

## **SECTION 12- HAZARD COMMUNICATION PROGRAM (HCP)**

29 CFR Section 1920- "Hazardous Communications" states that, "the purpose of this section is to ensure that the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. In 2012, the U.S. Department of Labor's Occupational Safety and Health Administration revised its Hazard Communication Standard to align it with the United Nations' global chemical labeling system. The Globally Harmonized System (GHS) of Classification and Labelling of Chemicals is a worldwide initiative to promote standard criteria for classifying chemicals according to their health, physical and environmental hazards. It uses pictograms, hazard statements and signal words to communicate hazard information on product labels and safety data sheets in a logical and comprehensive way. The primary goal of GHS is better protection of human health and the environment by providing chemical users and handlers with enhanced and consistent information on chemical hazards.

This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, safety data sheets and employee training.' The Louisiana State Office of Risk Management policies follow this standard.

**SECTION 13 OF THIS SAFETY PLAN, "THE CHEMICAL HYGIENE PLAN", AND THE GENERAL SAFETY RULES IN "APPENDIX C- LABORATORY SAFETY MANUAL" ARE TO BE USED IN CONJUNCTION WITH THE HCP WHEN PURCHASING, STORING, USING AND DISPOSING OF CHEMICALS.**

**HAZARDS ASSOCIATED WITH BIOLOGICAL AND RADIOLOGICAL AGENTS ARE NOT PART OF THE HCP. A DESCRIPTION OF BIOLOGICAL AND RADIOLOGICAL HAZARDS AND WAYS TO MINIMIZE THEM ARE FOUND IN "APPENDIX C- LABORATORY SAFETY MANUAL"**

### **RESPONSIBILITIES FOR THE HCP**

(Note: The University President is ultimately responsible for the overall direction of the campus safety and risk management programs, but has delegated certain of these responsibilities to other levels of authority at the University. Principal among these are the Budget Unit Heads.)

#### **Budget Unit Heads, Managers, and Supervisors shall:**

1. Comply with and be responsible for the management of the Hazardous Communication and Chemical Hygiene/Safety Program in their unit.
2. Maintain a list of all chemicals located in their unit, by name, CAS #, location by room number, amount on hand, amount purchased since last inventory, amount disposed of since last inventory. A copy of this inventory must be submitted to the Office of Environmental Health and Safety, each year.
3. Have all employees in the Unit practice chemical minimization procedures that will limit the amount of chemical (s) to only those minimal amounts necessary to do the job.
4. Obtain and provide Safety Data Sheets (SDS) for all chemicals in their Unit and have them available in the area(s) where the chemicals are used.
5. Conduct documented quarterly inspections of each worksites in which chemicals are used and have

these inspections on file for review by local, State, and federal oversight agencies.

6. Ensure that necessary GHS-compliant physical or toxic warning signs are posted in those areas where special notices are required.
7. Ensure that all hazards are identified in both routine and non-routine operational protocols (ex: Lab procedures, JSAs).
8. Ensure that employees and students wear the appropriate personal protective equipment when working with hazardous chemicals or other hazards. These PPEs are to be provided by the Budget Unit Head.
9. Ensure that warning signs are posted in each work area that requires the use of specific personal protective equipment (PPE) to protect employees or students. The need to use PPE Department Heads/Supervisors shall make appropriate personal protective equipment available as needed.
10. Notify any Custodial, Trades, or contractor personnel, in writing, of the chemical and other hazards they may encounter in any area within the Budget Unit and provide them with the necessary SDSs, before these other personnel enter any of these areas.
11. Provide documented training for hazard communication is required within 30 days of employment, or when working in a new area; or whenever a new material or procedure is introduced into the work place; or whenever the Department Head, Department Safety Officer, or Supervisor determines that refresher training is in order but, at least, annually. Training must include methods for the safety handling and use of chemicals, the location and operation of controls, procedures used to protect themselves and other workers, emergency plans, and location of SDS. This training can be accomplished in a Unit safety meeting. A sample outline for such training is included in this Section.

A more extensive list of responsibilities for Budget Unit Heads of areas which have laboratories is found in the Laboratory Safety Manual.

**Faculty and Staff shall:**

1. Be responsible for become informed about the chemical and physical hazards of their workplace and how to protect themselves, students, and other employees from these hazards.
2. Shall be aware of the location and content of the Louisiana Tech University's Hazard Communication Program, the "Act", applicable SDSs, safety rules governing the use of chemicals that are found in the Laboratory Safety Manual, JSAs, or other portions of the Safety Manual and those "site-specific" rules which govern specialty research/teaching labs. lists of chemicals and information are located for their review.
3. Employees shall inform their supervisors of changes in operations that could affect the safety and health of the job site or work area.
4. In conjunction with the Budget Unit Head, be responsible for providing documented training of students and other persons who work with chemicals in their classes or other assigned work areas.
5. Ensure that each container of a chemical is labeled according to it's the GHS and other applicable regulations.

