

HAZARD COMMUNICATION PROGRAM

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1. Introduction

The purpose of this Hazard Communication ("HazCom") Program is to inform employees of the hazardous chemicals or materials present in their work environment and ways to protect themselves during normal operations and during foreseeable emergencies.

University units are required to implement the components of the HazCom program to ensure compliance with the following State and Federal regulations:

- OSHA standards
 - Hazard Communication Standard 29 CFR 1910.1200
- EPA Standards
 - Community Right to Know Standard (SARA) 40 CFR Part 370
 - Pesticides Agricultural Worker Protection Standard 40 CFR 170

2. Scope

2.1 Employees Covered

The Guidelines in this Program apply to all Purdue University employees at the West Lafayette Campus, regional campuses, farms, and related facilities who may be exposed to hazardous chemicals under normal operating conditions or foreseeable emergencies.

2.2 Research Laboratory Exemption

This Program does not apply to research laboratories where small quantities of chemicals are used on a non-production basis. Instead, such laboratories must follow the OSHA Laboratory Standard (29 CFR 1910.1450), and are covered by the Purdue University Chemical Hygiene Plan.

2.3 Substances Covered

All substances located at Purdue University which pose a physical or health hazard are included, except those specifically exempted by this program. Commonly exempt substances include, but are not limited to, hazardous wastes, consumer products, food, food additives, drugs, cosmetics and medical or veterinary products. A complete list can be found in the OSHA standard (29 CFR 1910.1200(b)(6)).

3. Responsibilities

3.1 Deans, Directors, and Department Heads

- Ensure supervisor(s) understand their responsibilities to implement the Hazard Communication Program within each work unit
- Actively support the HazCom Program within individual units
- Promote employees compliance with HazCom Program requirements

3.2 Supervisors

- Implement the HazCom Program and ensure its procedures are followed
- Contact REM's Industrial Hygiene section to request DTI training, technical assistance, and evaluate health and safety concerns within their department
- Select a representative(s) to be a Designated Trained Individual (DTI) for the work area
- Ensure staff is aware of the HazCom Program and trained as required

3.3 The Designated Trained Individual

- Acts as the work area HazCom coordinator
- Contact REM's Industrial Hygiene section to request DTI training, technical assistance, and evaluate health and safety concerns within their department
- Conducts effective hazard communication training sessions in their area(s) of responsibilities and documents the training
- Ensures SDSs are in a central location and updated as required
- Ensures all required documents and forms are maintained and readily available
- Provides contractors with chemical hazard information for areas they work in

3.4 Employees

- Comply with provisions of the HazCom Program and any other safety recommendations from supervisors and/or REM regarding Hazard Communication
- Conduct assigned tasks in a safe manner, wear appropriate personal protective equipment, and obtain training and/or information prior to using chemicals

3.5 Radiological Environmental Management (REM) Department

- Provides training and/or training resources to DTIs upon request
- Maintains records of DTI training

- Validates employee training through departmental participation in the Integrated Safety Plan (ISP)
- Serves as a University liaison for local, county, state, and federal agencies regarding occupational health and safety issues
- Review and revise the Hazard Communication Program as necessary to comply with government regulations

3.6 Departments Preparing Specifications for 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
- Ensure contractors have a hazard communication program that meets the requirements established in 29 CFR 1910.1200
- Ensure contractors coordinate the exchange of hazard information as specified in Facilities
 Planning, Bid Specifications Section 48

4. Safety Data Sheets (SDSs) and Hazardous Chemical Inventory

Manufacturers, importers and distributors of chemical products must prepare and provide Safety Data Sheets in accordance with Appendices A and B of the OSHA Revised (2012) Hazard Communication Standard (see Appendix I: Hazard Classification and SDS Requirements). The SDS must contain the hazard evaluation information for that product as presented on the SDS Compliance Checklist (Appendix II). OSHA Appendices A and B should be consulted for assistance in developing, evaluating and/or interpreting SDS information. Purdue University will rely on the chemical manufacturers, importers, and/or distributors to provide an accurate, complete, and current SDS for all procurements of chemicals and/or chemical mixtures.

