



HAZARD COMMUNICATION PROGRAM (HCP)

1910.1200 OSHA Hazard Communication

Revision 1.0

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Introduction

In March 2012, the Occupational Safety and Health Administration (OSHA) revised its Hazard Communication Standard to align it with the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The revision to the Hazard Communication Standard (HCS) built on the existing standard, by requiring chemical manufacturers, importers, or distributors to follow specific criteria when evaluating the hazardous chemicals and when communicating the hazards through labels and safety data sheets (SDS). The previous HCS standard required chemical manufacturers, importers, or distributors to communicate hazards through Material Safety Data Sheets (MSDS). WCU is classified as a non-manufacturing employer where employees use a variety of hazardous chemicals during their employment. Therefore, the HCS applies to any WCU facility or department that uses hazardous chemicals.

The purpose of the Hazard Communications Program (HCP) is to ensure employees are aware of the hazardous chemicals in the workplace and are provided information regarding the potential hazards associated with exposure to these chemicals.

Scope and Application

This program applies to all employees who work with chemicals in a non-laboratory area or may come in contact with a hazardous chemical as part of their work and are subject to the requirements outlined in the program. To comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) and ensure that all chemicals used, produced, imported or exported are evaluated and that information concerning their hazards is transmitted to the employees, must include the following elements:

- A written hazard communication program
- Precautionary labels on containers
- An inventory of known chemicals to be present in the workplace
- Posted area warning signs
- Availability of Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS)
- Initial chemical safety training and when new chemicals are introduced into the workplace
- To advise outside contractors of any hazardous chemicals to which its employees may be exposed

Individuals who work with chemicals in laboratories are required to comply with the OSHA Occupational Exposure to Hazardous Chemicals in Laboratories (29 CFR 1910.1450), more commonly known as the Laboratory Standard.

The Hazard Communication Program applies to laboratories only as follows:

- Ensure that labels on incoming containers of hazardous chemicals are not removed or defaced.
- Maintain all existing Material Safety Data Sheets (MSDS) and Safety Data Sheets (SDS) for incoming containers of hazardous chemicals ensure they readily available to employees.
- Employers shall ensure that employees are provided information and training on the associated hazards of chemicals in their workplace.

Laboratories must comply with all hazard communication elements for non-lab chemicals being used i.e. housekeeping, maintenance activities etc. Refer to the Western Carolina University Chemical Hygiene Plan for more information.

Responsibilities

Safety and Risk Management

Safety and Risk Management has the primary responsibility for the implementation and enforcement of the HCP and is responsible for the following:

- Developing, implementing, and evaluating the Hazard Communication Program (HCP) to ensure compliance.
- Providing general information and training related to hazard communication for affected university supervisors and managers.
- Assisting supervisors and managers with employee training.
- Assisting supervisors and managers in identifying hazardous substances present in the work area and evaluating potential hazards.
- Recommending appropriate engineering controls, administrative controls and personal protective equipment (PPE).

Supervisors and Managers

Supervisors and Managers in support and administrative areas are responsible for providing the necessary direction and support to ensure the effective implementation of the HCP for their work areas. Supervisors and Managers are responsible for the following:

- Notifying all employees of the purpose and intent of the HCP.
- Identifying hazardous chemicals in their work area that may pose a potential health or physical risk to employees.
- Ensure that affected employees are trained in general hazard communication.
- Establish and implement department specific hazard training program for affected employees.
- Ensure that all containers of hazardous substances are appropriately labeled.
- Obtain MSDS or SDS for all hazardous substances used in the work area.
- Ensure MSDS or SDS for all hazardous substances in their work area are readily available for employees.
- Ensure that employees follow established safety procedures.
- Adequately inform non-university personnel sharing the same work area of the hazardous substances to which their employees may be exposed while performing their work.

Employees

Affected Employees are responsible for the following:

- Complying with the HCP procedures.
- Attending and completing required general and department specific hazard training.
- Knowing the hazards and precautionary procedures for the hazardous substance used in their work area.

