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## HAZARD COMMUNICATION

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## I. 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.

## II. Background

The North Carolina Department of Labor has also adopted the revised federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard commonly referred to as the “Globally Harmonized System of Classification and Labeling of Chemicals (“GHS”), with an effective date of June 11, 2012. In this 2012 rule, OSHA modified its Hazard Communication Standard to conform to the United Nations’ GHS, Revision 3. The final effective date for compliance with the entire revised standard is June 1, 2016.

## III. Scope

The requirements of this document apply to all UNC-Charlotte employees who, in the normal course of their work or during a foreseeable emergency, could possibly be exposed to or come in contact with a hazardous chemical. The program includes the following components:

Safety Data Sheets (SDS)

Labeling

Employee Training

Written Plan

Chemical Inventory List

Laboratory areas are exempt from this UNC Charlotte program if they are in full compliance with [UNC Charlotte Chemical Hygiene Plan](#).

## IV. Responsibilities

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

- The Environmental Health and Safety Office (EHS) is the technical resource for all operations related to hazardous chemicals/materials.
- The Materials Management (Purchasing) department is responsible for requesting an SDS from the manufacturer for purchased hazardous chemicals.

- The Receiving Managers are responsible for ensuring all received containers are properly labeled and ensuring SDS's are received and distributed to supervisors.
- The Departmental Managers are responsible for managing, ensuring compliance, providing corrective action for deficiencies, maintaining an effective hazard communication-training program, and implementation of these requirements within their organizations.
- Supervisors (or equivalent) have the direct field responsibility for enforcement; specific chemical hazard communication training, ensuring up-to-date SDS's are readily available, and ensuring chemicals are properly stored and labeled.

## V. Definitions

Employee: A worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies.

Hazardous chemical: Any chemical which is a physical or health hazard. This definition also applies to asbestos, a hazardous fibrous silicate mineral.

Hazard classification: To identify the relevant data regarding the hazards of the chemical and determining the degree of health and physical hazard of the substance.

Health hazard: A chemical which is classified as posing one of the following hazardous effects; acute toxicity; skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific organ toxicity; or aspiration hazard.

Label: Any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.

Safety Data Sheet (SDS): Written or printed material concerning a hazardous chemical which contains the manufacturer's information, the hazardous ingredients, first aid measures, fire-fighting measures, accidental release measures, handling and storage requirements, exposure controls, physical and chemical properties, stability and reactivity, and toxicological, ecological, disposal, transportation, and regulatory information.

Substance: Chemical elements and their compounds in the natural state or obtained by any production process.

Physical hazard: A chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water reactive.

Work area: A room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

## VI. Hazard Classification

Chemical manufacturers and importers are required to evaluate chemicals produced in their workplaces or imported by them 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 the chemical substances are communicated through information on product labels and the SDS. Employees should follow the chemical hazard classification outlined by the product manufacturer. Please contact EHS to assist in determining the classification of any chemical mixture.

## VII. Hazardous Chemical Inventory list

Each Non-Laboratory Department Manager or designee shall generate and maintain a current Chemical Inventory List (CIL) for all chemicals in their department.

**Note:** Department Managers may choose to subdivide this CIL requirement to particular work areas/groups. This practice is preferred in that it would localize the hazard communication information close to the employees who need it.

This list shall be maintained, reviewed periodically and cross-referenced to Safety Data Sheets (SDS) by the applicable department manager/designee.

Initial department CIL's and all periodic updates/reviews shall be forwarded to the EHS Office annually.

The EHS Office will compile the departmental CIL to maintain a master list for the University.

Any employee who has questions about the CIL should contact their immediate supervisor.

## VIII. Safety Data Sheets (SDS)

Each UNC Charlotte Department Manager or designee shall ensure that SDSs are readily accessible to employees.

**Note:** At no time and under no circumstances will an employee or contractor be denied access to an SDS file. Employees should not be allowed to use any chemical for which an SDS is not available.

