



Reference: *California Code of Regulations, Title 8, Section 5194 (8 CCR 5194)*

Through the establishment of a Hazard Communication Program, the West Hills Community College District ensures that its employees are aware of the hazards associated with chemical substances contained in products that may be used in the workplace. This program supplements the district's Injury and Illness Prevention Program (IIPP) (see Board Policy 7343) and is the mechanism for compliance with the Cal/OSHA Hazard Communication Standard contained in Title 8 of the California Code of Regulations.

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WEST HILLS
COMMUNITY COLLEGE DISTRICT

***HAZARD COMMUNICATION
PROGRAM***

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1.0 Purpose

The West Hills Community College District has developed the following Hazard Communication Program to ensure that its employees are aware of the hazards associated with chemical substances contained in products that may be used in the workplace. This program supplements the District's Injury and Illness Prevention Program (IIPP) and is the mechanism for compliance with the Cal/OSHA Hazard Communication Standard 29, Title 8 of the California Code of Regulations, Section 5194 (T8 CCR).

This program shall be reviewed and updated on an annual basis or as State and Federal regulations change.

2.0 Scope and Application

The Hazard Communication Standard (HazCom) applies to all employees that may be exposed to hazardous chemicals, as defined by regulation, in the work place under the normal conditions of their employment. The Hazard Communication Plan required by the standard has been developed and adopted District-wide under the authority of the Deputy Chancellor.

2.1 Responsibilities

The President and/or Director of each campus or center within the District shall have the primary responsibility for the HazCom Plan at their respective campus or center. This responsibility includes the implementation and assurances that each campus or center facility is in compliance and that all required personnel fully participate. The Deputy Chancellor shall have the primary responsibility for the HazCom Plan conformance at the District. This responsibility includes the implementation and assurances that each district facility, college, center and maintenance/operation facility and activity is in compliance and that all required personnel fully participate. The overall safety program and responsibilities of key personnel are presented in the District's Injury Illness Prevention Program (IIPP).

2.2 Program Administrator

The District-wide HazCom Program Administrator is the Deputy Chancellor or his/her designee. The Deputy Chancellor or his/her designee shall update this program as appropriate and will be responsible for the distribution of the updated program to Administrators and Managers on each campus. The Deputy Chancellor will also be responsible for verifying that the Safety Data Sheets (SDS) are maintained at each of the District's campuses, centers and facilities and to ensure that those employees have received appropriate hazard communication

training. The District's Chemical Hygiene Officer (CHO) will be responsible for verifying that the SDS are maintained at each of the District's Co-laboratories.

2.3 Department Managers and Supervisors

Each department manager/supervisor, both certificated and classified, shall be responsible for ensuring that all chemical agents are inventoried, that the inventory is current, and that SDS for chemical products used or stored in their work areas are maintained and are readily available for review by employees. The department manager will also be responsible for ensuring that all containers are labeled appropriately and that employees receive suitable training in this program and in the safe use of all agents brought into the workplace.

2.4 Purchasing Agent(s)

Personnel purchasing chemicals must verify that an SDS is requested from the supplier and received with each new chemical purchase. New SDS will be forwarded to the appropriate department manager(s) for inclusion with existing SDS, and the chemical inventory will be updated.

2.5 Employees

Each employee using chemicals should verify that an SDS is on file for each chemical used and that the chemical is listed in the chemical inventory. The user must abide by the procedures for the safe use of the chemical. Personal protective equipment, if necessary, must be available and used, and the required first-aid treatment facilities must be available as specified in the SDS.

3.0 Safety Data Sheets (SDS)

3.1 General

An SDS is a document that chemical manufacturers, distributors, and importers are required to prepare and provide to chemical product users. Employers (managers and supervisors) and employees must use the SDS to determine the risk of injury, the required safeguards, exposure limits, and first-aid or medical treatment required for each and every chemical brought into the workplace. SDS must contain the following information:

- Identification of the substance/mixture
 - Product identifier
 - Relevant identified uses of the substance or mixture and uses advised against

