



Reed College
3203 Southeast Woodstock Blvd
Portland, Oregon 97202-8199

Hazard Communication Program

Hazardous Chemical Program

Effective Date: May 1986

Last Revision/Review Date: 3/27/19

I. PURPOSE.....	1
II. SCOPE.....	1
III. REFERENCES	2
IV. RESPONSIBILITIES.....	2
A. Reed College Administration.....	2
B. Environmental Health & Safety	2
C. Supervisors.....	2
D. All employees.....	3
V. CONTAINER LABELING	3
A. Primary Containers	3
B. Secondary Containers	3
C. Temporary Containers.....	4
D. New Chemicals.....	4
1. Simple mixtures.....	4
2. Chemical combinations	4
VI. SAFETY DATA SHEETS	4
VII. EMPLOYEE INFORMATION AND TRAINING	5
VIII. LIST OF HAZARDOUS CHEMICALS.....	5
IX. HAZARDOUS NON-ROUTINE TASKS	5
X. CHEMICAL HAZARD DETERMINATIONS.....	6
XI. APPENDIX A: HEALTH HAZARD DEFINITIONS	7

I. PURPOSE

Reed College Administration is committed to preventing accidents and ensuring the safety and health of our employees. Under this program employees are informed of the contents of the OSHA Hazard Communications Standard, the hazardous properties of chemicals which they work, safety handling procedures and measures to take to protect themselves from these chemicals.

II. SCOPE

The Hazard Communication Program applies to all employees, students and contractors exposed to hazardous chemicals.

Contractors working in areas where no Reed College personnel are present, e.g. new construction and renovations, will provide their own Hazard Communication Program for their employees. In

the case where contractors work in areas where Reed personnel are present, if applicable, Reed College will provide contractors with:

- A list of chemicals used in that area
- Access to Safety Data Sheets (SDSs) for those chemicals
- Specific training for the chemicals to which they may be exposed
- A copy of the Reed College Hazard Communication Program

III. REFERENCES

- Occupational Safety and Health Administration (OSHA). 29 CFR 1910.1200. Hazard Communication.
- Oregon Occupational Safety and Health Administration (OR-OSHA). Oregon Administrative Rules (OAR). 437-002-0360. Division 2, Subdivision Z, Toxic and Hazardous Substances.
- Environmental Protection Agency (EPA). Superfund Amendments and Reauthorization Act (SARA), Title III. Emergency Planning and Community Right-to-Know (EPCRA).
- “Working Safely with Hazardous Substances.” a Reed College Publication, 2013.

IV. RESPONSIBILITIES

A. Reed College Administration

- Provide commitment, leadership, and financial resources to support this program.
- Assist in full compliance with all federal, state, and local regulations concerning employee health and safety.
- Provide reasonable assurance that all provisions of the program are met.

B. Environmental Health & Safety

- Make copies of this written program readily available to all employees.
- Preserve records of all hazardous chemicals used by Reed College for 30 years.
- Provide information to Reed College contractors pertaining to hazardous materials present at their work site.
- Monitor chemical hazard determinations to reasonably assure that, when conducted, they are performed following the requirements of the Hazard Communication Rules, OAR Chapter 437, Division 2, Subdivision Z.

C. Supervisors

- Train new employees before they begin their duties.
- Maintain records of employee training.
- Evaluate the effectiveness of training by observing employees’ safe workplace practices.

- Provide additional safety training to employees whenever a new health or physical hazard is introduced into their work area, and whenever necessary.
- Keep the list of hazardous chemicals up-to-date including any new hazardous chemicals added to the work area.
- Supply the EHS with a current copy of all SDS for those products used by employees.
- Check frequently to make sure that all containers in the area have complete labels with the exact identifier name as on the SDS.
- Train new employees on how to access SDSs and make the department's hazardous chemicals list readily available for employee review during all work shifts.