- The SDS file may be electronic or kept in a paper file that is always accessible to the employee(s).
- An SDS that meets the requirements of OSHA Hazard Communication Standard 29 CFR 1910.1200 (g) shall be maintained for each item listed on the department's CIL(s).
- SDS files must be reviewed and updated in conjunction with review of the applicable CIL.
- Any personnel receiving materials or SDS shall forward SDS to the EHS Office for inclusion in the SDS master file. The master file can be accessed by going to the [University's MSDS Index](#).

## IX. Labels and other forms of warning

All hazardous chemicals are required to be properly labeled unless they are exempt by the OSHA standard. OSHA either exempts or does not require labeling for certain hazardous chemicals that are covered under other regulations. These chemicals include Toxic Substances Control Act (TSCA) chemicals, Pesticides regulated under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Food, Drug and Cosmetics Act (FDA) chemicals, spirits, and consumer products. OSHA also exempts portable containers that are intended for the immediate use by the employee performing the transfer.

If hazardous chemicals are not exempt or covered under other regulations, labels are required.

**Primary Containers** ( original chemical containers) must be labeled with the following:

Name, Address and Telephone Number

Product Identifier

Signal Word

Hazard Statement(s)


Precautionary Statement(s)

Pictogram(s)

**SAMPLE LABEL**

CODE _____ Product Name _____	}	<b>Product Identifier</b>	
Company Name _____ Street Address _____ City _____ State _____ Postal Code _____ Country _____ Emergency Phone Number _____	}	<b>Supplier Identification</b>	
Keep container tightly closed. Store in a 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 measures 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.	}	<b>Precautionary Statements</b>	
In Case of Fire: use dry chemical (BC) or Carbon Dioxide (CO <sub>2</sub> ) fire extinguisher to extinguish. <b>First Aid</b> If exposed call Poison Center. If on skin (or hair): Take off immediately any contaminated clothing. Rinse skin with water.	}	<b>Hazard Statements</b>	

**Hazard Pictograms**



**Signal Word**  
**Danger**

**Supplemental Information**

Directions for Use  
\_\_\_\_\_  
\_\_\_\_\_

Fill weight: \_\_\_\_\_ Lot Number: \_\_\_\_\_  
Gross weight: \_\_\_\_\_ Fill Date: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_

**Secondary containers** should contain either all the required information on the Primary Label, or alternatively the product identifier and words, pictures, symbols or a combination that provides specific information regarding the hazards of the chemicals. Please contact the EHS Office for guidance.

Dram vials and other small containers can be difficult to label because of their size. In this instance, it is recommended to place these items in labeled racks, boxes, or other containers.

The Departmental Manager or designee shall ensure workplace labels or other forms of warning are legible, in English, and prominently displayed on the container.

## X. Standard operating Procedures (SOPs)

Each Department Manager or designee shall evaluate the use of chemicals to determine the potential hazards associated with the work. This hazard evaluation must include the chemical or combination of chemicals that will be used in the work, as well as other materials that will be used near the work.

SOPs are to be developed for all non-routine tasks performed by the department or work group in question that involves potentially hazardous chemicals, materials, and/or situations.

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

- A concise systematic set of instructions on how to perform the task in question.
- Statements of the potential hazards involved.
- Required engineering/administrative controls and/or personal protective equipment to prevent or reduce potential exposures or injuries to a minimum.

The EHS Office must approve all SOPs prior to implementation.

Employees are to receive instructions on applicable SOPs prior to their assignment to that particular task.

Each Department Manager or designee shall review their SOP files if any, for completeness and accuracy on at least an annual basis.

No task involving hazardous chemicals having the potential to cause serious injury, property damage and/or a non-routine task shall be assigned to any employee prior to the generation and approval of an SOP for that task.

## XI. Contractors

All contractors should refer to the UNC Charlotte Contractor Safety Program for Hazard Communication requirements.

## XII. Training

Employees working with hazardous chemicals shall receive documented initial hazard communication training. Refresher training is required whenever a new physical or health hazard is introduced into the work area, not a new chemical.