- Name, address and phone number of the supplier
 - Chemical formula and EPA telephone number
- Hazards Identification
 - Classification of the substance or mixture
 - Label elements
 - Other hazards
- Composition/information on ingredients
 - Substances
 - Mixtures
- First-aid measures
 - Description of first aid measures
 - Most important symptoms and effects, both acute and delayed
 - Indication of any immediate medical attention and special treatment needed
- Fire-fighting measures
 - Extinguishing media
 - Special hazards arising from the substance or mixture
 - Advice for fire-fighters
- Accidental release measures
 - Personal precautions, protective equipment and emergency procedures
 - Environmental precautions
 - Methods and material for containment and cleaning up
 - Reference to other sections
- Handling and storage
 - Precautions for safe handling
 - Conditions for safe storage, including any incompatibilities
 - Specific end use(s)
- Exposure controls/person protection
 - Control parameters
 - Exposure controls
- Physical and chemical properties
 - Information on basic physical and chemical properties
 - Other information
- Stability and reactivity
 - Reactivity
 - Chemical stability
 - Possibility of hazardous reactions
 - Conditions to avoid
 - Incompatible materials
 - Hazardous decomposition products
- Toxicological information
 - Information on toxicological effects

- Ecological information
 - Toxicity
 - Persistence and degradability
 - Bioaccumulative potential
 - Mobility in soil
 - Other adverse effects
- Disposal considerations
 - Waste treatment methods
- Transport information
 - Chemical Abstracts Service (CAS) number
 - Proper chemical shipping name
 - Transport hazard class(es)
 - Packing group
 - Environmental hazards
 - Special precautions for user
- Regulatory information
 - Safety, health and environmental regulations specific to substance or mixture
 - Chemical safety assessment
- Other information
 - Date of preparation or last revision

3.2 Location

Each site will maintain the most current SDS received for all chemicals stored and/or used in the building by the science and other departments. SDS will be kept in a location readily accessible to all employees working in college laboratories. Employees and students have access to the Keenan Safe Schools SDS website (<http://westhillscollge.keenan.schoolmsds.com/>) which provides web based SDS information on hazardous substances used and in the District's chemical inventory. SDS may be kept in any form; however, in all cases the SDS must be readily accessible to employees during each work shift when they are in their work area(s). The CHO will maintain a master set of SDS for all chemicals in the District. All chemical orders will include a request for the most recent SDS from the supplier.

The Internet is a convenient and quick way to retrieve SDS; however, one should use caution when retrieving SDS from the Internet. Some of the SDS found on the Internet may be of questionable quality or may not be the most current version.

3.3 Chemical Inventory

A chemical inventory shall be maintained for all chemicals used in the workplace and laboratories. The chemical inventory will be kept with the

SDS and shall be updated when new chemicals are introduced into the workplace. A district wide chemical inventory is maintained and is accessible to all employees at <http://westhillscollge.keenan.schoolmsds.com/>. Prior to the introduction of new chemicals into the workplace, the responsible supervisor should consult with the District's Chemical Hygiene Officer or the Vice Deputy Chancellor.

3.4 Campus/Centers Laboratories

An up-to-date inventory for all chemicals covered by 8 CCR 5194 will be kept with the SDS binder in the immediate area where the chemicals are used or stored. If multiple locations are used for the use of storage of covered chemicals, the supervisor will maintain a master inventory list of all chemicals under his/her control. The master list and SDS binders will be maintained by the supervisor in the supervisors office, store room, etc.

A chemical inventory will be compiled for all laboratories District-wide and will be kept in the office of the District CHO. A district wide chemical inventory is maintained and is accessible to all employees at <http://westhillscollge.keenan.schoolmsds.com/>. Each campus and center laboratory will maintain an up-to-date inventory of all chemicals used in the specific laboratory along with the corresponding SDS. A copy of the inventory shall be available and stored along with the SDS. A listing of the chemicals used in the area including the location of the associated SDS shall be posted in a prominent area. The District has an approved Chemical Hygiene Plan (CHP) (Administrative Procedure 6810, Hazardous Materials) in conformance with the California Code of Regulations, Section 5191 (8 CCR 5191). HazCom training requirements of 8 CCR 5194 are separate and distinct from the requirements for training on the Chemical Hygiene Plan and SDS required by 8 CCR 5191.