- Knowing the location and use the information provided by the MSDS or SDS.
- Planning and conducting operations in accordance with established procedures and good safety practices.
- Using personal protective equipment and clothing in accordance with prescribed training.

Definitions

A complete list of definitions is located in the OSHA standard 29 CFR 1910.1200 (c).

Container: Any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank or the like that contains a hazardous chemical.

Exposure or exposed: Any situation where in the course of employment an employee is subjected to, or potentially subjected to a chemical that is a physical or health hazard. This can occur by ingestion, inhalation, absorption or other contact.

Hazard warning: Any words, pictures, symbols or combination thereof appearing on a label or other appropriate form of warning which convey the health hazards and physical hazards of the substance(s) in the container(s).

Health hazard: A substance for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees.

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

Immediate use: The hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.

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

Laboratory: A facility where the laboratory use of hazardous chemicals occurs. It is a workplace where relatively small quantities of hazardous chemicals are used on a non-production basis.

Physical hazard: Means a chemical that is classified as posing one of the following hazardous effects: explosive; flammable (gases, aerosols, liquids, or solids); oxidizer (liquid, solid or gas); self-reactive; pyrophoric (liquid or solid); self-heating; organic peroxide; corrosive to metal; gas under pressure; or in contact with water emits flammable gas.

Safety data sheet (SDS): Means written or printed material concerning a hazardous chemical that is prepared in accordance with the GHS.

Use: To package, handle, react, emit, extract, generate as a byproduct, or transfer.

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

Workplace: means an establishment, job site, or project, at one geographical location containing one or more work areas.

Hazardous Chemicals

Hazardous chemicals are defined by OSHA as any chemical which poses a physical hazard or health hazard.

Chemical physical hazard characteristics include substances which are:

- Combustible
- Compressed gases
- Explosive
- Flammable
- Organic peroxide
- Oxidizer
- Pyrophoric
- Unstable (reactive)
- Water reactive

Chemical health hazards include substances which are:

- Carcinogens
- Toxic or highly toxic agents
- Reproductive toxins
- Irritants
- Corrosives
- Sensitizers
- Toxic agents or substances that damage or destroy bodily organs

Additional information is located in the OSHA standard 29 CFR 1910.1200

Toxic Effects of Chemicals

All chemicals have toxic effects at some dose level for some route of exposure. It is therefore wise to minimize exposure to chemicals. Chemicals can have local or systemic effects. Local toxicity refers to the direct action of chemicals at the point of contact. Systemic toxicity occurs when the chemical agent is absorbed into the bloodstream and distributed throughout the body, affecting one or more organs. Toxic effects are also classified as acute or chronic. Acute effects are observed shortly after exposure. Chronic effects result from long term exposure and appear after a latency period.

Routes of Exposure

There are four routes of exposure to chemical substances: inhalation, absorption, ingestion, and injection.

- **Inhalation:** Inhalation of toxic vapors, mists, gases, or dusts can produce poisoning by absorption through the mucous membrane of the mouth, throat, and lungs and can seriously damage these tissues by local action. Inhaled gases or vapors may pass rapidly into the capillaries of the lungs and be carried into the circulatory system. The degree of injury resulting

from inhalation of toxic substances depends on the toxicity of the material, its solubility in tissue fluids, its concentration, and the duration of exposure.

Inhalation hazards are most often associated with gases and volatile products such as adhesives, wood finishes, or paint thinners. Dust and non-volatile liquids can also present an inhalation hazard. Materials in the form of dusts and particulates can become airborne when transferred from one container to another or by grinding and crushing. Splash created from spills and during vigorous shaking and mixing also results in aerosol formation. Many of the particulates generated during such procedures do not settle out but remain suspended in the air and are carried about by air currents in the room. Some of these particulates are capable of being inhaled and deposited in the respiratory tract. For many operations it is not obvious that an aerosol is being generated and personnel may not be aware that a hazardous situation exists.