SDSs must be obtained for all hazardous materials and chemicals when they are brought into the facility. SDSs and a *Chemical Inventory* form (Appendix III) must be maintained together and made readily available to all employees. These must be organized alphabetically by chemical/product name. Methods for obtaining SDSs include contacting the manufacturer or supplier of the chemical directly (most SDSs are available via manufacturer's website) or contacting REM for assistance.

SDS are considered to be a part of employee medical records and therefore must be maintained for at least 30 years from the date of last use. SDS for materials no longer used or stored should be kept in a

separate "archived" SDS binder or electronically. These must also be organized alphabetically by chemical/product name.

5. Labels and Hazardous Warnings

An effective laboratory management plan is essential to operating a safe lab environment. Requirements on topics such as lab housekeeping, equipment safety, chemical inventories, proper handling, storage, segregation, and labeling of chemicals must be established and known by all laboratory personnel. This chapter details how laboratories should be safely managed at Purdue.

5.1 Laboratory Safety Guidelines

Verify proper labeling of hazardous chemical containers at the time of receipt and periodically thereafter. Proper labeling will include the identity of the chemical, pictograms/pictures and the hazard warnings appropriate for employee protection. Secondary workplace containers must be labeled with the manufacturer's label or an alternative labeling system which provides at the minimum, the product identifier, signal word, hazard statement(s) and the pictogram associated with the chemical including the red boarder. The information supplied on these labels must be consistent with OSHA's revised HCS (i.e. **no conflicting hazard warnings or pictograms**). The labels must be legible, in English, and prominently displayed. Other languages may also be included if appropriate. Customized secondary container labels (Figure 5.1) are available from REM upon request.



Figure 5.1 – Secondary Container Label

6. Non-Routine Tasks and Unlabeled Piping

Whenever hazardous chemicals are to be used in a non-routine manner (a manner other than what it was intended) or when performing non-routine tasks associated to the operation (e.g., cleaning reactor vessels, entering confined spaces, etc.), the knowledgeable departmental staff or supervisor should be consulted for overall safety considerations prior to performing the operation(s).

6.1 Non Routine Tasks

The hazards associated with these non-routine tasks must be reviewed with the employee prior to beginning the task. REM staff is available to assistant in evaluate non-routine tasks and provide hazard information to the department and employee. The non-routine hazard information provided to employees will include (as applicable):

- Specific chemical hazards.
- Personal protection and safety measures the employee can take to lessen risks of performing the task.
- Measures that have been taken to eliminate or control the hazard, may include, but are not limited to;
 - Air monitoring
 - Ventilation requirements
 - Use of respirators
 - Use of attendants to observe procedures
 - Emergency procedures

6.2 Unlabeled Piping

Employees and contractors who work on unlabeled pipes must be informed of hazardous substances that may be present. Supervisors must inform workers of the following prior to starting work:

- Identity of any suspected or known hazardous substances in the pipe
- Potential hazards of the substance(s)
- Appropriate safety precautions to take

6.3 Confined Spaces

Sometimes an employee or contractor may have to work in a confined space. Additional details regarding confined spaces can be found on REM's Confined Space webpage.

7. Contractors

Departments preparing specifications for or hiring contractors to perform work at Purdue University must inform the contractors of any hazardous chemical within the project area and provide the appropriate SDS(s). The contractor, in turn, must inform the University of any hazardous chemical they intend to use while on University property and provide the appropriate SDS(s). Both parties must be aware of the necessary measures to be taken during normal operations and foreseeable emergencies.

8. Information and Training

8.1 DTI Training

The University uses a train the trainer approach to achieve HazCom compliance. Individuals designated from the work areas shall be known as designated trained individuals or DTIs. DTI training is provided by REM and covers the Hazard Communication Standard and its procedures for program implementation and maintenance. These implementations must be documented by completing the *Hazard Communication Program Implementation* form (Appendix IV).

This document along with a completed Appendix IV constitutes the work area's "Written Hazard Communication Program". DTIs will receive a *DTI Certification* form (Appendix V) from REM upon completion of their training.