4.0 Labeling

All chemical products used by campuses, centers or district operations shall be labeled in English, listing the contents of hazardous substances and providing appropriate hazard warnings.

Manufacturers' labels shall not be removed or defaced. If a manufacturer's label is missing or inadequate, employees are required to contact their supervisor or the Program Administrator for a replacement label.

Repackaging of chemicals shall be done in conformance with the labeling requirements of 8 CCR 5194. Repackaging includes transferring chemicals from bulk containers to "daily use containers." All repacked containers will be labeled with the product name,

hazard class and other identifying information. Questions regarding proper labeling of daily use containers should be directed to the District's CHO.

5.0 Employee Training

All newly hired employees, as part of their orientation will receive training in Hazard Communication Awareness. Employees will continue to receive hazard communication training via formal and informal training sessions. The training element of the Hazard Communication Standard (HazCom) applies only to employees that may be exposed to hazardous chemicals on the job under normal conditions of their workplace. The training component of the HazCom standard does not apply to those employees that do not work with or around recognized hazardous materials.

All employees that work with or around hazardous chemicals will receive specialized training to identify the nature of the hazards, methods for the proper management and control of the hazard and personal protection measures necessary before being assigned to work with the chemicals. Specifically, employees covered by the Hazard Communication Training Program will receive an explanation of the following:

- State hazard communication regulations;
- Rights and responsibilities of employers and employees;
- Hazards associated with classes of chemical substances, such as flammables, solvents, metals, acids and caustics, reactives, and toxics;
- Methods and observation techniques used to determine the presence or release of hazardous substances in the work area;
- How to obtain, read, and understand an SDS and labels;
- Safe work practices and personal protective equipment required for handling hazardous chemical products;
- Emergency and first aid procedures to follow if employees are exposed to hazardous substances;
- Location and interpretation, if needed, of Globally Harmonized System (GHS) warning signs or placards; and
- Location and availability of this written Hazard Communication Program

Records of training will be submitted to and maintained by the Human Resources Department and a copy of the training will be maintained by the department manager or supervisor.

6.0 Non-Routine Operations

Before beginning new or non-routine work operations, special job specific safety meetings shall be held for all affected personnel. At this meeting, the department manager, supervisor, or designated representative shall explain the specific hazards associated with the non-routine operation, safe work practices, and the required personal protective equipment.

Records of such safety meetings will be maintained by the department manager or supervisor.

7.0 Contractor/Subcontractor Employees

Contractors or subcontractors whose employees may be exposed to hazardous materials while working on District property shall be notified of the presence of such products and the location of the SDS. District contractors or subcontractors will also be informed of the manufacturers' suggested protective measures, the District's Hazard Communication Program and the location of SDS.

Safety Data Sheet (SDS)

Introduction

The Safety Data Sheet (SDS) is a detailed information bulletin prepared by the manufacturer or importer of a chemical that describes the physical and chemical properties, physical and health hazards, routes of entry, precautions for safe handling and use, emergency and first-aid procedures, and control measures. Information on an SDS aids in the selection of safe products and helps prepare employers and employees to respond effectively to daily exposure situations as well as to emergency situations.

The SDS provides a comprehensive source of information for all types of District employees. There may be information on the SDS that is not useful to you or not important to the safety and health in your particular operation. Concentrate on the information that is applicable to your situation. Generally, hazard information and protective measures should be the focus of concern.

Appendix C contains a glossary of terms used on SDS. Some supervisors and employees who are not very familiar with chemical terminology may find this helpful in reading and understanding SDS.

Cal/OSHA Requirements

Employers must maintain a complete and accurate SDS for each hazardous chemical that is used in the facility. They are entitled to obtain this information automatically upon purchase of the material. When new and significant information becomes available concerning a product's hazards or ways to protect against the hazards, chemical manufacturers, importers, or distributors must add it to their SDS within three months and provide it to their customers with the next shipment of the chemical. Employers must have an SDS for each hazardous chemical used in the workplace.

If there are multiple suppliers of the same chemical, there is no need to retain multiple SDS's for that chemical.

