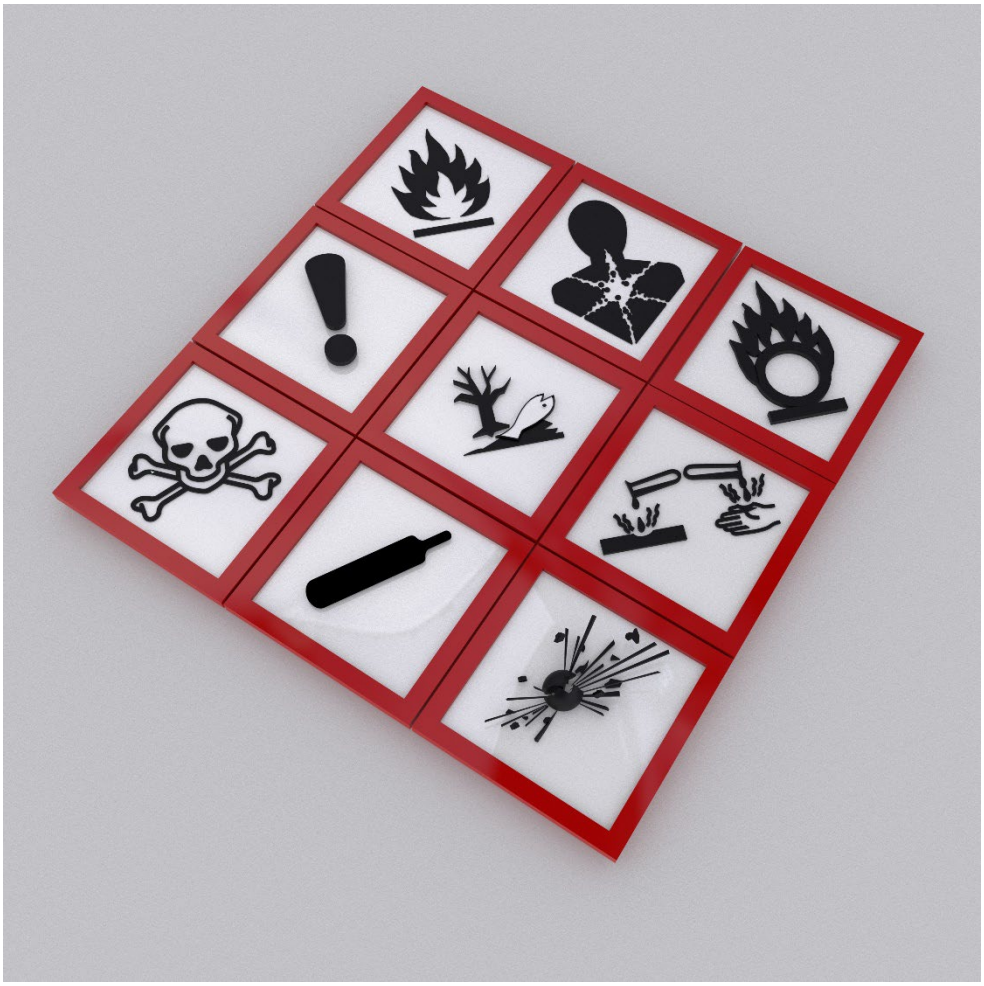
LIBERTY UNIVERSITY | ENVIRONMENTAL HEALTH & SAFETY

Liberty University

Hazard Communication (HAZCOM) Program/Policy



PURPOSE & SCOPE

Liberty University (LU) is committed to providing a safe and healthful work environment for our entire staff and students. In pursuit of this endeavor, this program has been developed to ensure employees and students understand the hazard communication standard and how to protect themselves when working with chemicals. The federal Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) was promulgated to ensure that all chemicals would be evaluated and that information regarding the hazards would be communicated to employers and employees. The goal of this standard is to reduce the number of chemically related occupational illnesses and injuries.

The worker's right-to-know program provides personnel with information and training about safety and health hazards associated with the chemicals they might encounter in the workplace. This procedure describes how chemical safety hazards are communicated to personnel working in offices, shops and in the field, and how information is to be provided to employees of other employers working at the location. The requirements include steps to acquire this information, maintain it, and train everyone to use it.

