Hazardous Chemicals Sample Program

Ref: OSHA 1910.1200

Prepared for:
Date:

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I. INTRODUCTION

As part of the Company's overall safety and health program, a chemical hazard communication program has been established. The program is designed to assist in compliance with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard.

II. OBJECTIVE

The objective of this program is to prevent occupational injuries and illnesses related to chemical exposure by educating employees about workplace chemical hazards.

III. SCOPE

A. This program applies to all work areas where hazardous chemicals are known to be present both under normal conditions and in a foreseeable emergency.

Employee/Safety Coordinator responsible for overall program coordination, administration and implementation:

Employee Name and Title	Date

B. The Hazard Communication Program has four major components:

1. Container labeling and other forms of warning
2. Safety Data Sheets (SDS)
3. Employee education and training
4. Written program and chemical inventory

IV. HAZARDOUS CHEMICALS

The definition of "hazardous chemicals" as given by OSHA is "any chemical which is a physical hazard or health hazard.

A. Chemical physical hazard characteristics include substances which are:

a. Combustible
b. Compressed gases
c. Explosive
d. Flammable
e. Organic peroxides
f. Oxidizers
g. Pyrophoric
h. Unstable (reactive) or water reactive

B. Chemical health hazard includes substances which are:

a. Toxic or highly toxic
b. Irritants
c. Sensitizers
d. Carcinogens
e. Those with target organ effect

Find more information in OSHA's Communication Standard, Appendix A: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1200AppA

V. HAZARD COMMUNICATION PROGRAM

This program outlines and describes how the following information will be organized and transmitted:

A. List of hazardous chemicals known to be present in the workplace
B. Information on precautionary labels and other forms of warning for known hazardous chemicals in the workplace
C. Safety data sheets for known hazardous chemicals in the workplace
D. Methods used to provide employee information and training
E. Methods used to inform employees of hazards of non-routine work
F. Methods used to inform contractor employers of any hazardous chemicals to which contractor employees may be exposed

Guidance for developing and maintaining the written program is provided by the Safety Coordinator.
The Hazard Communication Program is available for review by all employees upon request to their supervisor.

VI. CHEMICAL INVENTORY LIST

The Safety Coordinator has the responsibility to maintain an inventory list of known chemicals in the workplace. Any changes to the inventory list should be approved by the coordinator. *Refer to Appendix I: Sample Chemical Hazard Inventory List.*

The chemical inventory list is available to employees during their work shift and is located in their work area. Refer to Safety Data Sheet section for specific location(s).

Employees who have questions about the chemical inventory list should contact their immediate supervisor.

VII. PRECAUTIONARY LABELING

A. Containers

The Department Manager and Supervisor have the responsibility to ensure all known hazardous chemicals present in the plant must display, in English, a precautionary label stating:

1. of the hazardous chemical(s)
2. Appropriate hazard warning(s)

In the event of an improperly labeled hazardous chemical container, a proper label will be requested, by telephone and letter from the chemical supplier. Failure of a supplier to correct labeling deficiencies within 60 days will result in suspension of use of the affected product.

All labels on incoming chemicals must not be defaced in any way. Observation or other detection of defaced labels must be immediately reported to supervision so appropriate labels can be applied.

B. Process Vessels

All plant process vessels which routinely store bulk chemical products shall be labeled in the following manner:

1. Name of contents (chemical and/or common name)
2. Identity of process lines served by vessel (if not obvious by machine arrangement)
3. Appropriate hazard warning
4. National Fire Protection Association (NFPA) 704 M diamond, Hazard Identification

Where necessary, commercially available warning labels will be purchased. If no standard commercial labels are available for a specific hazardous chemical, a proper label is prepared internally. Safety Data Sheets will provide the necessary information for hazardous warnings. The Department Manager is responsible for assuring that process vessels are appropriately labeled.

C. Temporary Storage Tanks

Temporary storage tanks, such as but not limited to, reactor vessels, blend tanks and holding tanks, used for variable process chemical formulations normally do not have permanently fixed warning labels. To ensure employees know of the vessel contents, formulation batch tickets are maintained which list the name of chemicals stored in specific vessels. The hazard warning is part of the label for temporary storage tanks and is located on the batch cards, or fixed on the storage tanks, as part of the label.

Employees having questions about labeling should contact their immediate supervisor.