8.2 Employee Training

DTIs can present training in a classroom setting using electronic media, lectures, REM's Hazard Communication Online Training (https://www.purdue.edu/ehps/rem/ih/hazcom.htm#hct), or it can be an informal on-the-job discussion of the required training information. The *Training Outline and Materials for DTI* example (Appendix VI) is provided to assist with preparing training. In any setting, the training must be documented with the *Hazard Communication Training Attendance Record* form (Appendix VIII) and maintained for no less than 30 years.

The contents of Hazard Communication training must be documented in the Written Hazard Communication Program and contain at a minimum the following information:

- Methods and observations (e.g. air monitoring devices, visual appearance, or odor) that may be used to detect the presence or release of a hazardous material in the work area.
- Physical and health hazards of the chemicals present in the work area.

- Measures (e.g. appropriate work practices, emergency procedures, and personal protective equipment (PPE)) employees can take to protect themselves from these hazards.
- Details include:
 - o Identifying operations where hazardous materials are present
 - o Communicating the location and availability of the written program which includes:
 - The Hazard Communication Program Implementation form (Appendix IV),
 - The hazardous chemical inventory, and
 - SDSs
 - o An explanation of the labeling system
 - o How employees can use the hazard information from chemical labels and SDS

Appendix I: Hazard Classification and SDS Requirements

The Physical and Health Hazard criteria detailed in the mandatory appendices of the Revised Hazard Communication Standard (2012) will be used when necessary for hazard classification, chemical hazard assessment, and in training employees about hazards.

Chemicals which meet the criteria set forth in 29 CFR 1910.1200 Appendix A are health hazards, and those which meet 29 CFR 1910.1200 Appendix B criteria are physical hazards.

29 CFR 1910.1200 Appendix A: (https://www.osha.gov/dsg/hazcom/appendix a.pdf)

29 CFR 1910.1200 Appendix B: (http://www.osha.gov/dsg/hazcom/appendix b.pdf)

Appendix II: SDS Compliance Checklist

The most current and useable version will be located in the Chemical Safety & Industrial Hygiene: Hazard Communication section of the REM Forms web page (https://www.purdue.edu/ehps/rem/home/form.htm).

Appendix II: SDS Compliance Checklist

Purdue University Hazard Communication Program

SDS Compliance Checklist

 2. All SDSs are in English. 3. Each SDS for a single chemical/product name has the following: a. The chemical/product identifier used on the label b. The chemical and common name(s) for single substance hazardous chemicals 4. For mixtures tested as a whole each SDS contains the following: a. The chemical and common name(s) of ingredients which contribute to these known hazard b. The common name(s) of the mixture 5. All SDSs contain the chemical and common name(s) of all ingredients which have been dete a. To be health hazards and that comprise 1% or more of the composition or, as in the case of chemicals identified as carcinogens, have concentrations of 0.1% or more b. To present a physical hazard when present in the mixture 6. All SDSs also contain the following: a. The physical and chemical characteristics of the hazardous (vapor pressure, flash point, etc.) b. The physical hazards of the hazardous chemical, including the potential for fire, explosion a reactivity c. The health hazards of the hazardous chemical (including signs and symptoms of exposure, reactivity)
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reactivity
c. The health hazards of the hazardous chemical (including signs and symptoms of exposure, r
conditions caused or aggravated by exposure)
d. The primary route(s) of entry
e. The OSHA PEL or ACGIH TLV or other exposure limits
f. Section 2 information about GHS classifications; and appropriate GHS class and category designations, signal word, hazard statement(s), precautionary statement(s), and pictogram g. Applicable procedures and precautions for safe handling and use of the chemical (hygienic
practices, maintenance, and spill procedures)
 h. Contain applicable control (engineering controls, work practices, or personal protective equipment)
i. Emergency and first aid procedures
j. Date of preparation or last change
 k. The name, address, and telephone number of the chemical manufacturer, importer, employ other responsible party
 All SDSs are complete in all sections, and if not, the incomplete sections are marked to indice that no applicable information was found

This document is provided as a reference for the manager, supervisor, or DTI who ensures complete SDSs are maintained in the work area collection. There is no requirement to keep or submit this document to REM.