6. Provide the Budget Unit Head with a list of any chemical they purchase at the time of the purchase.

A more extensive list of responsibilities for faculty and staff of areas which have laboratories is found in the Laboratory Safety Manual.

**Contractors and Supervisors of Trades and Custodial personnel shall:**

1. Comply with the applicable federal and State Hazardous Communication Standards when working on campus.
2. Oversee the work of their employees to ensure that they are properly using and disposing of chemical they are using in their jobs.
3. Properly dispose of any hazardous chemicals, including asbestos, that they remove in their job on campus.
4. Notify the Budget Unit Head over any area in which they are planning to work to determine if there are any hazards in these work areas and ways to protect their employees while they are in these areas.
5. Provide the SDS for any chemicals they may be using in these areas to the Budget Unit Head so they can inform their employees of these hazards and take whatever steps that are necessary to protect them.

**The Office of Environmental Health and Safety shall:**

1. Establishment of an SDS library to be housed in the Environmental Health and Safety office.
2. Provide training information to Budget Unit Heads when requested.
3. Consolidate all chemical inventories provided by all Budget Units into a single data base.
4. Provide any hazardous communication documentations to regulatory agencies, as needed.
5. Assist Budget Unit Heads and other administrator in the management of the Hazardous Communication Program.

**COMPONENTS OF THE HCP**

This Program consists of:

1. Maintaining a Hazardous Chemical Inventory
2. Maintaining SDSs for Listed Chemicals
3. Product Labeling according to the Global Harmonization System.

#### 4. Employee/Student Training

### HAZARDOUS CHEMICAL INVENTORY- GENERAL REQUIREMENTS

1. Every hazardous chemical must be inventoried. A **“hazardous chemical” is defined as: “any chemical that is designated as a hazard in the accompanying SDS, or if the chemical is deemed a hazard on the product label, or if the chemical will burn, corrode, explode, or otherwise injure an employee if used improperly by an employee”.**
2. Agents to be excluded from the chemical inventory are: (a) hazardous waste; (b) wood or wood products ( if not burned as part of normal work); (c) tobacco; (d) food, drugs or cosmetics that are intended for personal consumption; ionizing/radiation hazards unless the radionuclide is in a chemical form that is hazardous in its non-radioactive form; and biological agents. Note: The listing and control of Biological Agents and Radiological Agents are required in other sections of the Safety Plan.
3. The inventory must be conducted by the Budget Unit Head or their designee each year and must **be updated at any time during the year if new chemicals are purchased by the Unit or are** disposed of using the proper disposal procedures. (See the Chemical Disposal Procedures in Section 13 of this Plan.
4. The inventory include:
  - a. Name of the Budget Unit;
  - b. Name of person conducting the inventory;
  - c. Date of Inventory (Note: Inventories are due in the Office of Environmental Health and Safety on July 1<sup>st</sup> of each calendar year)
  - d. Name of each chemical;
  - e. CAS # of each , if available;
  - f. Physical state of each chemical
  - g. Amount of each chemical on hand at time of inventory;
  - h. Location of each chemical, by Building Name and Room #;
  - i. PPE(s) required to handle each chemical

**NOTE: MANUFACTURERS ARE REQUIRED TO PUT EXPIRATION DATES ON MOST CHEMICALS. CHECK THE EXPIRATION DATES WHEN CONDUCTING THE INVENTORY AND DISPOSE OF ANY OUTDATED CHEMICALS. ALSO DISPOSE OF ANY CHEMICALS THAT APPEAR CONTAMINATED OR DEGRADED. THE SDS FOR SUCH CHEMICALS LISTS THE EXPECTED APPEARANCE OF THAT CHEMICAL. IF THE CHEMICAL’S APPEARANCE DOESN’T MEET THESE SPECIFICATIONS, DISCARD IT. OFTEN DEGRADATION PRODUCTS OF A CHEMICAL CAN BE MORE DANGEROUS THAN THE PARENT CHEMICAL!**

### SAFETY DATA SHEETS (SDS), INCLUDING THE USE OF ELECTRONIC DATA BASES

The information contained in the SDS is largely the same as the Material Safety Data Sheet, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format. This brief provides guidance to help workers who handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. The information contained in the SDS must be in English (although it may be in

other languages as well). In addition, OSHA requires that SDS preparers provide specific minimum information as detailed in Appendix D of 29 CFR 1910.1200. The SDS preparers may also include additional information in various section(s).

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., fire fighting). This information should be helpful to those that need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other information including the date of preparation or last revision. The SDS must also state that no applicable information was found when the preparer does not find relevant information for any required element.

The SDS must also contain Sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but OSHA will not enforce the content of these sections because they concern matters handled by other agencies.

## General Requirements

1. Access to SDSs for all hazardous chemical must be available in the work areas where the chemical is used at all times.