While SDS are not required to be physically attached to a shipment, they must accompany or precede the shipment. When the manufacturer/supplier fails to send an SDS with a shipment labeled as a hazardous chemical, the employer must obtain one from the chemical manufacturer, importer, or distributor as soon as possible. Similarly, if the SDS is incomplete or unclear, the employer should contact the manufacturer or importer to get clarification or obtain missing information.

When an employee is unable to obtain an MSDS from the binder or from a supplier or manufacturer, he/she should submit a request to the Department of Environmental Health and Safety (DEHS), with complete background information. The DEHS may then call or send a certified letter to the supplier or manufacturer to obtain the needed information.

Guide for Reviewing SDS Completeness
OSHA Instruction CPL 2-2.38A, Office of Health Compliance Assistance
29 CFR 1910.1200(g) Safety Data Sheets (SDS)

- Do chemical manufacturers and importers have SDS for each hazardous chemical produced or imported?
- Is each SDS in English?
- Does each SDS contain at least the following information:
 - Does SDS contain the identity used on the label?
 - Does each SDS contain the chemical and common name(s) for single-substance hazardous chemicals?
 1. For mixtures tested as a whole:
 - Does each SDS contain the chemical and common name(s) of the ingredients which contribute to these known hazards?
 - Does each SDS contain the common name(s) of the mixture itself?
 2. For mixtures not tested as a whole:
 - Does each SDS contain the chemical and common name(s) of all ingredients which are health hazards (1% or greater), or in the case of carcinogens (0.1% or greater)?
 - Does each SDS contain the chemical and common name(s) of all ingredients which have been determined to present a physical hazard when present in the mixture?
 3. Does each SDS contain the physical and chemical characteristics of the hazardous chemical (vapor pressure, flash point, etc.)?
 4. Does each SDS contain the physical hazards of the hazardous chemical, including the potential for fire, explosion, and reactivity?
 5. Does each SDS contain the health hazards of the hazardous chemical (including signs and symptoms, medical conditions aggravated)?
 6. Does each SDS contain the primary routes of entry?
 7. Does each SDS contain the OSHA PEL? The ACGIH TLV? Other exposure limit (including ceiling and other short-term limits)?
 8. Does each SDS contain information on carcinogen listings (reference OSHA regulated carcinogens, those indicated in the National Toxicology Program (NTP) annual report and those listed by the International Agency for Research on Carcinogens (IARC)?

Note: Negative conclusions regarding carcinogenicity or the fact that there is no information do not have to be reported unless there is a specific blank for carcinogenicity on the form.

9. Does each SDS contain general applicable procedures and precautions for safe handling and use of the chemical (hygienic practices, maintenance and spill procedures)?
10. Does each SDS contain generally applicable control (engineering controls, work practices, or personal protective equipment)?
11. Does each SDS contain emergency and first aid procedures?
12. Does each SDS contain date of preparation or last change?

13. Does each SDS contain name, address and telephone number of responsible party?
14. Are all sections of the SDS completed?

Note: This is for use as an aid on inspections. It is NOT a form.

Safety Data Sheet Checklist

You must ensure that each SDS contains the following information:

- Product or chemical identity used on the label.
- Manufacturer's name and address.
- Chemical and common names of each hazardous ingredient.
- Name, address, and phone number for hazard and emergency information.
- Preparation or revision date.
- The hazardous chemical's physical and chemical characteristics, such as vapor pressure and flash point.
- Physical hazards, including the potential for fire, explosion, and reactivity.
- Known health hazards.
- OSHA permissible exposure limit (PEL), ACGIH threshold limit value (TLV) or other exposure limits.
- Emergency and first-aid procedures.
- Whether OSHA, NTP or IARC lists the ingredient as a carcinogen.
- Precautions for safe handling and use.
- Control measures such as engineering controls, work practices, hygienic practices or personal protective equipment required.
- Primary routes of entry.
- Procedures for spills, leaks, and clean-up.

