HAZARD COMMUNICATION PROGRAM

Rose-Hulman Institute of Technology
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HAZARD COMMUNICATION PROGRAM

1.0 Purpose
The purpose of this program is to inform employees of Rose-Hulman Institute of Technology (Rose-Hulman) of the hazards associated with the chemicals used in their workplace, provide information on appropriate measures for the chemical hazards in the workplace, comply with the requirements of the OSHA Hazard Communication Standard and all other applicable state and federal regulations and the employees Right-To-Know.

2.0 Regulatory Reference
OSHA 29 CFR 1910.1200

3.0 Scope
This program is applicable to all employees of Rose-Hulman, including contractors and subcontractors. This program is applicable to all hazardous chemicals used by employees for work-related activities. “Hazardous” is applied to chemicals which may when used may pose a physical hazard or health hazard to employees.

Certain chemicals are specifically exempted, including food, food additives, drugs for personal consumption, cosmetics and medical or veterinary products. A more complete list can be found in the OSHA Standard.

4.0 Responsibility
The Rose-Hulman Office of Environmental Health & Safety (EH&S) is responsible for the establishment, implementation, and review of this program. EH&S is responsible for developing and updating this program as appropriate, makes the written program available in written format and on the EH&S website. EH&S will provide employee training to meet the requirements of the program when requested by departments, managers or supervisors. EH&S maintains records for training and will assist supervisors in evaluating hazardous chemicals, recommending appropriate engineering controls, administrative controls, and personal protective equipment.

Employees are responsible for recognition of the associated hazards, and working in a safe and healthful manner, familiarizing themselves with the label and MSDS information for each hazardous chemical, following standard procedures, and using appropriate personal protective equipment.
5.0 Definitions

**Acute:** Health Effects which show up a short length of time after exposure, and runs a comparatively short course.

**Administrative Controls:** Methods of controlling employee exposures by use of appropriate procedures, job rotation, or limited work periods.

**Air Monitoring:** The sampling for and measuring of pollutants or hazardous chemicals in the atmosphere

**Asbestos:** A hydrated magnesium silicate in fibrous form

**Carcinogen:** A substance which is known to cause cancer

**Ceiling Limit:** An airborne concentration of a toxic substance in the work environment, which should never be exceeded

**CFR:** Code of Federal Regulations

**Chemical:** any element, chemical compound, or mixture of elements and/or compounds

**Chemical Manufacturer:** A business where chemicals are produced for use or distribution of chemicals on a commercial basis

**Chemical Name:** the scientific designation of a chemical in accordance with the nomenclature of the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS), or a name which clearly identifies the chemical for the purpose of conducting a hazard evaluation

**Chronic:** Health effects which show up along time after exposure; persistent, prolonged

**Combustible:** a material having a flashpoint at or above 100° F

**Common Name:** any designation such as a trade name, brand name or generic name used to identify a chemical other than by its chemical name

**Compressed Gas:** A chemical substance which at standard temperature and pressure is a gas, but is contained under pressure

**Confined Space:** An enclosure that is difficult to get out of, has limited or no ventilation, and is not intended for human occupancy.
Container: any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical

Corrosive: a substance which can cause physical change, usually deterioration or destruction, particularly to human tissues

Cryogenic: A substance held at very low temperatures, typically below -238 °F.

Distributor: a business which supplies hazardous chemicals to other distributors or businesses

Dose: the amount of a substance delivered in a specified time (amount x time)

Employee: a worker who receives monetary compensation from Rose-Hulman, and who may be exposed to hazardous chemicals under normal conditions or in foreseeable emergencies

Explosive: a material that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, at high temperature

Exposure: Contact with a chemical, biological or physical hazard

Flammable: a substance with a flash point below 100°F

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

Foreseeable Emergency: a potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment, that could result in an uncontrolled release of a hazardous chemical into the workplace

Hazardous Chemical: any chemical that has the capability to produce adverse effects on the health or safety of humans

Hazard Warning: words, pictures, symbols or combination thereof that conveys the specific physical or health hazard of the chemical

Health Hazard: a chemical for which there is statistically significant evidence based on established scientific principles that acute or chronic health effects may occur in exposed employees

IDLH: Immediately Dangerous to Life or Health: a very hazardous atmosphere that can cause serious injury or death to an exposed employee
Immediate Use: the material will be used only within the work shift, and will be under the control of and used only by the designated worker

Irritant: a substance that produces an irritating effect when it contacts skin, eyes, or respiratory system

Label: written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals

LD₅₀: The dose required to produce death in 50% of the subjects in a specified time

Lower Explosive Limit: The lower limit of flammability of a gas or vapor at ambient conditions, expressed in percent of the gas or vapor.