D. Portable Containers

All portable containers of hazardous chemicals require labeling. The exception to this policy is that portable containers of hazardous chemicals do not have to be labeled if they contain chemicals transferred from a labeled container and are intended only for the immediate use by and remain the constant control of the employee who performs the transfer. All other portable containers and usage will require labeling. Employees who have questions about portable container labeling should contact their immediate supervisor. The employee who uses the portable container is responsible for placing the label on the container, and the Department Manager/Supervisor is responsible to see that labeling is done.

E. Piping Systems

Labeling of chemical pipes is not specifically required by the Hazard Communication standard, but employees must be aware and informed of the contents in chemical pipes. This can best be accomplished by labeling all piping used to transfer the same hazardous chemicals. The latest American Society of Mechanical Engineer (ASME) A13.1 (updated in 201), Scheme for Identification of Piping Systems, is used as a guide for location and design of pipe labels. Basic guidelines for piping systems are as follows:

1. Legends should be brief, informative and simple for greatest effectiveness.
2. The number and location of labels should be based on the particular system. For example: labels must be clearly visible, near valves or other connections, on each side at wall where pipe penetrates, where pipe changes direction and reasonable intervals on long runs of pipe. (Example: one identification label per 50 linear feet of pipe).
3. Color can be used to identify characteristics of contents but only in combination with legends.
4. Attention should be given to visibility of pipe markings, contrast of legend with background and lettering size. The contents and hazards associated with unlabeled chemical pipes in the work area will be transmitted to employees by their immediate supervisor. Safety Data Sheet(s) will be available on contents of unlabeled chemical pipes.

Color Coding:

- Fire quenching fluids – Red with white letters
- Toxic and corrosive fluids – Orange with black letters
- Flammable fluids – Yellow with black letters
- Combustible fluids – Brown with white letters
- Potable, cooling, boiler feed, and other water – Green with white letters
- Compressed air – Blue with white letters

The Company will use a "Permit" for breaking and opening piping systems to assure employees know the hazards of substances in the pipes and the proper protective measures employees should take.

Employees who have questions about piping systems labels and/or content hazards, should contact their immediate supervisor.

F. Product Containers Leaving the Workplace

All hazardous chemical containers that are shipped shall be labeled and shall include the following information:

1. Identity of the hazardous chemical(s)
2. Appropriate hazard warning(s) and
3. Name and address of the chemical manufacturer or other responsible party.

Special information on labels, tags or other markings will be consistent with the information contained on the Safety Data Sheet and similar information suggested in the American National Standard Institute (ANSI) Precautionary Labeling Standard (Z129.1-2006).

Technical Services is responsible for coordinating the labeling program for containers leaving the workplace. Technical Services is responsible for administering the program at each facility.

G. Update and Review

The Safety Coordinator is responsible for reviewing the labeling system annually and updating if necessary. Changes in the labeling system will be transmitted to affected supervisors and employees.

Employees who have questions about the precautionary labeling system should contact their immediate supervisor.

VIII. SAFETY DATA SHEETS (SDS)

A. Safety Data Sheet Format

Safety data sheets are written or printed material concerning product hazard determination, which are prepared and distributed with chemicals by chemical manufacturers and distributors. SDS' are written in English and contain the following information:

- Section 1: **Identification of the chemical and of the supplier**
- Section 2: **Hazard(s) identification** regarding the chemical & required label elements.
- Section 3: I**ngredients/composition** information.
- Section 4: **First-aid measures.** Symptoms & effects of exposure and required treatment.
- Section 5: **Fire-fighting measures**. Identifies techniques and equipment for extinguishing. Identifies chemical hazards from fire.
- Section 6: **Accidental release measures** lists emergency procedures, protective equipment, and methods of containment and cleanup.
- Section 7: **Handling and storage** lists precautions for safe handling and storage, including incompatibilities.
- Section 8: **Exposure controls/personal protection** lists PELs, TLVs, engineering controls, and personal protective equipment.
- Section 9**: Physical and chemical properties** list properties such as appearance, odor, flammability, flash point, etc.
- Section 10: **Stability and reactivity** chemical stability and possibility of hazardous reactions.
- Section 11: **Toxicological information** identifies routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.
- Section 12: **Ecological information** identifies environmental hazards
- Section 13: **Disposal considerations** information on their safe handling and methods of disposal, including the disposal of any contaminated packaging
- Section 14: **Transport information** identifies shipping requirements, transportation hazard classes, environmental hazards for shipping, and special precautions for shipping.
- Section 15: **Regulatory information** identifies safety, health, and environmental regulations specific to the product.
- Section 16: **Other information**, includes the date of preparation or last revision

B. Obtaining Safety Data Sheets

On all purchase requisitions for any chemicals, the purchasing manager should verify: "SDS on file," or "SDS required" or "material exempt." The Safety Coordinator responsible for obtaining SDS' for the company. An SDS should be available for every hazardous chemical listed on the inventory list.