Sections of an SDS and Their Significance

OSHA specifies the information to be included on an SDS, but does not prescribe the precise format for an SDS. A non-mandatory SDS form (see OSHA Form 174 on page 6 of this manual) that meets the Hazard Communication Standard requirements has been issued and can be used as is or expanded as needed. There is no mandated form for SDS, nor do the sections have to conform to the sections listed below. However, all MSDS's must be in English and must include at least the following information generally divided into eight to ten sections:

Section 1. Identification of the Substance/Mixture

- Product identifier
- Relevant identified uses of the substance or mixture and uses advised against
- Details of the supplier of the SDS
- Emergency telephone number

Section 2. Hazardous Identification

- Classification of the substance or mixture
- Label elements
- Other hazards

Section 3. Composition/Information on Ingredients

- Substances
- Mixtures

Section 4. First Aid Measures

- Description of first aid measures
- Most important symptoms and effects, both acute and delayed
- Indication of any immediate medical attention and special treatment needed

Section 5. Fire Fighting Measures

- Extinguishing media
- Special hazards arising from the substance or mixture
- Advice for fire fighters

Section 6. Accidental Release Measures

- Personal precautions, protective equipment and emergency procedures
- Environmental precautions
- Methods and materials for containment and cleaning up
- Reference to other sections

Section 7. Handling and Storage

- Precautions for safe handling
- Conditions for safe storage, including any incompatibilities
- Specific end use(s)

Section 8. Exposure Controls/Personal Protection

- Control parameters
- Exposure controls

Section 9. Physical and Chemical Properties

- Information on basis physical and chemical properties
- Other information

Section 10. Stability and Reactivity

- Reactivity
- Chemical stability
- Possibility of hazardous reactions
- Conditions to avoid
- Incompatible materials
- Hazardous decomposition products

Section 11. Toxicological information

- Information on toxicological effects

Section 12. Ecological information

- Toxicity
- Persistence and degradability
- Bioaccumulative potential
- Mobility in soil
- Results of PBT and vPvB assessment
- Other adverse effects

Section 13. Disposal Considerations

- Waste treatment methods

Section 14. Transport Information

- Chemical Abstracts Service (CAS) Number
- Proper shipping name
- Transport hazard class(es)
- Packing group
- Environmental hazards
- Special precautions for user

Section 15. Regulatory Information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Chemical safety assessment

Section 16. Other information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Chemical safety assessment

Sample Employee Exposure Report Form

Last Name: _____ First Name: _____ Middle Initial: _____

Department: _____

Title: _____ SSN: _____

Date/time of exposure: _____

Duration of exposure: _____

Location of exposure (Building and Room No.): _____

Chemical/hazardous substance name(s): _____

Chemical Abstracts Service (CAS) Number(s): _____

Trade and/or common name(s) of chemical(s) or hazardous substance(s): _____

Type of exposure (e.g., inhalation, ingestion, contact) (If contact, what body part was involved?) _____

How did exposure occur? (Use additional sheet if necessary): _____

Was personal protective equipment available? ___ Yes ___ No

Was personal protective equipment used? ___ Yes ___ No

If personal protective equipment was used, what type(s)? _____

Did employee receive training/instructions prior to exposure? Explain _____

Were any symptoms present at time of exposure? ___ Yes ___ No

If so, describe (attach physician's report, if applicable): _____

Severity of exposure: ___ First Aid ___ Medical Treatment ___ Unknown

Describe: _____

Did employee lose time from work? ___ Yes ___ No

Estimate of lost time: _____

Were other employees exposed? ___ Yes ___ No

Description of exposure: _____

If so, list names and SSN (use additional sheet if necessary): _____

List suggestions to prevent recurrence: _____

**Definitions Commonly Found
In The Cal-OSHA Hazard Communication Standard
Or That Relate to the Contents of the Standard**

Article means a manufactured item:

1. Which is formed to be a specific shape or design during manufacture.
2. Which has end use function(s) dependent in whole or in part upon its shape or design during end use.
3. Which does not release, or otherwise result in exposure to a hazardous chemical under normal conditions of use.

Chemical means any element, chemical compound or mixture of elements and/or compounds.

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 which will clearly identify the chemical for the purpose of conducting a hazard evaluation.

Combustible liquid means any liquid having a flashpoint at or above 100°F (37.8°C), but below 200°F (93.3°C), except any mixture having components with flashpoints of 200°F (93.3°C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.