Material Safety Data Sheet (MSDS): written or printed material concerning a hazardous chemical which is prepared in accordance with OSHA’s Hazard Communication Standard, 29 CFR 1910.1200

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

NIOSH: National Institute for Occupational Safety and Health: The federal agency charged with research in the areas of Occupational Safety and Health

Oxidizer: a chemical other than a blasting agent or explosive as defined in 29CFR1910.109(a) that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases

Permissible Exposure Limit (PEL): the quantity of a hazardous material to which a worker can be exposed for up to 8 hours per day or 40 hours per week, typically for 40 years without experiencing any ill effects

Personal Protective Equipment (PPE): Devices worn by the worker to protect against hazards in the work environment, including respirators, gloves, hearing protection, eye protection

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

Poison: Any substance which when taken into the body is injurious to health
Reactivity: A chemical’s susceptibility to undergoing a chemical reaction or change that may result in dangerous side effects, such as explosion, burning, and corrosive or toxic emissions

Route of Entry: The path by which chemicals can enter the body: inhalation, ingestion, and absorption

Sensitizer: a material that can cause an allergic reaction of the skin or respiratory system. Repeated exposures to sensitizers evoke an increasingly more serious allergic response

Short-term Exposure Limit (STEL): The maximum concentration of a substance to which a worker can be exposed to for a short period of time, typically 15 minutes

Target Organ Effects: The organ-specific effects of a given hazardous chemical

TLV: Threshold Limit Value: Identical to PEL

Toxic: a property of a substance, making it harmful to living organisms

Upper Explosive Limit: The highest concentration (expressed in percent vapor or gas in the air by volume) of a substance that will burn or explode when an ignition source is present

6.0 Training and Recordkeeping

Rose-Hulman will provide employees with effective information and training on hazardous chemicals in their work area:

- At the time of their initial hire or assignment to a job, provided either by the Office of Environmental Health and Safety Management, a designated trainer within the worker’s department, or the worker’s supervisor
- Training whenever hazardous chemicals in the workplace change, or use of the hazardous chemical changes, typically provided by the worker’s supervisor

Training will include:

- Information on the hazardous chemicals in the worker’s area
- Process and operations where hazardous chemicals may be encountered
- Location and availability of Rose-Hulman’s written Hazard Communication Program
- Location and availability of the list of hazardous chemicals for that work area
- Location and availability of the Material Safety Data Sheets for the hazardous chemicals for that work area.
- How to read and understand the MSDSs and chemical labels.
- Physical and health hazards of the hazardous chemicals in the work area
• Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area
• The measures employees can take to protect themselves from these hazards, such as appropriate work practices, personal protective equipment to be used, and emergency procedures.
• The details of the Hazard Communication program
• An explanation of labeling systems and MSDS content
• How to obtain and use the appropriate hazard information
• Any special procedures or processes, such as engineering controls, work practices, and use of personal protective equipment, that are intended to protect the worker from the hazards.

A record will be kept of each employee’s training on the Hazard Communication Program in the Office of Environmental Health and Safety. Training records will include:

• Employee’s Name
• Employee’s Signature
• Training Topic and brief summary of content
• Date and location of training
• Training Instructor’s name

7.0 Chemical Inventory List

There must be a chemical inventory list (CIL) of hazardous chemicals known to be present in the workplace. At Rose-Hulman, this list is developed and maintained separately for each individual department by the technician for that area, and is available within that work area. In addition EH&S maintains a list of all hazardous chemicals on campus. The chemical list is also used as the reference for required Material Safety Data Sheets: an MSDS must be available for each chemical on the list. Each time a department receives a new hazardous chemical, the chemical shall be added to the inventory list within 7 days. Any additions to the list along with the MSDS shall be sent to the Manager of EH&S. These lists are to be reviewed and updated annually with the updated copy forwarded to the Manager of EH&S.

