**The Pennsylvania State University**

**Hazard Communication Program**

**Introduction:**

The Hazard Communication (HazCom) Standard is an Occupational Safety and Health Administration (OSHA) regulation which addresses chemical safety in the workplace. HazCom is designed to provide information to employees about the hazardous chemicals to which they may be exposed. A hazardous chemical is defined by OSHA as “any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified”.

The requirements of this program are intended to be consistent with the latest provisions of the OSHA HazCom Standard, which incorporates the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS). GHS is a system that defines and classifies the hazards of chemical products. This system communicates health and safety information on container labels and material safety data sheets (called Safety Data Sheets, or SDS, in GHS). The goal of GHS is that the same set of rules for classifying and communicating chemical hazards will be adopted and used around the world.

It is the policy of the Pennsylvania State University (PSU) to ensure employees are fully informed of potential chemical hazards within the workplace and that appropriate precautions are taken to protect employees from these hazards.

[**Purpose**](http://web.princeton.edu/sites/ehs/healthsafetyguide/C2.htm#intro)**:**

This program has been established to:

* Ensure hazardous chemicals are properly identified in the workplace.
* Ensure the hazards of these chemicals are communicated.
* Ensure that employees understand and comply with safety standards related to chemicals.
* Assign responsibilities to personnel which are necessary for successful implementation.

[**Scope and Application**](http://web.princeton.edu/sites/ehs/healthsafetyguide/C2.htm#scope)**:**

This program applies to all employees at all PSU locations except the Hershey Medical Center, College of Medicine, and the Pennsylvania College of Technology.

This program applies to all non-laboratory work areas that utilize hazardous chemicals including, but not limited to, machine shops, maintenance shops, garage areas and janitorial/custodial storage areas.

Chemical use in laboratories is covered by the PSU Laboratory & Research Safety Plan. Work areas/labs currently operating under the PSU Laboratory & Research Safety Plan are exempt from the requirements of this program.

Hazardous waste, ionizing and non-ionizing radiation sources, biological material and waste, food, tobacco, and potentially hazardous substances such as drugs and cosmetics brought to PSU for personal use are exempt from this program.

**Table of Contents:**

1.0 References

2.0 Responsibilities

3.0 Written Hazard Communication Program

4.0 List of Hazardous Chemicals

5.0 Labels and Other Forms of Warning

6.0 Safety Data Sheets (SDS)

7.0 Employee Information and Training

8.0 Non-Routine Tasks

9.0 Recordkeeping

10.0 Contractors

Appendix A - Definitions

Appendix B - Training Roster for Work Unit Specific HazCom Training

Appendix C - Example the of HMIS Hazard Warning label

Appendix D – GHS Pictograms

Appendix E - Example of GHS Label

**1.0 References:**

* OSHA Regulation - Hazard Communication - 1910.1200.
* Pennsylvania State University - [PSU Laboratory & Research Safety Plan](http://www.ehs.psu.edu/occhealth/lab_safety_plan.pdf)
* Pennsylvania State University - Use of Radioactive Material Policy (SY14)
* Pennsylvania State University – Hazardous Waste Disposal Policy (SY20)
* Pennsylvania State University – Infectious Waste Disposal Policy (SY29)
* Pennsylvania State University – Chemical Inventory Management System Policy (CHIMS) (SY39)

**2.0 Responsibilities:**

2.1 Budget Executives and Budget Administrators

* + - * Ensure that responsibilities assigned within this program are carried out within their administrative work unit.
* Designate individuals responsible for the implementation of this program within their work unit.
* Actively support this program as part of the work unit’s overall safety effort.
	+ - * Ensure adequate funding is available to support this program.

2.2 Department of Environmental Health and Safety

* Assist work units in implementing the provisions of this program.
* Periodically review and update this program.
* Periodically evaluate the overall effectiveness of this program.

2.3 Safety Officers (University Safety Council members)

* Determine the applicability of this program to activities conducted within their work unit.
* Attend all required training.
* Coordinate implementation of this program within their work unit.
* Actively support this program as part of the work unit’s overall safety effort.