- **Absorption:** One of the most frequent exposures to chemicals is by contact with the skin. Spills and splash can result in overt contamination of the skin. A common result of skin contact is localized irritation or burns. However, some materials are also absorbed through the skin to produce systemic poisoning. Skin contact hazards are often associated with caustic or acidic cleaners which are highly corrosive to skin tissue on contact or with petroleum base products which are irritating on repeated contact.

The eyes are of particular concern because they are so sensitive to irritants. Ocular exposure can occur via splash or when contaminated hands rub the eyes. Few substances are innocuous in contact with the eyes and a considerable number are capable of causing burns and loss of vision. The eyes are very vascular and provide for rapid absorption of many chemicals.

- **Ingestion:** Occurs by the direct tasting of chemicals, and by ingesting contaminated food or applying contaminated personal items such as make-up on the face. This mostly happens as a result of eating or drinking contaminated food, dirty utensils, or touching the mouth with contaminated hands.
- **Injection:** Occurs through needle sticks, broken glass, broken capillary tubes, or other sharp objects that have been contaminated with chemicals.

Identification of Hazardous Substances

The responsibility of determining whether a chemical is hazardous lies with the chemical manufacturer or importer of a chemical. Supervisors, Managers, or employees may rely on the evaluation received from these suppliers, in the form of a MSDS or SDS and warning labels. A chemical inventory shall include a list of chemicals, including compressed gas cylinders, used in the work area. The chemical list can be prepared by documenting the names of the chemicals that have warning labels indicating a potential hazard (e.g. flammable or corrosive).

All identified hazardous chemicals must have a corresponding MSDS or SDS readily available in a binder or electronically accessed. The binder must be identified with the same SDS acronym on the binder spine and the front cover should read "Safety Data Sheets". The electronic file must be identified with the acronym SDS in the file or folder name. Both binder or electronic version must be accessible to

every employee of that area during all working hours. A hard copy is strongly recommended if there is limited accessibility of the electronic version.

Chemical Inventory List

Each department or campus unit has the responsibility to compile and maintain an inventory list of known hazardous chemicals within their workplace. The chemical inventory shall be updated annually, or as new chemicals are introduced or when old chemicals are disposed of within the workplace. The chemical inventory list must contain the following information for each hazardous chemical or product found in the workplace:

- The identity of the chemicals as specified on the MSDS or SDS for that chemical.
- The location (room number or work area) that the chemical is used or stored.
- The average quantity of the chemical that is generally kept at the location

A copy of the department chemicals inventory list or when any changes to the list are made shall be sent to the Safety and Risk Management office for recordkeeping. Safety and Risk Management will compile a university master list of known hazardous chemicals used on campus. Any employee who has questions about the hazardous chemical inventory list should contact their immediate supervisor or manager. A sample chemical inventory sheet is available under [Appendix A](#).

Safety Data Sheets

Chemical manufacturers and distributors are required by OSHA to provide Material Safety Data Sheets (MSDS) or Safety Data Sheets (SDS) to consumers. A MSDS or SDS is provided to ensure the end-user of chemical products is informed of the hazards associated with the use of the chemical and what safety precautions should be utilized. The same SDS may be used for several chemicals if they have similar hazards and contents.

Each department must maintain a complete and accurate MSDS or SDS for each chemical used in the workplace upon the purchase of a chemical. The following shall apply:

- When new or significant information becomes available concerning the hazard of a chemical or improved method of protection for employees, the chemical manufacturer, importers, or distributors must provide an updated SDS with updated information.
- If the manufacturer, importer, or distributor fails to send a SDS with a shipment labeled as a hazardous chemical, then the supervisor or manager shall obtain one from the manufacturer, importer, or distributor prior to the use of the purchased material or ensure that the SDS is available through electronic retrieval.
- Should the SDS be incomplete or unclear, the supervisor or manager should contact the manufacturer, importer, or distributor to get clarification or obtain the missing information.
- If employees travel between workplaces, the SDS may be kept at a known central location. However, employees shall be able to obtain the required information in an emergency.
- SDS shall be in English and contain the following sixteen (16) sections:

Section 1: Identification

This section identifies the chemical on the SDS as well as the recommended uses. It also provides the essential contact information of the supplier.