In the event a SDS is not available, the Safety Coordinator will use the following procedures to obtain SDS':

1. The supplier will be contacted by telephone and letter, and all correspondence and communication documented as proof of effort to comply.
2. If a supplier should not satisfy the first written request within 30 days, a second written request for a SDS should be sent to the supplier and the Department of Labor will be contacted if SDS is not received within 15 days.
3. All requests to suppliers and the Department of Labor including letters and telephone calls must be documented and maintained on file.

C. Review of Safety Data Sheets

The Safety Coordinator is responsible for reviewing all incoming data sheets for new and significant health/safety information. Any new information will be transmitted to Department Managers so appropriate measures can be taken to inform affected employees.

If deficiencies exist or additional information is needed concerning SDS', the chemical manufacturer or supplier will be contacted to obtain necessary information.

D. SDS Maintenance

The Safety Coordinator is responsible for maintaining the SDS'.

The SDS' for chemicals and the chemical inventory list are maintained by supervisors in a notebook titled "Hazard Communication Program". These are accessible to employees during each work shift.

If SDS' are not available or new chemicals in use do not have SDS', employees should contact their immediate supervisor.

E. By-Products

Where hazardous materials are generated as by-products of plant operations, such as carbon monoxide, an SDS will be provided in the appropriate SDS files.

F. New/Trial Chemicals

The Safety Coordinator and the Research and Development Manager must approve all new/trial chemicals before use by employees. A SDS must be reviewed before the chemical is used. A new chemical purchase request form should be completed by the requestor and sent to the Safety Coordinator prior to employee use of a new chemical.

G. Hazard Determination

Manufactured products are evaluated to determine if hazardous material exposure may occur to downstream users, as defined by the Hazard Communication Standard. Where such exposures exist, SDS' are transmitted to the customer by Technical Services.

Safety Coordinator relies upon the hazard determination and Safety Data Sheet supplied by the chemical manufacturer or distributor to determine the hazards of all chemicals bought, used or stored in the facility.

The Safety Coordinator will evaluate the hazards of consumer products. Employees who have questions about Safety Data Sheets should contact their immediate supervisor.

I. Employee Training & Education

Effective employee training and education is the most critical component of the hazard communication program. A properly conducted training program will ensure that employees are aware of hazards in the workplace and appropriate control measures to protect themselves.

The Safety Coordinator coordinates the employee training and education program for the facility.

1) Program Outline

All employees who work in areas where hazardous chemicals are used and/or maintained and those who may be exposed in an emergency are involved in the employee training and educational program. The training program is defined as follows:

Employee information and training

a. Employers shall provide employees with effective information and training on hazardous chemicals in their work area at the time of their initial assignment, and whenever a new chemical hazard the employees have not previously been trained about is introduced into their work area. Information and training may be designed to cover categories of hazards (e.g., flammability, carcinogenicity) or specific chemicals. Chemical-specific information must always be available through labels and material safety data sheets.

b. Information. Employees shall be informed of:

- **i.** The requirements of this section
- **ii.** Any operations in their work area where hazardous chemicals are present and,
- **iii.** The location and availability of the written hazard communication program, including the required list(s) of hazardous chemicals, and material safety data sheets required by this section.

c. Training. Employee training shall include at least:

- **i.** Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous

monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.)

ii. 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

iii. The measures employees can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used

iv. The details of the hazard communication program developed by the employer, including an explanation of the labels received on shipped containers and the workplace labeling system used by their employer and the material safety data sheet, including the order of information and how employees can obtain and use the appropriate hazard information.

2) Re-Assigned/Transferred Employees

Employees Re-Assigned/Transferred to other work areas will undergo a review of specific hazard training in their new work area. The Department Manager is responsible for scheduling and ensuring that this retraining session is conducted by the immediate supervisor and initiated on the first day of employment in a new work area. Employees will be required to sign a transfer safety training sheet.