2.4 Supervisors

* Be thoroughly informed of the contents of this program and its application to their areas of responsibility and authority.
* Ensure employees comply with all provisions of this program.
* Attend all required training.
* Ensure Safety Data Sheet (SDS) inventories are maintained and updated.
* Ensure employees receive training appropriate to their assigned tasks and maintain documentation of such training.
* Ensure employees are provided with and use appropriate protective equipment.
* Take prompt corrective action when unsafe conditions or practices are observed.
* Investigate injuries and incidents within their work unit related to chemicals.

2.5 Employees

* Follow the work practices described in this program including maintaining proper labeling of chemical containers, reviewing Safety Data Sheets (SDS), following instructions and recommendations regarding proper use of chemicals, and using appropriate personal protective equipment.
* Attend all training required by this program.
* Immediately report any unsafe conditions or concerns related to chemicals to their supervisor.

**3.0 Written Hazard Communication Program**

3.1 The OSHA Hazard Communication regulation requires a written program to be developed that includes the topics listed below. This document serves as the written program for Pennsylvania State University. Work unit specific instructions will be documented and communicated to employees via Work Unit Specific HazCom Training. (See Appendix B)

3.1.1 List of all hazardous chemicals

3.1.2 Labeling and other forms of warning

3.1.3 Safety Data Sheets (SDS’s)

3.1.4 Employee information and training requirements

3.1.5 Safety information regarding non-routine tasks

**4.0 List of Hazardous Chemicals**

4.1 A list of chemicals used must be maintained. The list may be compiled for the work unit as a whole or for individual work areas. Maintaining a list of chemicals must be accomplished utilizing CHIMS (Chemical Inventory Management System). Refer to PSU policy SY39, “Hazardous Chemical Inventory Management” for further information on CHIMS

4.2 The product identifier as it is referenced on the corresponding SDS or product label must be used.

4.3 A hard copy of the list shall be made available to employees in the work unit upon request. If a hard copy is not provided, employees shall be trained on how to access the information.

**5.0 Labeling and Other Forms of Warning**

5.1 When a chemical is purchased, the manufacturer’s container will display the appropriate label. The manufacturer’s label must not be removed or defaced, unless the container is immediately marked with the required information.

5.2 When a chemical is transferred from the manufacturer’s original container, the following labeling is required on the new container (secondary container):

5.2.1 Product identifier **AND**;

5.2.1.1 Words

5.2.1.2 Pictures

5.2.1.3 Symbols

5.2.1.4 Or combination of the above which provide at least general information regarding the hazards of the chemicals.

5.2.2 The Hazardous Material Identification System (HMIS) label, at a minimum, must to be used to properly label secondary containers. This system is a good option for informing employees of daily workplace hazards and how they can minimize exposure. (Appendix C provides further information on the HMIS labeling system).

5.2.2.1 The SDS or manufacturer’s original label must be referenced in order to properly complete the labels.

5.2.2.2 Secondary containers that come pre-labeled from the manufacturer of the product are acceptable as long as the necessary information from section 5.2.1 is present.

5.2.2.3 Use of the National Fire Protection Agency (NFPA) label is not recommended for secondary containers.

5.2.2.3.1 NFPA labeling is a fire protection hazard warning system designed to provide rapid, clear information to emergency responders during emergency conditions. This system is a good option for use on storage tanks (diesel, gasoline, propane, outdoor flammable or combustible gas cylinder storage area) or buildings so that emergency responders can assess the hazard from a safe distance.

5.3 Signs, placards, process sheets, batch tickets, operating procedures, or other such written materials may be used in lieu of affixing labels to individual stationary process containers, as long as the alternative method identifies the containers to which it is applicable and conveys the information required in section 5.2.

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

5.5 Workplace labels or other forms of warning must be legible, written in English, and displayed on the container.

5.5.1 Work units having employees who speak other languages may add the information in their language to the material presented as long as the information is presented in English as well. Employees who don’t speak English must be trained to understand how to identify hazard information provided by the label.

5.6 When information regarding the hazards of a chemical change, the label shall revised as soon as possible but no later than six months after becoming aware of the new information.

**6.0 Safety Data Sheets (SDS)**

6.1 It is the responsibility of each department to provide SDS’s for each hazardous chemical used within their work unit.

6.2 SDS versions must be replaced with updated versions as necessary and chemicals must be cross referenced against the hazardous chemical inventory list annually to ensure SDS’s are present for each hazardous chemical.