Section 2: Hazard Identification

This section identifies the hazards of the chemical presented on the SDS and the appropriate warning information associated with those hazards.

Section 3: Composition / Information on Ingredients

This section identifies the ingredient(s) contained in the product indicated on the SDS, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical.

Section 5: Fire-Fighting Measures

This section provides recommendations for fighting a fire caused by the chemical.

Section 6: Accidental Release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, properties, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume has a significant impact on the hazard.

Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals.

Section 8: Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure.

Section 9: Physical and Chemical Properties

This section identifies physical properties associated with the substance or mixture.

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other.

Section 11: Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available.

Section 12: Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment.

Section 13: Disposal Considerations (non-mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 of the SDS.

Section 14: Transport Information

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea.

Section 15: Regulatory Information

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS.

Section 16: Other Information

This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. Other useful information also may be included here.

Precautionary Labeling

Supervisors or managers have the responsibility to insure all known hazardous chemicals present in the workplace display a precautionary label.

With the changes in the HCS to include the Globally Harmonized System (GHS), the shipping chemical label is divided up into six sections. Chemical manufacturers, importers, and distributors are required to properly label every container of a hazardous chemical entering the workplace with the following:

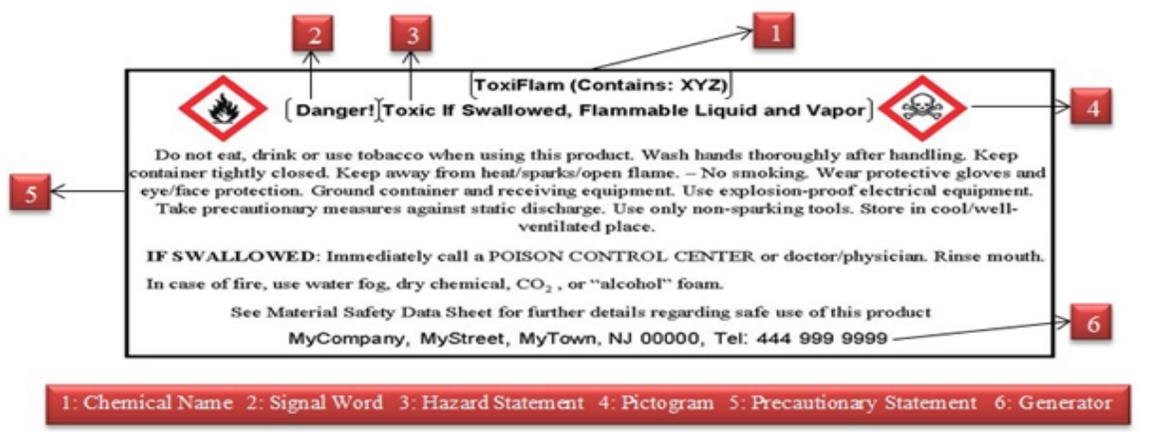
- **Chemical Name:** Simply identify the product or chemical name.
- **Signal word:** Use to indicate the relative level of the severity of the hazard and alert the reader to a potential hazard. The signal words are “Danger” for more severe hazards and “Warning” for less severe hazards.
- **Hazard statement:** These are phrases that describe the nature of the hazardous chemical and the degree of hazard(s). Examples are: toxic if swallowed, may cause skin irritation.
- **Pictograms:** These are used to identify hazardous products with symbols. They convey health, physical, and environmental hazard information assigned to a GHS hazard class and category. There are nine different pictograms as show below.