Revised: March 21, 2017

Appendix III: Chemical Inventory

The most current and useable version will be located in the Chemical Safety & Industrial Hygiene: Hazard Communication section of the REM Forms web page (https://www.purdue.edu/ehps/rem/home/form.htm).

	Hazard Communication Pro		
	Chemical Invent	ory	
Work Area/Department:	: D	ate Updated:	
		П:	
			Page of
Building Room	Chemical/Product Name	Manufac	turer SDS Date
			

Appendix IV: Hazard Communication Program Implementation

The most current and useable version will be located in the Chemical Safety & Industrial Hygiene: Hazard Communication section of the REM Forms web page (https://www.purdue.edu/ehps/rem/home/form.htm).

Appendix IV: Hazard Communication Program Implementation

	Purdue University Hazard Communication Program
Hazard Co	ommunication Program Implementation
For:	(Work Area and/or Location)
Prepared by:	Date:
	ry to ensure that chemical hazards are identified within each work area and that ade available to all personnel who may be potentially exposed.
area. For questions concerning the	ion on how the Purdue Hazard Communication Program is implemented in this work e overall university program, the Occupational Safety and Health Administration egulations, or hazard communication terms you may not understand, you should refer
The Purdue University Haz	zard Communication Program for this work area is located:
	(Location)
The Designated Trained In	dividual (DTI) for this work area is:
	(Full Name)
inventory and Safety Data Sheets and use of these chemicals for all via group and/or individual discus	hey ensure all hazardous chemicals are properly labeled as well as maintain an (SDSs) to provide information about hazards and procedures for the safe handling employees working in this location. Other information and training may be provided sions. The DTI will document all training using the Hazard Communication Training which must be signed by all who attend.
The SDS collection for this	work area is up-to-date as of :
	(Date)
SDSs are available to all shifts wor obtain one promptly.	rking in this area. If a SDS is not available for a product the DTI or supervisor should
labeled. You should know and und take the recommended precaution	our work area should be properly labeled. NEVER use a chemical that is not clearly derstand the hazards of all chemicals you work with or around in your work area and ns for their safe handling and use. If you have any questions concerning the hazards or safe use of the product, contact the DTI or your supervisor.
	le answers if a material is not labeled, the label is damaged, or questions concerning ntact REM's Industrial Hygiene section for assistance with obtaining SDSs or any stion Program.
his completed form kept together wi he work area's "Written Hazard Comi	th the Purdue University Hazard Communication Program compliance document constitutes munication Program".
evised: March 21, 2017	-

Appendix V: DTI Certification

The most current and useable version will be located in the Chemical Safety & Industrial Hygiene: Hazard Communication section of the REM Forms web page (https://www.purdue.edu/ehps/rem/home/form.htm).

	Purdue University Hazard Communication Program
	DTI Certification
DTI Name:	
	DTI Email:
	Department:
DTI Supervisor:	Trained by:
Training Date:	Duration of Training:
Names and or employee grou; Communication Program and :	p description for whom the DTI will implement the Written Hazard maintain records:
•	
_	d Designated Trained Individual (DTI) Training. I have been informed about the
training, information, and record	d Designated Trained Individual (DTI) Training. I have been informed about the keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program.
training, information, and record Standard and the Purdue Univers	keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program.
training, information, and records Standard and the Purdue Univers I understand how to provide emp	keeping requirements for employees covered by the OSHA Hazard Communication
training, information, and records Standard and the Purdue Univers I understand how to provide emp annual HazCom Program training	keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program. Hoyees with information about SDSs, container labeling, and that I must also maintain
training, information, and records Standard and the Purdue Univers I understand how to provide emp	keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program. Hoyees with information about SDSs, container labeling, and that I must also maintain
training, information, and records Standard and the Purdue Univers I understand how to provide emp annual HazCom Program training DTI Signature:	keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program. Hoyees with information about SDSs, container labeling, and that I must also maintain
training, information, and records Standard and the Purdue Univers I understand how to provide emp annual HazCom Program training DTI Signature: his completed document contains the	keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program. Iloyees with information about SDSs, container labeling, and that I must also maintain via completing Awareness or Comprehensive Hazard Communication Online Training
training, information, and records Standard and the Purdue Univers I understand how to provide emp annual HazCom Program training DTI Signature: his completed document contains the	keeping requirements for employees covered by the OSHA Hazard Communication ity Hazard Communication Program. Hoyees with information about SDSs, container labeling, and that I must also maintain via completing Awareness or Comprehensive Hazard Communication Online Training the name of the persons certified as the DTI for the indicated work area(s). DTI training should
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Appendix VI: Training Outline and Materials for DTI

