

Hazard Communication

Program

Revision Date: 8/11/21

Applies To: All University employees that utilize any type of *hazardous chemical*, with the exception of employees working in laboratories.

This Guideline is issued by the Department of Environment, Health & Safety (EHS) to provide guidance and consistency in management of chemical-containing products that are used by University of Michigan faculty and staff.

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Summary

The purpose of this Guideline is to assure that all University of Michigan employees who use *chemical*-containing products in their work activities are instructed to work with them in a safe manner. A Hazard Communication (HazCom) Program is necessary for communicating workplace chemical hazards to employees. This Guideline identifies departmental responsibilities and the necessary administrative oversight for managing the HazCom Program. A Model Hazard Communication Program has been attached in [Appendix A](#) to assist departments in writing a HazCom Program specific for their needs.

Scope

This Guideline applies to all University employees that utilize any type of hazardous chemical, with the exception of employees working in laboratories. Laboratory workers are covered under the [Laboratory Safety Standard Chemical Hygiene Program](#), which has similar requirements.

Examples of hazardous chemicals include photographic developing chemicals, paints, cleaning solvents, adhesives, and art supplies. University units are required to implement the components of the HazCom program as required by State and Federal regulations.










Reference Regulations

State of Michigan Right To Know Law Act No. 80 Amendments to Act 154 Michigan Occupational Safety and Health Act (MIOSHA):

- [Construction Safety Standard Part 42 Hazard Communication](#)
- [General Industry Standard Part 92 Hazard Communication](#)
- [Occupational Health Standard Part 430 Hazard Communication](#)

Glossary of Terms

GLOSSARY OF TERMS	DEFINITION
Chemical	Any <i>substance</i> , or <i>mixture</i> of substances. Exposure to chemicals can be in a variety of forms such as; solids, liquids, gases, dusts, mists, or fumes.
Exposure (or Exposed)	Means that an employee is subjected in the course of employment to a chemical that is a physical or <i>health hazard</i> , and includes potential, e.g. accidental or possible exposure. "Subjected" in terms of health hazards includes any route of entry, e.g. inhalation, ingestion, skin contact or absorption.
Hazard Category	The division of criteria within each <i>hazard class</i> , e.g., oral acute toxicity and flammable liquids include four hazard categories. These categories compare hazard severity within a hazard class and should not be taken as a comparison of hazard categories more generally.
Hazard Class	The nature of the physical or health hazards, e.g., flammable solid, carcinogen, oral acute toxicity.
Hazard Not Otherwise Classified (HNOC)	An adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes.
Hazard Statement	A statement assigned to a hazard class and category that describes the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard.
Hazardous Chemical	Any chemical which is classified as a <i>physical hazard</i> , or a health hazard, a <i>simple asphyxiant</i> , combustible dust, <i>pyrophoric gas</i> , or <i>hazard not otherwise classified (HNOC)</i> . For example, compressed gas is considered a physical hazard and wood dust is considered a health hazard.

GLOSSARY OF TERMS	DEFINITION	
Health Hazard	A chemical which is classified as posing one of the following hazardous effects: acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration hazard.	
Label	An appropriate group of written, printed or graphic information elements concerning a hazardous chemical that is affixed to, printed on, or attached to the immediate container of a hazardous chemical, or to the outside packaging.	
Mixture	A combination or a solution composed of two or more substances in which they do not react.	
Personal Protective Equipment (PPE)	Devices worn by the worker to protect against hazards in the environment. Examples include safety glasses, face shields, respirators, gloves, hard hats, steel-toed shoes, and hearing protection. See EHS Guideline – Personal Protective Equipment, General .	
Physical Hazard	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.	
Pictogram	A composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color, that is intended to convey specific information about the hazards of a chemical. Eight mandatory pictograms and one non-mandatory pictogram (depicted below) that are designated under the MIOSHA standard for application to a particular <i>hazard category</i> .	
HCS Pictograms and Hazards		
Health Hazard 	Flame 	Exclamation Mark 
<ul style="list-style-type: none"> • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity 	<ul style="list-style-type: none"> • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides 	<ul style="list-style-type: none"> • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non Mandatory)
Gas Cylinder 	Corrosion 	Expanding Bomb 
<ul style="list-style-type: none"> • Gases under Pressure 	<ul style="list-style-type: none"> • Skin Corrosion/ burns • Eye Damage • Corrosive to Metals 	<ul style="list-style-type: none"> • Explosives • Self-Reactives • Organic Peroxides
Flame over Circle 	Environment (Non Mandatory) 	Skull and Crossbones 
<ul style="list-style-type: none"> • Oxidizers 	<ul style="list-style-type: none"> • Aquatic Toxicity 	<ul style="list-style-type: none"> • Acute Toxicity (fatal or toxic)
Precautionary Statement	A phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical, or improper storage or handling.	
Pyrophoric Gas	A chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130°F (54.4°C) or below.	

GLOSSARY OF TERMS	DEFINITION
Safety Data Sheet (SDS)	Written or printed material concerning a hazardous chemical that serves as an informational tool developed by chemical manufacturers containing the following information for a hazardous chemical: product identification, use restrictions, hazards identification, chemical ingredients, first-aid measures, fire-fighting measures, accidental release measures, handling & storage information, physical & chemical properties, stability & reactivity information and toxicological information. SDS are in a standardized, 16-section format and can be obtained from the chemical suppliers and many internet sites.
Signal Word	A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the <i>label</i> . The signal words used in this section are "danger" and "warning." "Danger" is used for the more severe hazards, while "warning" is used for the less severe.
Simple Asphyxiant	A substance or mixture that displaces oxygen in the ambient atmosphere, and can thus cause oxygen deprivation in those who are exposed, leading to unconsciousness and death.
Substance	Chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.
Trade Secret	Any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it.
Use	To package, handle, react, emit, extract, generate as a byproduct, or transfer.