8.0 Material Safety Data Sheets

Material Safety Data Sheets (MSDS) provide detailed information on a hazardous substance. The sheets include information such as product name, ingredients, physical and chemical characteristics, exposure limits, carcinogenicity, control measures, fire and explosion hazard data, environmental and disposal information, health hazard data, first-aid instructions, and handling precautions.

Each department is responsible for obtaining MSDS for any hazardous chemical used in their area. All original copies shall be maintained in the Office of Environmental Health and Safety. All MSDS will be posted on the EH&S website in addition to the paper copy. It is
not mandatory that copies be maintained in each area. EH&S will review and update, with assistance from each department, the chemical inventory and MSDS list annually.

9.0 Signs and Labels

All existing labels on containers of hazardous substances must remain intact. The labels must be legible and written in English. Where labels are not present or are not legible, a Hazardous Identification Information System (HMIS) label will be affixed to those containers holding the hazardous substance. HMIS labels can be obtained from EH&S.

It is the responsibility of each department to assure that each container of a hazardous substance in the workplace is marked, labeled or tagged with the:

- Common/trade name of the substance.
- Appropriate hazard warnings: Health, flammability, reactivity, and personal protective equipment.
- Chemical abstract service number (CAS).

Portable containers filled with hazardous chemicals transferred from a labeled storage container must be labeled unless the container:

- Remains at all times in the possession of the person transferring the chemical
- Is used only during that work shift

Storage tanks shall be labeled with the identity of the substances that it contains. The label must show the health, flammability, reactivity, and physical hazards associated with the substance. The National Fire Protection Association (NFPA) rating system must be used to show these ratings.

Containers used by outside service contractors shall be properly labeled with either a manufacturer's label or an HMIS label prior to the use of the hazardous substance on Institution property.

Employees that work in the storeroom areas, where sealed containers of hazardous substances are received for distribution to other departments, shall assure that the manufacturer's labels are not defaced or removed. If the labels are removed or defaced, follow the procedure outlined above for replacement of the labels. In addition, if a spill or leak occurs in a container of hazardous substance the employees should leave the area, go to a place of safety, and call EH&S for assistance.

Hazardous waste will not be accepted for disposal without proper labeling.

10.0 Outside Contractors

Any time an outside contractor brings a hazardous substance(s) into the workplace, a CIL and MSDS(s) for the substance(s) must be received. Similarly, a CIL and MSDS(s) for all
hazardous substances in the area that the contractor will be working must be provided to the contractor. This exchange will be coordinated by whoever is granting the contract. A contractor safety form must be signed stating the contractor agrees to this provision.

Service contractors whose work or materials pose a health hazard to employees shall be responsible for the training and education requirements outlined under the training section of this policy.

Outside contractors must comply with all of the provisions of the Hazard Communication Standard while serving on the Rose-Hulman campus. Periodic audits from the Manager of EH&S will be performed to assure compliance.

11.0 **Fire Safety**

The Manager of EH&S will create a building CIL package consisting of floor maps and rooms CIL. The building CIL packages will be submitted to the Local Fire Department and will be updated annually by the Master Record Keeper.

In addition to the annual update requirement for the CIL, each department/area on campus is required to complete and submit a Contingency Checklist. The Contingency Checklist should be completed and sent to the Manager of EH&S at the same time the annual CIL is sent. The Contingency Checklist is needed to prepare and update the Campus/County-wide Contingency Plan. The Contingency Checklist forms are available from the Manager of EH&S.

12.0 **Asbestos Safety**

Pipes, boilers, storage vessels, structural members, or equipment with asbestos containing material that might be removed, penetrated, damaged or otherwise disturbed by repair, remodeling, renovation, maintenance or other activity, shall be labeled with cautionary labels. Such caution labels shall be printed in letters of sufficient size and contrast as to be readily visible and legible. Each room or area where the conditions require that labels exist shall have a minimum of one such label, and additional labels as is necessary, to insure ready visibility and legibility. Equipment with asbestos-containing material shall bear the following label:

**DANGER**

Contains Asbestos Fibers
Avoid Creating Dust
Cancer and Lung Disease Hazard

For more information on Asbestos Safety and locations containing asbestos, see the Asbestos Safety Program.