Training Time: 45 to 90 minutes depending on size of inventory, level of hazards, PPE needs

Agenda:

- Topic Introduction
- Show either the awareness or comprehensive version of the Hazard Communication Online Training (https://www.purdue.edu/ehps/rem/ih/hazcom.htm#hct) as needed and augment it with location specific information (i.e. safety data sheets (SDSs), Purdue university Hazard Communication Program compliance document, hazard assessments locations, etc.).
 - Comprehensive (online) training is 45 minutes long
 - Awareness (online) training is 15 minutes long
- Summarize the content and review learning objectives by orally discussing quiz at the end of the training
- Pass out the handouts and address any questions
- Ensure everyone signs the attendance sheet

Equipment and documents needed:

- Computer connected to internet for viewing flash based HazCom Online Training via:
 - Projector in training room with audio speakers
 - o Computer lab or work computer with audio speakers or headphones
- REM Hazard Communication handouts for each participant (2 one page handouts)
 - Safety Data Sheet Format Changes
 - Chemical Container Label Changes
- Hazard Communication Training Attendance Record (Appendix VIII)

Background

The Occupational Safety and Health Administration updated their chemical hazard communication regulation in March of 2012. The new regulations require all manufacturers and suppliers of chemicals to place new warning labels on containers of hazardous chemicals and to organize the content of their material safety data sheets (now call safety data sheets) into sixteen sections. The health and safety information found on the new container labels and safety data sheets will be of higher quality and consistent across suppliers. It is believed that these changes will enhance worker comprehension of the risks posed by handling hazardous chemicals. This training session will review the information found on the new chemical labels and describe the new format of safety data sheets. OSHA requires this training be completed on or before December 1, 2013 (for all employees handling or exposed to

hazardous chemicals). The new labels and safety data sheets will start appearing soon but some suppliers will not make the switch until 2015.

The following Hazard Communication Standard OSHA briefs provide additional information on these changes, and can be found on the OSHA website:

- Labels and Pictograms
- Safety Data Sheets

Safety Data Sheet Format Changes handout:

OSHA's new Hazard Communication Standard (2012) requires chemical manufacturers and suppliers to provide Safety Data Sheets (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of chemical products. As of June 1, 2015, the hazard information found in Safety Data Sheets must be placed in the following sixteen sections and each section must contain the following content:

- Section 1: Identification identifies the chemical for which the safety data sheet is written as
 well as the recommended uses for the chemical. It also provides the contact information of the
 manufacturer or distributer. Remember, the name on the label will match the name on the
 safety data sheet.
- **Section 2: Hazard(s)** identification provides a summary of the hazards associated with the chemical and lists precautionary statements that if followed will assist in avoiding those hazards. The information in this section is exactly the same as the information placed on the label which we discussed previously.
- **Section 3: Composition** information on ingredients identifies the substance, or ingredients if a mixture, contained in the product. If a chemical ingredient is not listed because a trade secret is claimed, it will be noted.
- **Section 4: First-aid measures** includes 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** lists suitable extinguishing techniques and equipment as well as specific hazards that might develop from the chemical during a fire.
- **Section 6: Accidental release measures** lists emergency procedures including recommendations on appropriate response to spills, leaks, or other releases.
- Section 7: Handling and storage lists precautions for safe handling and storage, including incompatibilities.
- **Section 8: Exposure controls/personal protection** lists the exposure limits for the chemical, appropriate engineering controls and recommendations for personal protective equipment.
- Section 9: Physical and chemical properties lists the physical and chemical properties associated with the chemical including its appearance and physical state, odor, pH, melting or boiling point, flash point, evaporation rate and upper and lower flammability limits.