D. All employees

- Participate in the Reed College Hazardous Communication Program by understanding the safety and health requirements and practicing them in the workplace.
- Learn the properties, hazards, and safety measures pertinent to the materials and equipment in their department.
- Review the SDS as necessary to minimize exposure to hazardous chemicals.
- Notify their supervisor of unsafe acts or conditions related to hazardous chemicals or other health hazards.
- Inform their supervisor when an SDS is not easily found.

V. CONTAINER LABELING

A. Primary Containers

All hazardous chemicals at Reed College must have warning labels securely attached to their containers. The labels must be prominently displayed, clearly legible, and in English (and may have other languages as needed). Labels must include the following information on the primary container:

- Identity of the hazardous chemicals contained therein. The chemical, trade, or product name (no abbreviations), must correspond to the specific Safety Data Sheet (SDS) with the same name.
- Appropriate hazard warnings. The warning must be a word, symbol, picture, or combination that provides at least general information regarding the physical or health hazards of the chemicals.
- Manufacturer or other contact information in case of spill, emergency, or other incident.

B. Secondary Containers

The same labeling requirements apply to repackaged hazardous chemicals as primary containers. The label must have the chemical name – no abbreviations – appropriate hazard warnings, and the name and the department of the preparer.

C. Temporary Containers

Labeling is not necessary when transferring a chemical into a temporary container for immediate use, (within the work shift or laboratory period). Label any remaining material at the end of the work shift or laboratory period.

D. New Chemicals

1. Simple mixtures

Any new chemical formed by mixing two or more hazardous chemicals and intended for use by someone other than the preparer, must have a primary label. The preparer must then assess the hazards and prepare a SDS for the new chemical. Contact the Environmental Health and Safety Office (ext. 7788) for instructions on how to evaluate the hazards of the chemical.

2. Chemical combinations

Any new chemicals formed by the chemical reaction of two or more hazardous chemicals, and intended for use by someone other than the preparer, must have primary labels. The preparer must then assess the hazards and prepare a SDS for the new chemical. Contact the Environmental Health and Safety Office (ext. 7788) for instructions on how to evaluate the hazards of the chemical.

VI. SAFETY DATA SHEETS

Copies of Safety Data Sheets (SDSs) are on file for all hazardous chemicals found on campus. Each department will have access to SDS for each hazardous chemical located in their area. These SDSs must be available for review by employees during each work shift. You may obtain an SDS for any chemical on campus by emailing or calling EHS, searching EHS's SDS database at reed.edu/ehs, or by visiting Chemistry 103 which acts as a resource library for the College.

In order to make sure that a complete set of SDSs is maintained on campus at all times, departments will forward a copy of the SDS to the Environmental Health & Safety Office when a product is added. The manufacturer of hazardous chemicals will supply a copy of the SDS for each of their products and are available by request from the manufacturer or supplier.

Employees need to understand the following information regarding chemicals used in their work area:

- Name and hazardous characteristics of the material.
- Physical and health effects of the hazardous material, including target organ effects (see Appendix for definitions).
- Personal Protective Equipment used to prevent or decrease of exposure to the hazardous material.

VII. EMPLOYEE INFORMATION AND TRAINING

All regular employees of Reed College who have exposures to hazardous chemicals in the workplace will participate in a training program that will help them recognize, evaluate, and control chemical hazards. This training is scheduled during new employee orientation. Information includes the following:

- An overview of the requirements in the Oregon Administrative Rules (OAR), Hazard Communication, OAR Chapter 437 Division 2 Subdivision Z.
- The location of Safety Data Sheets and lists of hazardous chemicals present in the employees work areas.
- How to read labels and review SDSs in order to obtain appropriate hazard information, such as chemical and physical properties, physical and health effects, and exposure limits of the hazardous chemicals used in the work area.
- How to determine the presence or release of hazardous chemicals in the work area.
- How to reduce or prevent exposure to hazardous chemicals through work practices, controls, and personal protective equipment.
- Emergency procedures if exposed to a hazardous chemical.

Supervisors will evaluate the effectiveness of the training by observing employees' safe workplace practices and provide additional safety training to employees whenever a new health or physical hazard is introduced into their work area, and whenever necessary.