Responsibility

Deans, Directors and Department Heads

- Designate and empower supervisors who will be responsible for the preparation and implementation of the Hazard Communication Program within each work unit.
- Actively support this Guideline within individual units.
- Ensure an environment where all employees are encouraged to follow this Guideline.

Supervisors

- Implement procedures in accordance with this Guideline.
- Assure that staff are aware of this Guideline, instructed on the details of implementation, and provided with equipment and methods of control. Maintain documentation of the program and training as required.
- Contact EHS to request initial training, technical assistance, and to evaluate health and safety concerns within their unit.

Employees

- Comply with this Guideline and any further safety recommendations provided by supervisors and/or EHS regarding Hazard Communication.
- Conduct assigned tasks in a safe manner, wear appropriate *personal protective equipment*, and obtain training and/or information prior to using unfamiliar chemicals.

EHS

- Document and administer the Hazard Communication Program.
- Provide training to supervisors and employees upon request, and maintain records of EHS provided training.
- Serve as a University liaison for local, county, state, and federal agencies regarding safety issues.
- Review and revise the Hazard Communication Guideline as necessary to comply with government regulations.

Departments Preparing Specifications for Contracted Work or Hiring Contractors

Inform contractors of any hazardous chemicals located in the contracted work area and the precautionary measures to be taken to protect employees during normal operations and foreseeable emergencies.

Inform contractors that they are required to maintain SDS on-site for all hazardous materials that are brought onto University property.

Procedures

The written Hazard Communication Program is necessary to describe the chemical hazards present in the workplace and how these hazards will be communicated to the employees. A Model Hazard Communication Program is included with this Guideline to provide assistance in preparing individualized documents.

The components of the written Program must include:

- A list of all hazardous chemicals located in the workplace.
- Methods to ensure containers of hazardous chemicals are clearly labeled with the identity of the material, as well as appropriate hazard warnings.
- Methods to be utilized for acquiring and maintaining SDS for each listed hazardous chemical. The [MIOSHA SDS Location Poster](#) identifying the location and responsible person for obtaining the SDS must be posted in the workplace. [The Michigan Safety and Health Protection on the Job Poster](#) must also be posted.
- Notification of new or revised SDS must be posted in the work place 5 days after receipt and remain in place for 10 days. The [MIOSHA New or Revised SDS Poster](#) can be utilized for this purpose.
- SDS are considered to be a source of employee *exposure* records and must be maintained for at least 30 years, unless records of the chemical name, where and how it was used are maintained for at least 30 years.

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- The SDS must comply with government regulations and be available for employee use. Methods for obtaining SDS include contacting the manufacturer or supplier of the chemical or utilizing various SDS databases provided on the EHS Web Page. Helpful sites are listed in [Appendix B](#).

In lieu of maintaining hard copies of SDS, electronic versions of a Department's SDS can also be obtained within ChemWatch's [GoldFFX](#) SDS repository program. Instructions for using this program as well as for creating Departmental SDS folders can also be found in EHS' [Safety Data Sheet](#) webpage.

Users of the [MI Safety Portal](#) system can also associate on-line SDS location information to the chemicals they are tracking with this system. Refer to the information provided within EHS' [MI Safety Portal](#) webpage or contact EHS at (734) 647-1143 or send an email to MiSafetyPortal@umich.edu for more information.

- Hazardous chemical information and training must be provided to employees at the time of initial assignment and whenever new hazardous chemicals are introduced into the work area. The hazards associated to the use of chemicals used in a non-routine manner, i.e., a manner other than what they were intended, and the hazards associated with performing non-routine or emergency tasks associated to an operation, e.g., cleaning reactor vessels, entering confined spaces, etc., must be included as well. EHS can provide technical assistance, information, and training materials to assist departments with compliance.
- Contractors must be informed of the presence of hazardous chemicals that they may encounter while at the University and the contractors must provide the University with the SDS for products they intend to use during University projects that contain hazardous chemicals.
- Pipes and piping systems that contain a hazardous chemical must be identified by a label, sign, placard, or written operating procedures. The color coding system used by the University is identified in the [Design Guideline](#) developed and maintained by Architecture, Engineering and Construction (AEC). Information can be found in AEC's Design Guideline, Section 220553: [Mechanical Identification and Painting](#).

Training

Training can be presented in a formal classroom setting using videotapes and lecture methods or it can be an informal on-the-job discussion of the required training information. With either method, the training must be documented and records maintained for not less than 30 years. Employee information and training shall include at minimum, the following:

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area. Examples include air monitoring devices, visual appearance, or odor.
- The physical and health hazards of the chemicals present in the work area.
- The measures employees can take to protect themselves from the hazards. Examples include appropriate work practices, emergency procedures, and personal protective equipment.
- Details of the HazCom Program include identifying operations where hazardous chemicals are present, the location and availability of the written program with the list of hazardous chemicals present and the SDS, an explanation of the labeling system, and how employees can use the hazard information.

Related Documents

- [Hazardous Work in Laboratories: Chemical Hygiene Plan \(CHP\)](#)
- [Personal Protective Equipment, General Guideline](#)

Technical Support

All reference guidelines, regulations, and other documents are available through EHS (647-1142) and on the [EHS](#) website.

Attachments

- [Appendix A – Hazard Communication Program – Model Program](#)
- [Appendix B – SDS Access Sites](#)