**NOTE: BUDGET UNITS MAY CHOSE TO USE AN ELECTRONIC DATA BASE TO ACCESS SDSs. SHOULD THEY CHOSE THIS OPTION, THE FOLLOWING MUST BE IN THE WORK AREA WHERE THE CHEMICALS ARE BEING STORED OR USED: (a) A FUNCTION COMPUTER WITH THE SOFTWARE NECESSARY TO ACCESS THE MSDSs; (b) STEP-BY- STEP INSTRUCTIONS POSTED ON EACH COMPUTER, DESCRIBING HOW TO ACCESS THE SDS.**

2. The recommended format for a SDS, according to OSHS is specified in the Global Harmonization System. This format can be found under” Format for Safety Data Sheets” in the “Documents” section of the Louisiana Tech University Environmental Health and Safety web page.

## LABELING OF CHEMICALS

### General Information

1. All labels must include the appropriate Global Harmonization pictograms. A downloadable list of these pictograms may be found under “Hazard Communication Pictograms” in the “Documents” section of the Louisiana Tech University Environmental Health and Safety web page. Other labelling such as DOT and NFPA designations may also appear on the chemical. All labels shall be legible, in English, not be removed from the container.
2. Any secondary container(s) into which a hazardous chemical is transferred from its original container must be labeled with the name of the chemical and the hazard warnings (example of hazard warning labels are listed below) that are on the original container. The exception to this rule

is when an employee is to use the chemical immediately after the transfer and the secondary container(s) never leaves the possession of the employee.

3. Inert chemicals, such as containers of water should be labeled as to content, so as to not be confused with hazardous chemicals that have the same appearance.
4. Chemical mixtures such as Grignard reagent should be labeled with the common name for the mixture, if available, with the names of the reactants in the mixture and with any hazard labels that are appropriate to the mixture. Mixtures should also be labeled with the expiration date for the chemical.

## EMPLOYEE TRAINING, AS PART OF THE HCP

### **General Requirements**

1. Budget Unit Heads must provide documented training for hazard communication is required within 30 days of employment, or when working in a new area; or whenever a new material or procedure is introduced into the work place; or whenever the Department Head, Department Safety Officer, or Supervisor determines that refresher training is in order but, at least, annually. Training must include methods for the safety handling and use of chemicals, the location and operation of controls, procedures used to protect themselves and other workers, emergency plans, and location of SDS. This training can be accomplished in a Unit safety meeting.
2. Instructors or principal investigators must include documented HCP training of students on the hazards of any chemicals that students as part of the safety training they do for students.

### ITEMS TO INCLUDE IN HCP TRAINING

1. Location and availability of the written Hazard Communication Plan.
2. Physical and health hazards of chemicals in the work area and their locations.
3. Methods and observation techniques used to detect the presence or release of a hazardous chemical.
4. How to lessen or prevent exposure to these hazardous chemicals through usage of controls, work practices and personal protective equipment (PPE).
5. How to use safety data sheets information.
6. How to read and understand labels and GHS pictograms.
7. Contingency plans for medical and accident response.
8. The proper use of any PPE required.
9. Location of SDS file and hazardous chemical inventory

10. Review of the Hazardous Communication Policy, Chemical Safety Policy and the Global Harmonization Plan.

All training shall be documented by recording the training session subject(s), date, and attendees. The Budget Unit shall maintain the official files. The supervisor shall also maintain a copy of these records. Information about the Agency'

## DEFINITIONS ASSOCIATED WITH THE HCP

### Flammable solvents (liquid)

A flammable solvent is an organic liquid whose vapor can form an ignitable mixture with air. The solvent vapor is the fuel. The oxidizer is the surrounding atmosphere. For the mixture to burn, an ignition source must be present.

### Reactive Chemicals

Reactive chemicals are substances which, under certain ambient or induced conditions, enter into violent reactions with spontaneous generation of large quantities of heat, light, gases, or toxins that can be destructive to life and property.

### Radioactive Chemicals

Radioactive chemicals are those which possess one or more constituent atoms capable of spontaneously emitting alpha, beta, or gamma rays by disintegration of the corresponding atomic nuclei (when removed from shielding, the body can be bombarded by the rays).

### Corrosive Chemicals

Corrosive chemicals are those substances that by direct chemical action are injurious to body tissue. Corrosive injury may be of a minor degree (irritation) or of actual physical disruption of body tissues.

### Toxic Chemicals

A toxic substance has the potential of injury by direct chemical action with body systems. Almost any substance is toxic when taken in excess. Toxic substances interfere with the function of cells in body tissues, i.e., direct physicochemical corrosion or subtle chemical reaction disrupting biological processes.

### Biohazards

Biological hazards include insects, molds, fungi, and bacterial contamination stemming from items such as water, sewage, and food.

### Compressed Gases

A compressed gas is any material in a container under pressure. Compressed gas cylinders contain a large amount of energy which, if released improperly, can result in serious injury. These gases can be toxic, flammable, or corrosive.

## Cryogenic Liquids

Cryogenic liquids and compressed gases have many properties in common, hence many common hazards exists. Freezing or frostbite of tissue is a common hazard related to the use of cryogenes.