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

Compressed gas means:

1. A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70°F (21.1°C); or
2. A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130°F (54.4°C) regardless of the pressure at 70°F (21.1°C); or
3. A liquid having a vapor pressure exceeding 4° psi at 100°F (37.8°C) as determined by ASTM D-323-72.

Designated representative means any individual or organization to whom an employee gives written authorization to exercise such employee's rights under this section. A recognized or certified collective bargaining agent shall be treated automatically as a designated representative without regard to written employee authorization.

Director means the Director of Industrial Relations, California Department of Industrial Relations

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 or bank tellers 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.

Explosive means a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.

Exposure or exposed means that an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact or absorption, etc.), and includes potential (e.g. accidental or possible) exposure.

Flammable means a chemical that falls into one of the following categories:

1. Aerosol, flammable means an aerosol that, when tested by the method described in 16 CFR 1500.45, yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening.
2. Gas, flammable means:
 - 2.1 A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of thirteen (13) percent by volume or less.
 - 2.2 A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than twelve (12) percent by volume, regardless of the lower limit.
3. Liquid, flammable means any liquid having a flashpoint below 100°F (37.8°C), except any mixture having components with flashpoints of 100°F (37.8°C) or higher, the total of which make up 99 percent or more of the total volume of the mixture.
4. Solid, flammable means a solid, other than a blasting agent or explosive as defined in § 190.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited

burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if, when tested by the method described in 16 CFR 1500.44, it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.

Flashpoint means the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite.

Globally Harmonized System (GHS) means a universal hazard communication standard and system of classification and labeling of chemicals.

Hazardous chemical means any chemical which is a physical hazard or a health hazard.

Hazard warning means any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the hazard(s) of the chemical(s) in the container(s).

Health hazard means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term health hazard includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system and agents which damage the lungs, skin, eyes, or mucous membranes.

Identity means any chemical or common name which is indicated on the Safety Data Sheet (SDS) for the chemical. The identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label and the SDS.

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 any written, printed, or graphic material, displayed on or affixed to containers of hazardous chemicals.

Mixture means any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.

Organic peroxide means an organic compound that contains the bivalent -O-O-structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

Oxidizer means a chemical other than a blasting agent or explosive as defined in 8 CCR 5237(a) that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.

Physical hazard means a chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.

Pictogram symbols means the picture for visual recognition of chemical hazards used by GHS.

Produce means to manufacture, process, formulate, or repackage.

Pyrophoric means a chemical that will ignite spontaneously in air at a temperature of 13°F (54.4°C) or below.

Responsible party means someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.

Safety Data Sheet (SDS) means written or printed material concerning a hazardous chemical which is prepared in accordance with 8 CCR 5194(g).

Specific chemical identity means the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.

Trade secret means 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.

Unstable (reactive) means a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.

Use means to package, handle, react, or transfer.

Water-reactive means a chemical that reacts with water to release a gas that is either flammable or presents a health hazard. Often when the water is heated it goes into a gaseous state allowing oxygen to be released which can help feed a fire.

Work area means a room or defined space in a workplace where hazardous chemicals are produced or used and where employees are present.

Work place means an establishment, job site, or project, at one geographical location containing one or more work areas.

Hazard Communication Training Outline

Training for covered employees shall be conducted:

- At Initial Assignment
 - Whenever New Hazards Are Introduced
 - Annual Review Is Required
-

Information to be Included in Training Sessions

Employees must be informed of:

- Requirements of Regulations
- Any Operations in Their Areas Where Hazardous Chemicals Are Used
- Location and Availability of Safety Data Sheets (SDS) and Plan

Training must cover:

- Method to Detect Presence of Release
 - Physical and Health Hazards
 - Measures for Personal Protection
 - Details of Company Plan
-

Proposed Training Program Format

- Four Stages of Program
 - Safety Data Sheets (SDS)
 - Globally Harmonized System (GHS) Pictograms
 - Marking and Labeling System
 - Employee Training
 - Written Plan
 - Describe Programs and Procedures
 - Hazard Detection
 - Spill Response
 - Use of Protective Equipment
-

Length of the Training Sessions

It may take a minimum of 30 to 45 minutes to conduct the basic hazard communication training. If there are any specific hazardous substances or situations to be trained on, the session will take longer to complete, depending on the type and number of hazardous substances.