6.2.1 Manufacturers, importers, and distributors are required to update the SDS and send it to the chemical user if new/significant information becomes available.

6.2.2 The most recent version of the SDS must be made accessible to the employees.

6.3 SDS’s must be readily accessible while employees are working and there must be no barriers to employee access.

6.4 Employees must be made aware of the location of the SDS’s within their work area and how to obtain them.

6.5 For work areas where internet access is limited or restricted, hard copies of SDS’s must be kept in a reasonable order (such as alphabetically by product identifier).

6.5.1 Examples of such areas may include machine shops, janitor supply closets, maintenance garages, maintenance shops, or production areas (such as laundry facilities, printing shops, or mail distribution areas).

6.6 For work areas where internet access is immediately available with no restrictions, SDS’s can be obtained through electronic resources. These resources may include using internet search engines, chemical manufacturer websites, the PSU EHS website which has links to electronic SDS databases, or a third party SDS management system*.*

6.6.1 All of the following must be met if electronic means are chosen as the only means by which SDS’s will be accessed in the work area:

6.6.1.1 Ensure that SDS’s are readily accessible and that there are no barriers to employee access. This includes ensuring that reliable devices are readily accessible in the workplace at all times.

6.6.1.2 Ensure workers are trained in the use of any devices, including specific software.

6.6.1.3 Ensure that an adequate back-up system for rapid access to hazard information in the event of an emergency such as power-outages, equipment failures, on-line access delays, etc.

6.6.1.4 Ensure that the system of electronic access is part of the overall hazard communication program of the work area.

6.6.1.5 Ensure that employees are able to obtain hard copies of SDS’s, if needed or desired.

6.6.1.6 In cases of emergency, ensure that mechanisms are immediately available to provide emergency response personnel with hard copies of SDS’s.

 **7.0 Employee Information and Training**

7.1 All employees who work with hazardous chemicals or work in areas where hazardous chemicals are used or stored must receive training to become knowledgeable about the potential hazards and how to properly handle these chemicals.

7.2 Employees must receive General and Specific HazCom training at the time of their initial assignment to the work area.

7.3 General HazCom training will be provided via computer based training or in a method approved by EHS. The training will cover the following:

7.3.1 Provisions of the federal OSHA Hazard Communication regulation.

7.3.2 Methods to recognize hazards.

7.3.3 Hazard evaluation.

7.3.4 GHS labels & HMIS labels.

7.3.5 Interpreting SDSs.

7.3.6 Common methods to prevent and control chemical exposure.

7.3.7 The use and function of personal protective equipment.

7.3.8 General procedures for [spill clean-up](http://web.princeton.edu/sites/ehs/emergency/spills.htm).

7.4 Work Unit Specific HazCom training must be provided by the work unit supervisor or designee. EHS is available to assist units with the implementation of this training upon request.

7.5 Work Unit Specific HazCom training must include the following information (See Appendix B):

7.5.1 The location of the [written PSU Hazard Communication Program](http://web.princeton.edu/sites/ehs/healthsafetyguide/C2.htm#Written%20Hazard%20Communication%20Program) and any work unit specific policies/procedures.

7.5.2 How to access the list of hazardous chemicals.

7.5.3 The location of hazardous chemicals.

7.5.4 How to access Safety Data Sheets (SDSs).

7.5.5 Labeling requirements.

7.5.6 The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area. Training need not be conducted on each specific chemical found in the workplace, but may be conducted by categories of hazard (e.g., carcinogens, sensitizers, acutely toxic agents) that are or may be encountered by an employee during the course of his or her duties.

7.5.7 The proper handling, under all circumstances, of hazardous chemicals.

7.5.8 The required personal protective equipment (PPE) for chemicals.

7.5.9 The appropriate emergency procedures (leak/spill cleanup, exposures).

7.5.10 Work unit specific methods and observations used to detect the presence of hazardous chemicals (continuous monitoring devices, alarms, visual appearance, odors, etc.).