GHS Pictograms

 Flame Over Circle Oxidizers	 Flame Flammables, Pyrophoric, Self-Heating, Emits Flammable Gas, Self-Heating, Organic Peroxides	 Exploding Explosives, Self-Heating, Organic Peroxides
 Skull and Crossbones Acute Toxicity	 Corrosion Corrosives	 Gas Cylinder Gases Under Pressure
 Health Hazard Carcinogen, Mutagenicity, Reproductive Toxicity, Respiratory Sensitizer, Target Organ Toxicity, Aspiration Toxicity	 Environment Aquatic Toxicity	 Exclamation Mark Irritant, Skin Sensitizer, Acute Toxicity (Harmful), Narcotic Effects, Respiratory Tract Irritation, Hazardous to Ozone Layer

- **Precautionary Statement:** Is a phrase that describes recommended measures to minimize or prevent adverse effects resulting from exposure to or improper storage or handling.
- **Manufacturer Information:** Identifies the manufacturer's company name, address, and phone number.

GHS Chemical Label



If the chemical label on the original container becomes damaged, illegible, or is inadvertently removed from the container, it shall be replaced immediately by the department supervisor or manager. Employees have the option to replace labels at the direction of their direct supervisor or manager. The replacement label must include the same information that was initially provided by the manufacture, importer, or distributor. All labels must be legible, in English, and prominently displayed on the container.

Secondary Container Labels

Chemicals which are transferred from the original container into a different secondary container shall be identified by a label on the secondary container. All secondary containers shall use either the National Fire Protection Association (NFPA), Hazardous Materials Information System (HMIS), or manufacturer's label of the appropriate size for the container. Supervisors or managers will ensure that appropriate labels are available. It's recommended to use the HMIS systems for labeling secondary containers. Secondary labels need to include:

- Chemical name
- Date when transferred
- Associated hazards

Remember: Whoever transfers a chemical from the original container to a secondary container is obligated to label the chemical container.

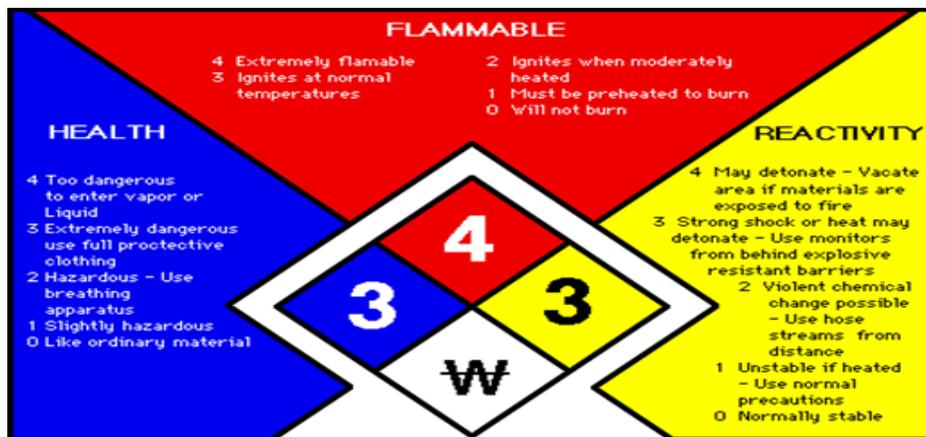
NFPA Labels

The NFPA diamond was developed by the **National Fire Protection Association** to aid emergency responders in recognizing potentially hazardous situations. Each colored diamond is associated with a different type of hazard and the degree of severity of Health, Flammability, and Instability hazards.

Hazard severity is indicated by a numerical rating that ranges from zero (0) indicating a minimal hazard, to four (4) indicating a severe hazard.

The bottom diamond represents special hazards and has a white background. The special hazards in use include W , OX, and SA. The symbol W indicates unusual reactivity with water and is a caution about the use of water in either firefighting or spill control response. The symbol OX, indicates that the material is an oxidizer. The symbol SA, indicates that the material is an asphyxiate gas. Example gases are nitrogen, helium, neon, argon, krypton, or xenon.