In compliance with the Hazard Communication Standard ("Right-to-Know") (29 CFR 1910.1200), the scope of this written program/policy applies to Liberty University employees and students who may be exposed to hazardous chemicals under normal conditions of use, or in a foreseeable emergency. This program/policy provides detail on the following: labeling of hazardous chemicals, structure of Safety Data Sheets (SDS documents), and storage requirements of hazardous chemicals. The Program/Policy has been updated to align with the UN Globally Harmonized System (GHS) of Classification and Labeling of Chemicals

Copies of this written program/policy are readily available for review by any LU employee or student, and can be obtained by the following:

- Go to the LU Environmental Health & Safety website: liberty.edu/ehs
- Email the Environmental Health & Safety office at lusafety@liberty.edu
- Call 434-582-3389
- Go to the LU Environmental Health & Safety office at 3352 Young Place, Lynchburg, VA 24501

POLICY

Liberty University is committed to providing a safe and healthful work environment for our LU community. All employees, students, volunteers, and contractors working under direct LU supervision shall comply with all elements of the LU Hazard Communication Program/Policy and with all Federal, State, and Local Regulations. Additionally, any contractors working independently or through a general contractor on LU properties must comply with the LU Contractor Safety Program found on the EHS website https://www.liberty.edu/security-public-safety/environmental-health-safety/ under LU Contractor Safety.

APPLICATION, IMPLEMENTATION AND RESPONSIBILITIES

Each employee who may be exposed to hazardous chemicals under the normal conditions of use, or in a foreseeable emergency, is responsible for following the guidance provided within this document. All employees are expected to adhere to information provided during *Chemical Safety Training*, information provided in Safety Data Sheets, or other safety information readily available and related to the hazardous chemical use. Training shall include all of the principles of the GHS system, including recognition of Safety Data Sheet (SDS) requirements, classification, and labeling requirements of hazardous chemicals. The following entities have specific responsibilities for implementing the Hazard Communication Program/Policy:

Environmental Health and Safety (EHS)
EHS is responsible for designing, implementing, overseeing, and updating the Hazard Communication Program/Policy.

EHS responsibilities are to:

- Annually review and revise the Hazard Communication Program/Policy as necessary
- Maintain the written program on the EHS website
- In conjunction with Supervisors and Faculty, identify areas where hazardous chemicals are used.
  - Laboratories, shops, studios, etc. using hazardous chemicals are indicated by Hazard Communication Signs (see below).
- Inspect areas that use hazardous chemicals to evaluate compliance with the Hazard Communication Program/Policy
- Provide access to Safety Data Sheets through an online database
- Provide Chemical Safety Training or content for Chemical Safety Training (see training section)
- Provide guidance on compliance with the Hazard Communication Program/Policy
- Serve as point of contact with local, state, and federal officials with regard to the Hazard Communication Program/Policy

Supervisory Staff/Faculty
Supervisory Staff and Faculty who oversee the daily operations/work/research and safety of personnel have specific responsibilities under the Hazard Communication Program/Policy. For the work area(s) and personnel for whom they are responsible, supervisory staff and faculty responsibilities are to:

- Identify all hazardous chemicals within the work area that they oversee
- Identify employees and students under their supervision that work with hazardous chemicals
- Ensure all employees and students that work with hazardous chemicals receive Chemical Safety Training and
- Provide chemical specific hazard information for materials used in their work area(s) upon initial employment, and any new chemical hazards introduced thereafter.
- Ensure that employees minimize any potential exposure with available engineering controls, safe work practices and necessary or assigned personal protective equipment.
- Update the online chemical inventory list and Safety Data Sheets (SDS's) as new products are brought into the workplace. NOTE: This includes vehicles used in field operations.
- Review chemical inventories for their locations on annual basis.
- Instruct employees on the GHS labeling requirements.
- Ensure that all hazardous chemicals in secondary containers are properly labeled and updated.