7.5.11 Special hazards which may be encountered when performing non-routine duties in the course of work.

7.6 Additional HazCom training is also required whenever:

 7.6.1 A new chemical hazard is introduced into the work area **AND/OR**

7.6.2 When changes to the work area have the potential to introduce a new hazard.

**8.0 Non-Routine Tasks**

8.1 Periodically, employees may be required to perform hazardous non-routine tasks. Any employee engaging in a non-routine task involving possible chemical hazards (e.g., confined space entry, opening chemical lines, removing pumps, tank cleaning, spill cleanup) shall be informed of:

8.1.1 The specific hazards associated with the performance of the task.

8.1.2 Protective measures that must be used (e.g., ventilation, PPE, presence of another employee).

8.1.3 Specific emergency procedures to be used in the event of an accident or injury.

**9.0 Recordkeeping**

9.1 SDS’s must be retained for at least 30 years **OR alternatively** a document containing the identity of the hazardous chemical (chemical name or trade name), where it was used, and when it was used can be created and retained for at least 30 years.

9.2 General HazCom training which is completed using the computer based training will be maintained by EHS. General HazCom training provided by other means shall be maintained by the work unit.

9.3 Work Unit specific HazCom training records shall be maintained by the work unit for the length of each individual’s employment.

**10.0 Contractors**

10.1 The primary PSU contact must provide information to the contract employer regarding potential chemical hazards which may be encountered during their work at PSU. This may include providing them with the SDSs for those chemicals.

10.2 The contract employer is expected to inform and provide their primary PSU contact with the SDS’s for the hazardous chemicals that they will be introducing into the work area during the course of their work at PSU. The contractor must also provide information regarding where chemicals will be used and stored.

**Appendix A**

**Definitions**

**“Chemical”** means any substance, or mixture of substances.

**“Chemical manufacturer”** means an employer with a workplace where chemical(s) are

produced for use or distribution.

**“Chemical Name”** means the scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name that will clearly identify the chemical for the purpose of conducting a hazard classification.

**“Classification”** means to identify the relevant data regarding the hazards of a chemical; review those data to ascertain the hazards associated with the chemical; and decide whether the chemical will be classified as hazardous according to the definition of hazardous chemical. In addition, classification for health and physical hazards includes the determination of the degree of hazard, where appropriate, by comparing the data with the criteria for health and physical hazards.

**“Common Name”** means any designation or identification such as a code name, code number, trade name, brand name or generic name used to identify a chemical other than by its chemical name.

 **“Container”** means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. For purposes of this program, pipes or piping systems, and engines, fuel tanks, or other operating systems in a vehicle, are not considered containers.

**“Distributor”** means a business, other than a chemical manufacturer or importer, which

supplies hazardous chemicals to other distributors or to employers.

**“Employee”** means a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers such as office workers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

**“Employer”** means a person engaged in a business where chemicals are either used,

distributed, or are produced for use or distribution, including a contractor or subcontractor.

**“Exposure or exposed”** means that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, 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.)

**“Foreseeable emergency”** means any potential occurrence such as, but not limited to,

equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

 **“Hazard Not Otherwise Classified (HNOC)”** means 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 addressed in this section. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed in this section, but the effect falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA (e.g., acute toxicity Category 5).

 **“Hazardous chemical”** means any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified.

**“Health hazard”** means 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.

**“Immediate Use”** means that 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.

**“Importer”** means the first business with employees within the Customs Territory of the United States which receives hazardous chemicals produced in other countries for the purpose of supplying them to distributors or employers within the United States.

**“Label”** means 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”** means a combination or a solution composed of two or more substances in which they do not react.

**“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.

**“Pictogram”** means 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 pictograms are designated under this standard for application to a hazard category.

 **“Product identifier”** means the name or number used for a hazardous chemical on a label or in the SDS. It provides a unique means by which the user can identify the chemical. The product identifier used shall permit cross-references to be made among the required list of hazardous chemicals, the label and the SDS.

 **“Pyrophoric gas”** means a chemical in a gaseous state that will ignite spontaneously in air at a temperature of 130 degrees F (54.4 degrees C) or below.

**“Safety data sheet (SDS)”** means a written or printed material concerning a hazardous chemical that provides detailed information about a hazardous chemical or product.

 **“Substance”** means 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.

**“Unclassified hazard”** means a chemical for which there is scientific evidence identified during the classification process that it may pose an adverse physical or health effect when present in a workplace under normal conditions of use or in a foreseeable emergency, but the evidence does not currently meet the specified criteria for physical or health hazard classification in this section. This does not include adverse physical and health effects for which there is a hazard class addressed in this section.