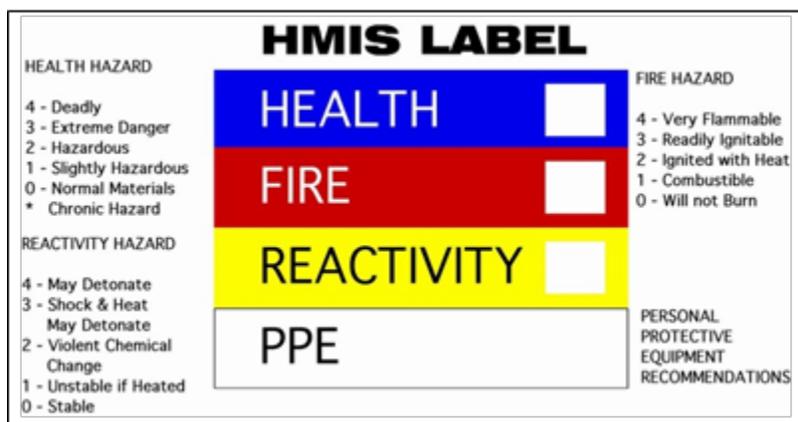
NFPA Label



HMIS Labels

Hazardous Materials Identification System (HMIS) is a system developed by the **National Paint and Coating Association (NPCA)** to help identify and provide information about chemical hazards. The label contains four (4) different colored rectangular shapes that are related to different hazards similar to the NFPA system. Hazard severity is indicated by a numerical rating that ranges from zero (0) indicating a minimal hazard, to four (4) indicating a severe hazard.

HMIS Label



The Personal Protective Equipment (PPE) section of the label requires the use of a chart or table to determine which letter code corresponds to appropriate PPE that should be used when working with

the chemical. The HMIS PPE chart should be posted in the work area for quick and easy recognition by employees. The below chart describes the letter code and corresponding PPE.

HMIS Personal Protection Index

HAZARD INDEX		PERSONAL PROTECTION INDEX																																					
4	Severe Hazard	A	G																																				
3	Serious Hazard	B	H																																				
2	Moderate Hazard	C	I																																				
1	Slight Hazard	D	J																																				
0	Minimal Hazard	E	K																																				
* An asterisk or other designation corresponds to additional information on a data sheet or separate chronic effects notification		F	X																																				
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HEALTH	<input type="checkbox"/>	<input type="checkbox"/>																																					
FLAMMABILITY	<input type="checkbox"/>	<input type="checkbox"/>																																					
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Safety Glasses	Splash Goggles	Face Shield & Eye Protection	Gloves	Boots	Synthetic Apron																																		
S	t	u	w	y	z																																		
Full Suit	Chem. Resistant Suit	Water Resistant Suit	Chem. & Vapor Resistant Suit	Full Face Respirator	Air-Purifying Respirator or Mask																																		
		Consult your supervisor or S.O.P. for "Special" handling directions																																					

Portable Containers for Immediate Use

Portable containers into which hazardous chemicals are transferred from the original labeled container, and which are intended only for the immediate use of the employee who performed the transfer are not required to be labeled.

Unlabeled Pipes

Employees will be informed of hazardous chemicals in unlabeled pipes and of the potential hazards involved in the event of exposure to these substances. The extent of information provided will include the SDS and other available information. Pipes that contain steam, condensate, or water will be unlabeled and possibly insulated.

Steam Plant Vessels

All steam plant vessels which routinely store bulk chemical products for use shall be labeled in the following matter:

- Chemical name of the contents
- Appropriate hazard warning(s) from manufacture
- Identify the pipe lines served by the vessel

When available, commercial warning labels can be used to identify the hazards. If no standard commercial labels are available for a specific hazardous chemical, then a label will be prepared internally. SDS will provide the necessary information for appropriate hazard warnings.