VIII. LIST OF HAZARDOUS CHEMICALS

Supervisors will keep an up-to-date list of hazardous chemicals used in the area

- The list must refer to each chemical by the same name(s) that correspond to the Safety Data Sheet and container label.
- This list will be available for review by any employee during any work shift.
- Whenever a hazardous chemical is added or taken from the list, the supervisor must indicate the date and forward the revised list to the Environmental Health and Safety Office.

IX. HAZARDOUS NON-ROUTINE TASKS

When an employee performs a non-routine task involving hazardous chemicals, supervisors will inform the employee about each hazardous chemical before work begins. This includes:

- Chemical hazards associated with the task.
- Personal protective equipment and safety measures used to control the hazards.
- Specific emergency procedures used in case of an accident or injury.

X. CHEMICAL HAZARD DETERMINATIONS

Reed College will conduct chemical hazard determinations in the following circumstances:

- When a chemical reaction of two or more hazardous chemicals forms a new chemical and is intended for use by someone other than the preparer. This is not required if the new chemical is produced in a research laboratory for use within the laboratory.
- The preparer mixes chemicals and believes the hazards of the mixture are significantly different from the hazards of its components.
- If a chemical is prepared under either of these circumstances, the preparer is required to contact the Environmental Health and Safety Office immediately for instructions on how to evaluate the hazards of the chemical.

XI. APPENDIX A: HEALTH HAZARD DEFINITIONS

Carcinogen – a chemical is considered to be a carcinogen if:

- It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen; or
- It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or
- OSHA regulates it as a carcinogen.

Corrosive – a chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact.

Health Hazard – a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles

Highly Toxic – a chemical falling within any of the following categories:

- A chemical that has a median lethal dose (LD₅₀) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
- A chemical that has a median lethal dose (LD₅₀) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.
- A chemical that has a median lethal concentration (LC₅₀) in air of 200 parts per million by volume or less of gas or vapor, or two milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

Irritant – a chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact.

Physical Hazard – 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.

Sensitizer – a chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

Toxic – a chemical falling within any of the following categories:

- A chemical that has a median lethal dose (LD₅₀) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.
- A chemical that has a median lethal dose (LD₅₀) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by

continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

- A chemical that has a median lethal concentration (LC_{50}) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but no more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

Target organ effects – a target organ categorization of effects may include examples of signs and symptoms, and chemicals that have been found to cause such effects. These examples are not all-inclusive, but they illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area.

- **Cutaneous hazards:** chemicals that affect the dermal layer of the body
Signs and symptoms: defatting of the skin, rashes, and irritation
Chemicals: ketones, chlorinated compounds, organic solvents
- **Eye hazards:** chemicals that affect the eye or visual capacity
Signs and Symptoms: tearing or irritation, conjunctivitis, corneal damage
Chemicals: organic solvents, corrosives
- **Hematoxics agents that act on the blood or hematopoietic system:** chemicals that interfere with hemoglobin function, depriving the body tissues of oxygen
Signs and symptoms: cyanosis, loss of consciousness
Chemicals: carbon monoxide, cyanides, insecticides
- **Hepatotoxins:** chemicals that cause liver damage
Signs and symptoms: jaundice, liver enlargement
Chemicals: carbon tetrachloride, nitrosamines, and chloroform
- **Nephrotoxins:** chemicals that cause kidney damage
Signs and symptoms: edema, proteinuria
Chemicals: halogenated hydrocarbons, uranium, and cadmium
- **Neurotoxins:** chemicals that have their primary toxic effects on the nervous system
Signs and symptoms: narcosis, behavioral changes, muscle weakness, and decrease in motor functions
Chemicals: mercury, carbon disulfide, and carbamate insecticides
- **Agents that damage the lung:** chemicals that irritate or damage the pulmonary tissue
Signs and symptoms: cough, tightness in the chest, shortness of breath
Chemicals: silica, asbestos, and hydrogen chloride
- **Reproductive toxins:** chemicals that affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)
Signs and symptoms: birth defects, sterility
Chemicals: lead, DBCP, halogenated pesticides, organic solvents