**“Use”** means 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.

**APPENDIX B**

**Training Roster for Work Unit Specific HazCom training (Page 1 of 2)**

The following employee/employees have been trained on the following topics which are specific to their work unit.

🞏 The location of the [written PSU Hazard Communication Program](http://web.princeton.edu/sites/ehs/healthsafetyguide/C2.htm#Written%20Hazard%20Communication%20Program) and any work unit specific policies / procedures.

 *Describe location here:* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 How to access the list of hazardous chemicals.

*Describe here:* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 The location of hazardous chemicals.

*Describe here:* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 How to access Safety Data Sheets (SDSs).

*Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 Labeling requirements.

*Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 The physical, health, simple asphyxiation, combustible dust, and pyrophoric gas hazards, as well as hazards not otherwise classified, of the chemicals in the work area. *Training need not be conducted on each specific chemical found in the workplace, but may be conducted by categories of hazard (e.g., carcinogens, sensitizers, acutely toxic agents) that are or may be encountered by an employee during the course of his/her duties.*

 *List hazard categories that are or may be encountered by an employee during the course of his/her duties:*

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 The proper handling, under all circumstances, of hazardous chemicals.

 *Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**APPENDIX B: Continued**

**Training Roster for Work Unit Specific HazCom training (Page 2 of 2)**

🞏 The required personal protective equipment (PPE) for chemicals.

*Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 The appropriate emergency procedures. (leaks/spills cleanup, exposures)

*Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 Work unit specific methods and observations used to detect the presence of hazardous chemicals. (Continuous monitoring devices, alarms, visual appearance, odors, etc)

*Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

🞏 Special hazards which may be encountered when performing non-routine duties in the course of work.

 *Describe here*: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Work Unit: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Trainer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name (print): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sign: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| Name (Print) | Signature |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

***Note: Use another roster if more space is needed.***

**Appendix C**

**Examples of a HMIS Hazard Warning Labels**

*HMIS Version I & II (Use Yellow Reactivity bar instead of Physical Hazard bar as seen in Version III)*



*HMIS Version III (Newest Version of HMIS label)*



**Appendix C: Continued**



**Blue = Health**

0 = No significant risk to health.

1 = Irritation or minor reversible injury possible.

2 = Temporary or minor injury may occur.

3 = Major injury likely unless prompt action is taken and medical treatment is given.

4 = Life-threatening, major or permanent damage may result from single or repeated overexposures.

The “\*” (asterisk) symbol, placed in the left hand box of the “health” category indicates that the rated product is associated with a chronic health effect. (HMIS III)

**Red = Flammability**

0 = Materials that will not burn.

1 = Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 °F.

2 = Materials which must be moderately heated or exposed to high ambient temperatures before ignition will occur. Includes liquids having a flash point at or above 100 °F (38 °C) but below 200 °F (93 °C).

3 = Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 °F (23 °C) and boiling points above 100 °F (38 °C), as well as liquids with flash points between 73 °F and 100 °F.

4 = Flammable gases, or very volatile flammable liquids with flash points below 73 °F (23 °C), and boiling points below 100 °F (38 °C). Materials may ignite spontaneously with air.

**Appendix C Continued**

**Yellow = Reactivity (HMIS I & II)**

0 = Minimal Hazard Materials which are normally stable even under fire conditions, and which will not react with water.

1 = Slight Hazard Materials which are normally stable, but can become unstable at high temperatures and pressures.

2 = Moderate Hazard Materials that undergo violent chemical change at elevated temperatures and pressures. These materials may also react violently with water.

3 = Serious Hazard Materials that are capable of detonation or explosive reaction, but require a strong initiating source, or must be heated under confinement before initiation. Materials which react explosively with water.

4 = Severe Hazard Materials that are readily capable of detonation or explosive decomposition at normal temperatures and pressures.

**Orange = Physical Hazard (HMIS III)**

0 = Minimal Hazard Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

1 = Slight Hazard Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

2 = Moderate Hazard Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

3 = Serious Hazard Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion.

4 = Severe Hazard Materials that are readily capable of explosive water reaction, detonation or explosive decomposition, polymerization, or self-reaction at normal temperature and pressure.

**Appendix D**

**GHS Pictograms**



**Appendix E**

**Example of GHS Label**