3) New Hires

Whenever a person is hired for employment, hazard communication training and education will be provided at the time of their initial assignment. New employee training will be provided by the Safety Coordinator or Human Resources Manager as part of new employee orientation at the time of initial employment and prior to handling hazardous chemicals. New hires will sign an Employee Orientation Sheet.

4) New Hazard

There are three ways a new hazard may be introduced:

a) A new hazardous chemical may be brought into the workplace; or
b) A current hazardous chemical in use may expose additional employees in the same work area; or
c) A former non-hazardous chemical may begin to be used in a manner that is hazardous.

Whenever a new hazard is introduced, the immediate supervisor is responsible for providing specific hazard training to all affected employees prior to the introduction of the hazard.

The Safety Coordinator can help and guidance with new hazard training. Employees will be required to sign a new chemical training sheet.

IX. NON-ROUTINE WORK

Occasionally employees will be asked to perform non-routine work, which can be defined as work not normally performed by an employee during the normal course of job duties. Example of non-routine work could be, but not limited to:

- Confined space entry work
- Floor stripping/coating
- Building and structural repair
- Welding and cutting operations
- Intensive maintenance activities during plant shutdowns
- Breaking and opening piping systems
- Using internal combustion engines in enclosed areas.

The following procedures will be used when employees perform non-routine work:

A. The Company will determine the need for non-routine work and the hazards associated with the work. The Employee Relations Manager can help determine the hazards involved.

B. The immediate supervisor will train the employees performing the non-routine work of the hazards associated with the work and of procedures/permits to follow. The training should be given each time prior to employees performing non-routine work.

Employees share in the responsibility by ensuring their immediate supervisor knows that non-routine work will be performed. Employees should contact their immediate supervisor with questions concerning non-routine work.

X. CONTRACTORS

It is Company policy that when contractors are working on our property, they must comply with all OSHA standards and requirements, where applicable. The Hazard Communication Standard requires all contractors working on company property to be informed by the Company policy concerning applicable workplace hazardous chemicals which the contractor's employees may be exposed to while performing their work and of appropriate protective measures. This information is provided so contractor employers can properly train their employees. In addition, the contractor will inform the Safety Coordinator about hazardous chemicals that the contractor brings onto Company property so that precautions can be taken.

The following procedure is utilized with contractors, prior to the contractor's employees beginning work on our property.

A. Individual Department Managers

i. Include with the request for a quote for projects requiring on-site work by contractor employees, a general letter of notification that contractor employees may be exposed to hazardous materials.

ii. Obtain the chemical inventory along with the vendor's quotation and forward to the Safety Coordinator a signed acknowledgment of contractor hazard notification.
iii. Forward all requests for further hazard information to the Safety Coordinator.
iv. Minimize exposure of contractor employees to hazardous materials.

B. Chemical Inventory

The Safety Coordinator will determine and list what hazardous chemicals the contractor's employees may be exposed to while performing their work.

C. Safety Data Sheets

The contractor employer will be provided with the list of hazardous chemicals the contractor's employees may be exposed to while performing their work and the availability of Safety Data Sheets, which list appropriate protective measures. A copy of the form signed by the contractor employer will be maintained by the Safety Coordinator.

D. Contractor Supplied Chemical Inventory

The contractor employer will provide, in writing, a list of chemicals with Safety Data Sheets the contractor will bring onto our property. The Safety Coordinator will review the chemical list and SDS' provided by the contractor and will notify the supervisor of the area where the contractor is working of the potential exposure and appropriate protective measures.

E. Documentation

All contacts with contractors concerning hazardous communication shall be documented and filed.

XI. AUDIT

A. Hazard Communication Program Annual Review

The Hazard Communication Program will be audited at least annually by the Safety Coordinator. A report will be generated from the review audit and sent to each Department Manager and the Plant Manager.

B. Health Hazard Audits

The Chemical Inventory List will be used for auditing specific chemical hazards. A sample of the Chemical Hazard Audit sheet is shown in Appendix L. The Department Manager is responsible for following up to see that supervisors take corrective action concerning recommendations resulting from the audit.

APPENDIX I – SAMPLE CHEMICAL HAZARD INVENTORY LIST

Hazardous Chemical ***Product identifier matches SDS and label***	**Operation/Work Area**	**SDS (date)**