Employee Training and Information

All employees who work in areas where hazardous chemicals are used or maintained must receive Hazard Communication Training. Employees must be provided with effective information and training on hazardous chemicals to ensure they are aware of hazards in the workplace and appropriate control measures to protect themselves.

The training program is presented in two groups:

1. General Information Training

- Requirements of the Hazard Communication Standard
- Location and availability of the written communication program
- Operations in the work area where hazardous chemicals are present
- Introduction of the chemical hazards, labeling, and MSDS/SDS

General Information training will be provided by the Safety and Risk Management Office

2. Specific Hazard Training

- Location of hazardous chemicals in the work area
- Discussion of the methods and observations used to detect the presence or release of a hazardous chemical in the work area. Example: monitoring devices, appearance, or odor
- The chemical's physical and health hazards associated with each chemical, as specified in the SDS
- Action that employees can take to protect their own safety and health, including specific procedures that have been established for normal work practices, emergency procedures and policies on the use of person protective equipment.
- Access to SDS / MSDS information within employee work area
- How to obtain additional information

Specific hazard training is administered by the supervisor or manager of the employee.

New Employees (Full-time, Part-time, and Temporary)

Whenever a person is hired for employment, hazard communication training and information will be provided at the time of their initial assignment.

Re-Assigned/Transferred Employees

Employees re-assigned/transferred to other work areas will go through a review of specific hazard training in their work area. The supervisor or manager is responsible for insuring training is provided to the employee.

New Hazard

Whenever a new hazard is introduced into the employee work area, the supervisor or manager is responsible for ensuring that specific hazard training is provided before all affected employees are introduced to the hazard.

There are three (3) ways in which a new hazard may be introduced into the work place.

- A new hazardous chemical may be brought into the workplace.
- A current hazardous chemical in use may expose additional employees in the same work area.
- A former non-hazardous chemical may begin to be used in a manner that is hazardous.

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 (because of infrequency, location, or type of work) and for which the employee has not previously been trained. A non-routine task may include when an employee is to work with a chemical under conditions that arise infrequently.

Before any non-routine task is performed that could involve exposure to hazardous chemicals, the employee's supervisor or manager will review all potential hazards tasked to the employee. The supervisor must ensure that employees are informed of the hazard control measures, including safe work practices, and proper personal protective equipment.

Recordkeeping

Documentation and records associated with this program shall be maintained as required by the HCS. Safety and Risk Management, individual departments, supervisors or managers shall maintain records as indicated below:

- Each department with known hazardous chemicals shall maintain the most recent chemical inventory associated with their operations.
- Each department shall maintain SDS including existing MSDS of hazardous chemicals in use. Chemical MSDS no longer in use shall be kept for a period of 30 years.
- Safety and Risk Management and the supervisor or manager shall retain documented employee training records.
- Copies of supervisor or manager training shall be forwarded to the Safety and Risk Management Office for internal records.

Contractors on Campus

Non-university (i.e. contractor or contract workers) personnel working at any campus location shall be informed by the primary university contact (i.e. project manager, supervisor) about workplace hazards by providing SDS, communicating precautionary measures, and explaining labeling systems in place at the university.

Contractors are required to provide the university with a list of the hazardous chemicals they will be bringing to the job site so that precautions can be taken.

Appendix C: Sample SDS Request Letter

Date: **fill in date**

To: Chemical Manufacturer, Importer, or Distributor

From: **fill in name/title**

Re: Request for Safety Data Sheet

As you are aware, OSHA requires employers to provide training to their employees concerning the hazards of chemicals and other hazardous materials.

To properly train our employees, we need a Safety Data Sheet (SDS) for one of your products:

_____.

Your prompt attention is necessary to maintain a proper level of safety for our employees.

Please send me the SDS for

_____.

no later than _____.

Thank-you for your help.