The training shall consist of the following:

- Explanation of the Hazard Communication Standard 1910.1200.
- Discussions of operations where hazardous chemicals are present.
- The location and availability of the written Hazard Communication program, including the required list of hazardous chemicals, explanation of labels received on shipped containers, SDSs, and how employees can use the hazard information.
- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area.
- The physical and health hazards not otherwise classified of the chemical in the work area. The measures employees can take to protect themselves from these hazards,

including specific procedures implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.

EHS has developed training programs including online presentations, templates and classroom training. The EHS office should be contacted for information on these training programs.

In addition to initial general Hazard Communication training it is the responsibility of the supervisor to provide documented training for specific chemicals used or stored in the work location and whenever a new chemical hazard is introduced.

### XIII. Recordkeeping

- A. MSDS/SDS shall be retained for a period of thirty (30) years
- B. Employee training records shall be documented and retained.



# APPENDIX I

In the Globally Harmonized System, the Safety Data Sheet (SDS) replaces the Material Safety Data Sheet (MSDS). The SDS provides detailed information for chemical management. The SDS is to be used to obtain information regarding hazards and safety precautions for a particular chemical. The SDS will contain 16 headings, as shown in the chart below. These headings will be the same on every SDS.

Minimum information for an SDS

1.	<b>Identification of the substance or mixture and of the supplier</b>	<ul style="list-style-type: none"> <li>▪ GHS product identifier.</li> <li>▪ Other means of identification.</li> <li>▪ Recommended use of the chemical and restrictions on use.</li> <li>▪ Supplier's details (including name, address, phone number, etc.).</li> <li>▪ Emergency phone number.</li> </ul>
2.	<b>Hazards identification</b>	<ul style="list-style-type: none"> <li>▪ GHS classification of the substance/mixture and any national or regional information.</li> <li>▪ GHS label elements, including precautionary statements. (Hazard symbols may be provided as a graphical reproduction of the symbols in black and white or the name of the symbol, e.g., flame, skull and crossbones.)</li> <li>▪ Other hazards which do not result in classification (e.g., dust explosion hazard) or are not covered by the GHS.</li> </ul>
3.	<b>Composition/information on ingredients</b>	<p><b>Substance</b></p> <ul style="list-style-type: none"> <li>▪ Chemical identity.</li> <li>▪ Common name, synonyms, etc.</li> <li>▪ CAS number, EC number, etc.</li> <li>▪ Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.</li> </ul> <p><b>Mixture</b></p> <ul style="list-style-type: none"> <li>▪ The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cutoff levels.</li> </ul> <p><i>NOTE: For information on ingredients, the competent authority rules for CBI take priority over the rules for product identification.</i></p>
4.	<b>First aid measures</b>	<ul style="list-style-type: none"> <li>▪ Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion.</li> <li>▪ Most important symptoms/effects, acute and delayed.</li> <li>▪ Indication of immediate medical attention and special treatment needed, if necessary.</li> </ul>
5.	<b>Firefighting measures</b>	<ul style="list-style-type: none"> <li>▪ Suitable (and unsuitable) extinguishing media.</li> <li>▪ Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).</li> <li>▪ Special protective equipment and precautions for firefighters.</li> </ul>
6.	<b>Accidental release measures</b>	<ul style="list-style-type: none"> <li>▪ Personal precautions, protective equipment and emergency procedures.</li> <li>▪ Environmental precautions.</li> <li>▪ Methods and materials for containment and cleaning up.</li> </ul>