Contractors

- For any contractor performing work for Liberty University, the Supervisor or LU Project Manager can provide any SDS, or other information requested, including but not limited to:
- The hazardous products to which they may be exposed.
- Administrative or engineering controls and/or protective measures the contractor's employees must take in order to avoid the risk of exposure, including required PPE.
- Labeling system in use.

- Contractors who bring chemicals into a work area are required to provide Liberty University with appropriate hazard information, including labels and precautionary measures for handling, use, and storage of the product.
- Contractors are responsible for labeling all chemical/chemical containers that are brought onto the jobsite and/or into a Liberty University facility.
- Contractors shall provide copies of SDS's to the job Project Manager, EHS Officer, and/or designee for any chemicals used for projects on customer jobsites and/or in Liberty University facilities.
- Chemicals brought on-site by contractors must be removed by the contractor once the scope of work is completed.

Employees and Students

People who may be exposed to hazardous chemicals under the normal conditions of use, or in a foreseeable emergency are expected to comply with the University's Hazard Communication Program/Policy. Their responsibilities are to:

- Complete Chemical Safety Training
- Use proper engineering controls and personal protective equipment
- Report unsafe conditions or accidents to your supervisor or instructor
- Follow the guidance in the Hazard Communication Program/Policy.

Glossary of Terms

Term	Definition
EHS	**Environmental, Health, and Safety**
Generic Name	**Identification such as a trade name or brand name, by which a substance is known**
GHS	**UN Globally Harmonized System is an international consensus system for classifying and labeling hazardous chemicals.**
HAZCOM	**Hazard Communication**
Hazard Class	**Means the nature of the physical or health hazard, e.g., flammable solid, carcinogen, oral acute toxicity**
Hazardous Chemical	**Any chemical which can cause a physical or health hazard, e.g., a simple asphyxia, combustible dust, pyrophoric gas, or hazard not otherwise classified**
Ingestion	**Swallowing**
Inhalation	**Breathing in**
Irritant	**A substance that can inflame or irritate the skin, eyes, nose, throat, or lungs when it contacts them**
Online Chemical Database	**A web-based repository where all LU Safety Data Sheets are stored, maintained, and updated for most current version**
OSHA	**Occupational Safety and Health Administration**
PEL	**Permissible Exposure Limit is the maximum amount of a chemical to which a person can be exposed as established by OSHA.**

Physical Hazard	**A chemical for which there is scientifically valid evidence that it is a combustible liquid, compressed gas, explosive, flammable, organic peroxide, oxidizer, unstable, or water reactive**
PPE	**Personal Protective Equipment**
Respiratory Hazard	**The concentration of a substance that can produce health hazards when it is inhaled**
Routes of Entry	**The ways that chemicals can enter our bodies: such as breathing, swallowing, or absorption**
RTK	**Right to Know: derived from the fact that employees have a right to know to what chemicals they are exposed in the workplace**
SDS	**Safety Data Sheet (former Material Safety Data Sheet term now obsolete)**
Skin Absorption	**The process in which a chemical can pass directly through the skin and enter the bloodstream**
TLV	**Threshold Limit Value: represents the amount of a substance that most people can be exposed to, day after day without harmful effects**
UN	**United Nations**

Definition of a Hazardous Chemical

OSHA defines a hazardous chemical as a substance for which there is statistically significant evidence, based on at least one scientific study, showing that acute or chronic harm may result from exposure to that chemical. A hazardous chemical is one which is classified as a physical or a health hazard, which includes a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified. Any product or chemical, which could meet this definition, will have a Safety Data Sheet (SDS), which provides details on the hazards. The HSC Global Harmonized System (GHS) hazard pictograms, and related hazard classes are shown below.