Sincerely,

fill in name

** Note: Place letter on university letter head before sending.*

Appendix D: NFPA Color-Code Warning System Handout

NFPA Color-Code Warning System

There are many different color-code warning systems, but the most common is that of the National Fire Protection Association (NFPA). The NFPA system uses a diamond-shaped warning symbol, which has 4 color-coded sections: (1) the top (red diamond) is the Flammability Hazard rating; (2) The left (blue diamond) is the Health Hazard; (3) the right (yellow diamond) is the Reactivity Hazard; (4) and the bottom (white diamond) contains special symbols to indicate properties and categories not explained by the other sections. A number-based rating system is used within each section, ranging from 0 (least dangerous) to 4 (extremely dangerous).

Health Hazard: Blue Diamond

Class	Definition
4	Materials that on very short exposure can cause death or major residual injury even though prompt medical treatment is given.
3	Materials that on short exposure can cause serious temporary or residual injury even though prompt medical treatment is given.
2	Materials that on intense or continued exposure can cause temporary incapacitation or possible residual injury unless prompt medical treatment is given.
1	Materials that on exposure can cause irritation but only minor residual injury even if no treatment is given.
0	Materials that do not present a health hazard.

Flammability Hazard: Red Diamond

Class	Definition
4	Materials that will burn readily or rapidly or completely vaporize at atmospheric pressure and normal ambient temperature.
3	Liquids and solids that can be ignited under almost all ambient temperature conditions.
2	Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.
1	Materials that must be preheated to high temperatures before ignition can occur.
0	Materials that will not burn.

Reactive Hazard: Yellow Diamond

Class	Definition
4	Materials that by themselves are readily capable of explosive detonation or explosive decomposition or reaction at normal temperatures and pressures.
3	Materials that by themselves are capable of detonation or explosive reaction but require a strong initiating source or that must be heated under confinement before initiation or that react explosively with water.
2	Materials that by themselves are normally stable but can become unstable at high temperatures and pressures and may react with water with some release of energy but not violently.

1 Materials that by themselves are normally stable but can become unstable at elevated temperatures and pressure.

0 Materials that by themselves are normally stable and are not reactive with water.

Other Hazard: White Diamond

W	Use no water	Flam	Flammable materials-Flammable Classes 2, 3 & 4
Acid	Acids	Rad	Radioactive
Base	Alkalis, cyanides, neutral salts	Pyro	Pyrophoric gases
Oxy	Oxidizing agents		

Appendix E: Department SDS Binder Locations

Western Carolina University Department SDS Binder Campus Locations

Department	SDS Binder Location
Belk - College of Engineering and Technology	Belk Building – Room 153
Health and Human Sciences – College of Health and Human Sciences	Health and Human Sciences Therapy Pool – Room 102A1
Facilities Management - Safety and Risk Management	Facilities Management
Facilities Management - Warehouse	Warehouse Building - Entrance
Facilities Management - Housekeeping	Warehouse Building - Housekeeping Main Office
Facilities Management - Grounds	Grounds Building
Facilities Management - Ramsey Center	Ramsey Center - Main Office
Facilities Management – Water plant	Water plant - Outside Lab
Stillwell - College of Arts and Sciences	Electronic data base - https://msds.wcu.edu/index.html

Appendix F: Annual Hazard Communication Program Review

Western Carolina University Annual Hazard Communication Program Review Sheet

Department: _____ Contact: _____ Date: _____

Areas Reviewed:

<u>Item</u>	<u>Department Contract</u>	<u>Review Findings</u>	<u>Recommendations</u>
• Chemical Inventory Current			
• SDSs available to all employee in the workplace			
• Employee are trained on HCS			
• New employees trained			
• Training performed when new chemicals are present			
• All chemicals label maintained			
• Personal Protective Equipment used properly			
• Contractor employees informed of hazards			
• Accurate records are being kept			
• Additional Comments			

Document Review:

Department (Print): _____ Signature: _____ Date: _____

Reviewer (Print): _____ Signature: _____ Date: _____