- **Section 10: Stability and reactivity** lists chemical stability information and possible hazardous reactions.
- **Section 11: Toxicological information** lists health effects information including the likely routes of exposure, a description of the immediate and long-term effects of exposure, the symptoms of exposure and numerical measures of acute toxicity. It will also note if the substance has been identified as a known or potential carcinogen or is a reproductive toxin.
- **Sections 12 16** are unrelated to workplace health and safety: Ecological information, Disposal consideration, Transport information, Regulatory information, other information, includes the date of preparation or last revision.

Chemical Container Label Changes handout:

Changes must be made to chemical labels no later than June 1, 2015. The following information must now be placed on labels of hazardous chemicals:

- A Product Identifier such as the chemical name, code number or batch number. The same product identifier must be both on the label and in section 1 of the Safety Data Sheet. This makes it easy to find the right sheet.
- **Signal Words** which indicate the relative level of severity of the hazard and alert the reader to a potential hazard on the label. There are only two words used as signal words, "Danger" and "Warning." Danger is used for the more severe hazards and Warning is used for the less severe hazards.
- Hazard Statements which describe the nature of the hazard(s) of a chemical are also required.
- **Precautionary Statements** which describe how to safely handle, store, and dispose of the chemical as well as how to respond to accidental spillage or exposures is required as well.

Labels will also contain pictograms which describe the chemical's hazardous characteristics with an image. The nine (9) pictograms (Figure A.VI.1) authorized by OSHA for HazCom labeling are presented on the next page:



Figure A.VI.1 – Hazard Communication Standard Pictograms

Appendix VII: Summary of DTI Responsibilities

- Read this Hazard Communication Program compliance manual and its appendices. Contact the REM Industrial Hygiene section if you have questions.
- Ensure all SDSs inside the SDS binder or database are complete, current, and GHS compliant (see Appendix II).Retire SDSs when product or chemical is no longer in inventory.
 - O Mark the retired SDS with the date it was retired.
- Update the chemical inventory (Appendix III) annually and retire the prior year's inventory when the new inventory is created and dated. Keep the current inventory with this document.
- After all elements of the program have been updated, ensure the completed Hazard
 Communication Program Implementation form (Appendix IV) is kept with this compliance
 document. It, together with other documents, constitute your work area's Written Hazard
 Communication Program. Retire it when the next year's written program replaces it.
- The DTI's current training certification (Appendix V) should be kept with this document. Retire each year's DTI training or refresher training when retraining is requested by REM or when a new DTI for the area is appointed.
- Conduct HazCom employee training and document it via (Appendix VIII). Employees must be trained at initial assignment to the work, as new chemicals or products are added, and at least annually. Keep current training records in this document. Retire the training records when the annual retraining records take their place.
- All retired DTI certifications, implementation documents, training records, chemical inventories, and SDSs must be kept 30 years. They must be stored in an organized manner and easily retrievable.

Appendix VIII: Hazard Communication Training Attendance Record

The most current and useable version will be located in the Chemical Safety & Industrial Hygiene: Hazard Communication section of the REM Forms web page (https://www.purdue.edu/ehps/rem/home/form.htm).

	Purdue University	
	Hazard Communication Program	
Hazard Commu	unication Training Atte	ndance Record
(Must be updated every fiscal year.)
Trainer (Print or Type Full Name):		
Work Area(s)/Building(s):		
Training Location:	Date:	Duration (min.):
		Page of
I certify the employees below have been train Purdue University Hazard Communication Pro	ogram. In addition, they have been familia	rized with the location and interpretation o
work area SDSs; label hazard warnings, classe		nd precautionary statements.
Trainer's Signature:		
Full Name	Signature	HazCom Online Training Training Module* Purdue Login
(Printed)		NA AT CT (username)
di	area's Written Hazard Communication Pro	gram