HCS Pictograms and Hazards

Health Hazard	Flame	Exclamation Mark
		
▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity	▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactives ▪ Organic Peroxides	▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder	**Corrosion**	**Exploding Bomb**
		
▪ Gases Under Pressure	▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals	▪ Explosives ▪ Self-Reactives ▪ Organic Peroxides
Flame Over Circle	**Environment (Non-Mandatory)**	**Skull and Crossbones**
		
▪ Oxidizers	▪ Aquatic Toxicity	▪ Acute Toxicity (fatal or toxic)

Hazardous Chemical Inventory List

Any area that uses hazardous chemicals should have an inventory list of the hazardous chemicals stored and used in that area. A faculty member, area supervisor, or their designee should maintain this list. All lists should kept current and a current copy provided to EHS. Any modifications, additions or changes must be updated immediately and distributed to EHS. EHS will maintain a master list of chemicals and chemical products known to be utilized at LU.

Hazardous chemicals that have been transferred into secondary containers must be labeled with at least the following:

- Contain identical label as shipping container.
- Product identifier and words, pictures, symbols, or a combination thereof which will provide at least general information regarding the physical and health hazards of the chemical product.
- Signs, placards, process sheets, batch tickets, operating procedures, or other written materials may be used to convey the identity of the hazardous chemical and appropriate hazard warning for stationary process containers (ex. parts washers). Liberty University will ensure where labeling of this nature is performed that written materials for the chemical product are made readily available in the work area.

Chemical Storage

The following should be followed when storing chemicals in the workplace:

- Segregate incompatible chemicals to prevent inadvertent mixing, which can produce harmful gases/vapors, heat, fire, and/or explosions.
- Store hazardous materials away from heat and direct sunlight, as they may impact and degrade chemicals.
- Ensure caps and lids are securely tightened on containers to prevent leaks and evaporation of contents.
- Use approved flammable storage lockers or flammable storage containers to store flammable and combustible liquids.
- Secondary containment should be provided for all hazardous chemicals when in storage.

Safety Data Sheets (SDS)

The Hazard Communication Standard (HCS) requires that employees be provided information about the physical and health hazards of the chemicals they use or are potentially exposed to in their work area. Safety Data Sheets (SDS) are the primary communication tool that provides the most basic, essential information about a hazardous substance or mixture. Under the HCS, it is required of manufacturers to author an SDS for any hazardous chemical or product.

Federal law requires that an SDS for all of the hazardous chemicals used at a location must be readily accessible to employees. Electronic access is permitted as an alternative to paper copies as long as no barriers to immediate employee access are created (i.e., an employee asking a supervisor for access to an SDS constitutes a barrier. If electronic access is not provided for an employee, accessible paper copies are required.)

Those responsible (supervisor, researcher, instructor) for a given work or research area must ensure that the needed SDSs are available to employees, that employees understand how to access their SDSs, and that access

to the SDSs is barrier-free. If the date of the SDS is more than three years old, then the supervisor, researcher, instructor is responsible for contacting the manufacturer for an updated SDS. This can often be done by going to the manufacturer's website.

Always read an SDS prior to working with that material. It is here that you will learn invaluable information on how you can work safely: the hazards (health and physical), how to protect yourself from exposure (controls and PPE), signs and symptoms of exposure, proper handling, and storage, and more. Familiarize yourself with the format; a standardized 16- section format was a result of the 2012 HCS revision that adopted the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

This format is required of all chemical manufacturers in the United States and many countries worldwide. A short description of each section is below:

All Safety Data Sheets will have the following 16 sections, in specific order, so employees will always know which section will provide which data, no matter what chemical is being reviewed.

- Section 1, Product and Company Identification includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- Section 2, Hazard Identification includes all hazards regarding the chemical; required label elements.
- Section 3, Composition/Information on Ingredients includes information on chemical ingredients, trade secret claims.
- Section 4, First-aid Measures includes important symptoms/effects, acute, delayed; required treatment.
- Section 5, Fire-fighting Measures lists suitable extinguishing techniques, equipment, chemical hazards from fire.
- Section 6, Accidental Release Measures lists emergency procedures; protective equipment; proper methods of containment and cleanup.
- Section 7, Handling and Storage list of precautions for safe handling and storage, including incompatibilities.
- Section 8, Exposure Controls/Personal Protection lists OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; Personal Protective Equipment (PPE).
- Section 9, Physical and Chemical Properties lists the chemical's characteristics.
- Section 10, Stability and Reactivity lists chemical stability and possibility of hazardous reactions.
- Section 11, Toxicological Information includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.
- Section 12, Ecological Information
- Section 13, Waste Disposal Considerations
- Section 14, Transport Information
- Section 15, Regulatory Information

