hazard information by briefly providing measures to be taken to minimize or prevent adverse effects from physical, health or environmental hazards. First aid is included in the precautionary statement.
Supplier Information: The name, address and telephone number of the manufacturer or supplier of the product should be provided on the label.
Pictograms: Convey health, physical and environmental hazard information assigned to a GHS hazard class and category, as depicted below:

▪

GHS Pictograms and Hazard Classes		
		
▪ *Oxidizers*	▪ *Flammables* ▪ *Self Reactives* ▪ *Pyrophorics* ▪ *Self-Heating* ▪ *Emits Flammable Gas* ▪ *Organic Peroxides*	▪ *Explosives* ▪ *Self Reactives* ▪ *Organic Peroxides*
		
▪ *Acute toxicity (severe)*	▪ *Corrosives*	▪ *Gases Under Pressure*
		
▪ *Carcinogen* ▪ *Respiratory Sensitizer* ▪ *Reproductive Toxicity* ▪ *Target Organ Toxicity* ▪ *Mutagenicity* ▪ *Aspiration Toxicity*	▪ *Environmental Toxicity*	▪ *Irritant* ▪ *Dermal Sensitizer* ▪ *Acute toxicity (harmful)* ▪ *Narcotic Effects* ▪ *Respiratory Tract* ▪ *Irritation*

Secondary Labeling Requirements

When a chemical is transferred to another container or incorporated into a solution, the new container should be labeled such that employees will be provided with the information pertaining to the physical and chemical hazards associated with that chemical. This label should include product identifier and words, pictures, symbols, or any combination thereof, which describe the chemical hazards.

Signs

All hazardous materials, hazardous waste, and chemical storage areas shall be appropriately labeled, indicating the hazards present and any other relevant regulatory requirements.

All work areas shall be posted with signage addressing the hazards of the materials contained in the workplace, requirements for personal protective equipment, and any special hazards located in the work area. Special hazards could include a sign indicating the presence of biohazardous or radioactive materials, if appropriate.