Example of Training:

Office employees with no specific hazardous substances
30 - 45 minutes per session.

Paint shop employees with 4 specific substances to be trained on (paints, solvents, etc.)
1 to 1½ hours, depending on their training needs.

Choosing Substances for Training Purposes

Train on any substance having a Hazardous Materials Information System (HMIS) rating of:

- HEALTH: 3 or above
- FLAMMABILITY: 3 or above
- REACTIVITY: 2 or above

If none of the above, choose 4 or 5 of the worst substances that you do have and use them in the training.

Comments & Suggestions

- Training is not handing out SDS and asking employees to read.
 - Training should be accompanied by a simple test with signature and filed for documentation.
 - Training probably occurs in two phases.
 - General chemical safety, spill response, labeling procedure, etc; perhaps film or tape.
 - Specific workplace; specific labels, SDS, GHS pictograms, emergency plans, etc.
 - Trainers should be trained and provided with guidelines.
 - If training is decentralized, periodic audits will verify that it is completed.
 - Annual retraining is warranted.
 - Refresher training is required when a new hazard is introduced.
 - Training packages are available:
 - Computer self-paced instruction
 - Films
 - Video tapes
 - There is no substitute for workplace specific training.
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Hazard Communication – Test

[Please Print]

Name: _____ Department: _____

1. SDS means? _____

2. What does GHS stand for? _____

3. What information does the NFPA Diamonds provide? _____

4. Where can you expect to see it? _____

5. This training session is your required hazard communication training.

True or False (circle one)

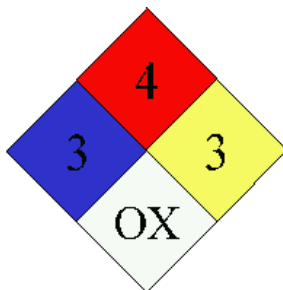
6. Where are the SDS kept for your department? _____

7. If you have a question about the safe use of a chemical, you can always consult:

Signature: _____ Date: _____

**Explanation of Chemical Labeling Systems:
Hazardous Materials Information System (HMIS) Labels
National Fire Protection Agency (NFPA) Diamonds
Uniform Laboratory Hazard Signage (UHLS)**

NFPA Diamond



The National Fire Protection Association (NFPA) has developed a system for indicating the health, flammability and reactivity hazards of materials. Each diamond color represents a different type of hazard. The numerical rating inside the diamond indicates the level of hazard involved. This number indicates the severity of the hazard, with a 0 indicating no hazard and 4 indicating the most severe hazard. A special precaution symbol may be used where necessary.

Rating Summary

Health (Blue)

4	Danger	May be fatal on short exposure. Specialized protective equipment required
3	Warning	Corrosive or toxic. Avoid skin contact or inhalation
2	Warning	May be harmful if inhaled or absorbed
1	Caution	May be irritating
0		No unusual hazard

Flammability (Red)


4	Danger	Flammable gas or extremely flammable liquid
3	Warning	Flammable liquid flash point below 100° F
2	Caution	Combustible liquid flash point of 100° to 200° F
1		Combustible if heated
0		Not combustible

Reactivity (Yellow)

4	Danger	Explosive material at room temperature
3	Danger	May be explosive if shocked, heated under confinement or mixed with water
2	Warning	Unstable or may react violently if mixed with water
1	Caution	May react if heated or mixed with water but not violently
0	Stable	Not reactive when mixed with water

Special Notice Key (White)

(Note the white section does not contain a numeric rating)

W	Water Reactive
OX	Oxidizing Agent
COR	Corrosive
	Radioactive

HMIS Labels

The Hazardous Materials Information System (HMIS) labeling system operates on the same principle as the NFPA diamond. Blue indicates health hazard, red indicates flammability, yellow indicates reactivity, and special information (such as what personal protective equipment to wear) will be provided in the white section. It also uses a numerical system from 0 - 4 to indicate the severity of the hazard.