7.	<b>Handling and storage</b>	<ul style="list-style-type: none"> <li>▪ Precautions for safe handling.</li> <li>▪ Conditions for safe storage, including any incompatibilities.</li> </ul>
8.	<b>Exposure controls/personal protection.</b>	<ul style="list-style-type: none"> <li>▪ Control parameters, e.g., occupational exposure limit values or biological limit values.</li> <li>▪ Appropriate engineering controls.</li> <li>▪ Individual protection measures, such as personal protective equipment.</li> </ul>
9.	<b>Physical and chemical properties</b>	<ul style="list-style-type: none"> <li>▪ Appearance (physical state, color, etc.).</li> <li>▪ Odor.</li> <li>▪ Odor threshold.</li> <li>▪ pH.</li> <li>▪ melting point/freezing point.</li> <li>▪ initial boiling point and boiling range.</li> <li>▪ flash point.</li> <li>▪ evaporation rate.</li> <li>▪ flammability (solid, gas).</li> <li>▪ upper/lower flammability or explosive limits.</li> <li>▪ vapor pressure.</li> <li>▪ vapor density.</li> <li>▪ relative density.</li> <li>▪ solubility(ies).</li> <li>▪ partition coefficient: n-octanol/water.</li> <li>▪ autoignition temperature.</li> <li>▪ decomposition temperature.</li> </ul>
10.	<b>Stability and reactivity</b>	<ul style="list-style-type: none"> <li>▪ Chemical stability.</li> <li>▪ Possibility of hazardous reactions.</li> <li>▪ Conditions to avoid (e.g., static discharge, shock or vibration).</li> <li>▪ Incompatible materials.</li> <li>▪ Hazardous decomposition products.</li> </ul>
11.	<b>Toxicological information</b>	<p>Concise but complete and comprehensible description of the various toxicological (health) effects and the available data used to identify those effects, including:</p> <ul style="list-style-type: none"> <li>▪ information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);</li> <li>▪ Symptoms related to the physical, chemical and toxicological characteristics;</li> <li>▪ Delayed and immediate effects and also chronic effects from short- and long-term exposure;</li> <li>▪ Numerical measures of toxicity (such as acute toxicity estimates).</li> </ul>
12.	<b>Ecological information</b>	<ul style="list-style-type: none"> <li>▪ Ecotoxicity (aquatic and terrestrial, where available).</li> <li>▪ Persistence and degradability.</li> <li>▪ Bioaccumulative potential.</li> <li>▪ Mobility in soil.</li> <li>▪ Other adverse effects.</li> </ul>
13.	<b>Disposal considerations</b>	<ul style="list-style-type: none"> <li>▪ Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.</li> </ul>

14.	<b>Transport information</b>	<ul style="list-style-type: none"> <li>▪ UN Number.</li> <li>▪ UN Proper shipping name.</li> <li>▪ Transport Hazard class(es).</li> <li>▪ Packing group, if applicable.</li> <li>▪ Marine pollutant (Yes/No).</li> <li>▪ Special precautions which a user needs to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises.</li> </ul>
15.	<b>Regulatory information</b>	<ul style="list-style-type: none"> <li>▪ Safety, health and environmental regulations specific for the product in question.</li> </ul>
16.	<b>Other information including information on preparation and revision of the SDS</b>	

## **APPENDIX II**

## Regulatory Cross-Reference with Applicable Paragraphs of 29 CFR 1910.1200

29 CFR 1910.1200 Applicable Paragraph	Paragraph Description	Refr Plan Section
1910.1200(a)(b)	Information concerning the classified hazards is transmitted to employers and employees. Consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Container labeling and other forms of warning, safety data sheets and employee training regarding hazards of chemicals and protective measures.	Plan, II, XII
1910.1200(b)(3)	This section applies to laboratories only as follows: labels on incoming containers of hazardous chemicals are not removed or defaced, SDS availability, training, shipping.	IX, XII
1910.1200(b)(4)	Labels on incoming containers of hazardous chemicals are not removed or defaced. Maintain copies of any safety data sheets and make available to employees. Training to the extent necessary to protect employee in the event of a spill or leak of a hazardous chemical from a sealed container.	IX, XII
1910.1200(c)	Definitions	V
1910.1200(e)	Employers shall develop, implement, and maintain at each workplace, a written hazard communication program which at least describes how the criteria specified in paragraphs (f), (g), and (h) of this section for labels and other forms of warning, safety data sheets, and employee information and training will be met, and which also includes the following: A list of the hazardous chemicals known to be present using a product identifier that is referenced on the appropriate safety data sheet. The employer shall make the written hazard communication program available, upon request, to employees.	Plan, VI, VII, VIII, IX, XII
1910.1200(f)	Labels and signs	IX
1910.1200(g)	SDS	VIII, Appendix I
1910.1200(h)	Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and safety data sheets.	XII