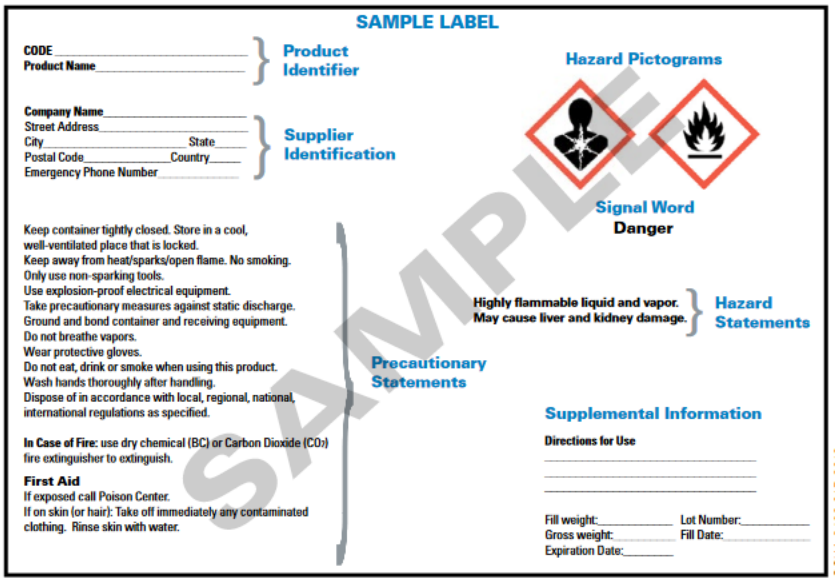
- Section 16, Other Information: including information on preparation or last revision of the SDS.

Labels and Hazard Communication Signs
Labels

The Hazard Communication Standard requires manufacturers to label original containers for hazardous chemicals with the following 6 elements

1. Chemical or Product Identity
2. Hazard statement(s)
3. Precautionary statement(s)
4. Signal word
5. Pictogram(s)
6. Supplier identification

Below is a sample label.



COMPATABILITY

There are several sources online to check compatibility of chemicals. Some of those include Fisher Scientific, Cole-Parmer, CPLabSafety, Industrial Specialties Mfg, and Sterlitech. The most important part of this section is understanding what chemicals or incompatible for mixing, storing, etc. Further information can be obtained in the reference section below in regard to chemical compatibility, storage, etc. from Fisher Scientific.

ENFORCEMENT

Failure to follow the Liberty University HAZCOM Program/Policy can result in life threatening or serious injury situations to staff, faculty, students, and visitors. Failure to follow the LU HAZCOM Program/Policy can result in disciplinary action up to and including termination.

APPLICABLE REGULATIONS, STANDARDS AND REFERENCES

Item	Document # or Reference Material	Title	Location
1.	OSHA 29CFR 1910.1200	Toxic and Hazardous Substances	https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099
2.	Fisher Scientific	Chemical Essentials Handbook	https://beta-static.fishersci.com/content/dam/fishersci/en_US/documents/programs/scientific/brochures-and-catalogs/guides/fisher-scientific-chemical-essentials-handbook.pdf
3.	Fisher Scientific	Chemical Stockroom Hanbook	https://beta-static.fishersci.com/content/dam/fishersci/en_US/documents/programs/scientific/brochures-and-catalogs/guides/fisher-chemical-chemical-stockroom-handbook-guide.pdf

Liberty University Hazard Communication Program/Policy

Revision Tracking

Revision Number	Revision Description	Revision Location	Date Originated/Revised	Policy Author/Reviser:	Policy Approvers
	Original		2005	Dave Casewell	
01	Revision August 2012		August 2012	John Peterson	
02	Put in new EHS format, updated, and added more information and accountability	Throughout Document	July 2022	Greg Bennett Bob Drane	Ron Sloan John Peterson Greg Bennett