Key to HMIS Label Numerical Ratings (similar to NFPA)

Health

- 4 Deadly: even the slightest exposure to this substance would be life threatening. Only specialized protective clothing, for these materials, should be worn.
- 3 Extreme Danger: serious injury would result from exposure to this substance. Do not expose any body surface to these materials. Full protective measures should be taken.
- 2 Dangerous: exposure to this substance would be hazardous to health. Protective measures are indicated.
- 1 Slight Hazard: irritation or minor injury would result from exposure to this substance. Protective measures are indicated.
- 0 No Hazard: exposure to this substance offers no significant risk to health.

Flammability

- 4 Flash Point Below 73°F and Boiling Point Below 100°F: this substance is very flammable, volatile or explosive depending on its state. Extreme caution should be used in handling or storing of these materials.
- 3 Flash Point Below 100°F: flammable, volatile or explosive under almost all normal temperature conditions. Exercise great caution in storage or handling of these materials.
- 2 Flash Point Below 200°F: moderately heated conditions may ignite this substance. Cautionary procedures should be employed in handling.

- 1 Flash Point Above 200°F: this substance must be preheated to ignite. Most combustible solids would be in this category.
- 0 Will Not Burn: substances that will not burn.

Reactivity

- 4 May Detonate: substances that are readily capable of detonation or explosion at normal temperatures and pressures. Evacuate area if exposed to heat or fire.
- 3 Explosive: substances that are readily capable of detonation or explosion by a strong initiating source, such as heat, shock or water. Monitor from behind explosion-resistant barriers.
- 2 Unstable: violent chemical changes are possible at normal or elevated temperatures and pressures. Potentially violent or explosive reaction may occur when mixed with water. Monitor from a safe distance.
- 1 Normally stable: substances that may become unstable at elevated temperatures and pressures or when mixed with water. Approach with caution.
- 0 Stable: substances which will remain stable when exposed to heat, pressure or water.

Uniform Laboratory Hazard Signage (ULHS)






Laboratories should be marked with the appropriate pictographic symbols to warn employees, visitors, and emergency responders what precautions should be observed when entering the laboratory, as well as what hazards to expect inside.




The ULHS system identifies the areas where hazardous substances are used or stored through pictographic symbols.



Globally Harmonized System (GHS) Elements

The GHS is built on 16 physical, 10 health and 3 environmental hazard classes and comprises the following communication elements:

Description	Pictogram	Hazard Class and Hazard Category
Exploding Bomb		<ul style="list-style-type: none"> • Unstable explosives • Self-reactive substances and mixtures • Organic peroxides
Flame		<ul style="list-style-type: none"> • Flammable gases, aerosols, liquids, solids • Self-reactive substances and mixtures • Pyrophoric liquids, solids • Self-heating substances and mixtures • Substances and mixtures, which in contact with water emit flammable gases • Organic peroxides
Flame Over Circle		<ul style="list-style-type: none"> • Oxidizing gases, liquids
Gas Cylinder		<ul style="list-style-type: none"> • Gases under pressure: <ul style="list-style-type: none"> - Compressed gases - Liquefied gases - Refrigerated liquefied gases - Dissolved gases
Corrosion		<ul style="list-style-type: none"> • Corrosive to metals • Skin burns or corrosion • Serious eye damage
Skull and Crossbones		<ul style="list-style-type: none"> • Acute toxicity (oral, dermal, inhalation)

Exclamation Mark		<ul style="list-style-type: none"> • Acute toxicity (oral, dermal, inhalation) • Skin irritation • Eye or Respiratory irritation • Skin sensitizer
Health Hazard		<ul style="list-style-type: none"> • Respiratory sensitization • Carcinogen, Mutagen • Reproductive toxicity • Specific Target Organ Toxicity – Single exposure • Specific Target Organ Toxicity – Repeated exposure • Aspiration Hazard
Environment		<ul style="list-style-type: none"> • Hazardous to the aquatic environment

**Annual Review/Approval of Plan
Sign-Off Form**

Program Name: _____

Date Reviewed: _____

Name & Title of Person Performing Annual Review: _____

Signature below indicates the program was reviewed and approved, as written:

Program not approved, due to the following concerns: _____
