

# Standards of Practice

## Hazard Communication

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### I. PURPOSE

The purpose of the Hazard Communication Program is to provide Kansas State University employees with the necessary information to protect their health and well-being from chemical hazards. The Division of Public Safety has developed this written hazard communication program that includes container labeling, safety data sheet use, inventory control and employee training.

The Occupational Safety & Health Administration (OSHA) released revisions in 2012 that align the Hazard Communication Standard (HCS) with the United Nations' Globally Harmonized System of Classification & Labeling of Chemicals (GHS).

OSHA defines a hazardous chemical or chemical product as one that poses a physical and/or health hazard to the user. Typical hazards include:

- I. Physical: compressed gases, explosives, flammables, oxidizers;
- II. Health: carcinogens, poisons, irritants.

### II. SCOPE

This program provides K-State employers and employees with the necessary information about hazardous chemicals, how to safely work with them, how to protect themselves and how to comply in a prudent manner with all occupational safety and health standards/regulations. This will reduce injuries and illnesses resulting from exposure to hazardous chemicals.

All university departments should have a copy of this written program. It can be found on the web page [www.k-state.edu/safety/safety/occupational/](http://www.k-state.edu/safety/safety/occupational/).

### III. CONSEQUENCES OF DEVIATION

The HazCom procedure serves as an essential element in identifying and managing hazardous materials risk to faculty, staff and students. Ignoring this procedure could result in serious injuries or fatalities.

### IV. HAZARD COMMUNICATION STANDARD

Thousands of chemicals are used daily throughout the campus and new ones are routinely introduced into the work environment. This written program complies with OSHA's HCS 29 CFR 1910.1200. This written Hazard Communication Program applies throughout the university.

This program applies to all chemicals or chemical products that are known to be present in the workplace and which employees may be exposed under normal use conditions or in a foreseeable emergency. The chemicals covered by this program include but are not limited to

laboratory chemicals, agricultural chemicals (pesticides, fertilizers, animal health products, feed additives, etc.), cleaning agents, floor strippers and waxes, maintenance solvents and oils, compressed gas, printing inks, solvents and paint.

This standard does not apply to:

- a. Food, drugs, cosmetics, tobacco or tobacco products, or alcoholic beverages packaged for sale to consumers or intended for personal consumption by employees in the workplace.
- b. Any consumer product or hazardous substance where it can be demonstrated that it is used in the workplace in the same manner as normal consumer use, and which use results in a duration and frequency of exposure which is not greater than consumer exposure.
- c. Any drug as defined by the Federal Food, Drug, and Cosmetic Act that is used in its final form for administration to the patient such as a dispensing pharmacy or hospital.
- d. Wood or wood products, including lumber which will not be processed, where the chemical manufacturer or importer can establish that the only hazard they pose to employees is the potential for flammability or combustibility. Wood or wood products which have been treated with a hazardous chemical covered by this standard, and wood which may be subsequently sawed or cut, generating dust, are not exempted.
- e. Hazardous waste.
- f. Nuisance particulates where the chemical manufacturer or importer can establish that they do not pose any physical or health hazard covered under this section.
- g. Ionizing and non-ionizing radiation.
- h. Biological hazards.

## **V. RESPONSIBILITIES**

Public Safety shall have overall responsibility to manage the Hazard Communication Program.

Each university department is responsible for evaluating areas under its administrative control and determining whether hazardous chemicals are present. Departments must use this written program as a guide to maintaining their departmental HCS program. This includes departmental location of Safety Data Sheets (SDS), container labeling, inventory control, and training.

Each department shall designate a Safety Coordinator who will have the responsibility to maintain the HCS Program for the department.

Departments should provide hazardous materials training for its employees.

The Department Safety Coordinator will:

- a. Coordinate all efforts with Public Safety.
- b. Maintain an inventory of chemicals used within the department. This inventory must be submitted to Public Safety.
- c. Ensure that the department's faculty members, students, managers, supervisors, and office workers implement the HCS Program effectively

- d. Keep a copy of the department HCS training records.

Faculty Members, Managers and Supervisors. Due to their specific knowledge of processes and procedures conducted in their areas, this group of personnel retains major responsibility for the success of the Hazard Communication Program. They are responsible for:

- a. Ensuring that SDSs are readily accessible to all employees at any time needed.
- b. Ensuring that each container of chemical material in their work area is properly labeled with its contents and appropriate hazard warnings.
- c. Maintaining an inventory of chemicals in the workplace.
- d. Conducting training programs for department employees who work with or near chemical materials.
- e. Cooperate fully with their safety coordinator and Public Safety.

Laboratory Supervisors are required to:

- a. Ensure that labels on incoming chemical containers are not removed or defaced.
- b. Require SDSs are included with incoming shipments of all chemicals, and that they are readily accessible to laboratory employees.
- c. Minimize any potential exposure to employees by using appropriate work practices and informing employees of the potential hazards associated with the chemicals used in their laboratory.

Employees (includes faculty, staff or student). The success of the Hazard Communication Program ultimately lies in the hands of university employees. Personnel who work with chemicals need to be conscientious in their efforts to follow the guidelines presented in this program and to report the existence of health and safety hazards associated with chemical use to their supervisors and/or Public Safety. Employees are responsible for ensuring their own safety:

- a. Actively participate in training programs and comply with training provisions.
- b. Review SDSs and know the hazards of materials they use at work.
- c. Utilize measures that have been prescribed in order to ensure protection from exposure to hazardous materials.
- d. Employees are to be informed that failure to comply with established safety standards and procedures may subject them to disciplinary action, up to and including discharge.

## **VI. CHEMICAL CONTROL**

Each department will maintain an inventory of all chemicals, including the storage location of the chemicals.

The chemical inventory must be maintained online through the “Environmental Health and Safety Assistant” (EH&S Assistant) found at [www.k-state.edu/safety](http://www.k-state.edu/safety).

Training for EH&S Assistant is available via this website.

## VII. PROGRAM REQUIREMENTS

Every department must maintain a comprehensive HCS Program at the workplace that includes provisions for container labeling, collection and availability of safety data sheets, and an employee training program. It also must contain a list of the hazardous chemicals, the means the employer will use to inform employees of the hazards of non-routine tasks and the hazards associated with chemicals in unlabeled pipes.

**Labeling and Warnings.** Labels are an all-important, first visible clue to the relative dangers and risks of the chemical. Labels must be legible, written in English, and prominently displayed. Four elements are required on all container labels: Name or identity, name and address of manufacturer, Hazard Warnings (physical and health) and hazard warning pictograms. This information is also required when you transfer a chemical from one container to another. Employees are responsible for ensuring that labels are never defaced or removed.

- a. All secondary containers (transfer containers) must be labeled with the identity of the contents, name and address of manufacturer, appropriate hazard warning and hazard pictogram.
- b. The label must include the full chemical name, not abbreviations or chemical formulas.
- c. If existing labels already convey the necessary information, new labels need not be added.
- d. The following chemicals do not require additional labeling other than that required under:
  - i. Federal Insecticide, Fungicide, and Rodenticide Act (EPA) - pesticides.
  - ii. Food, Drug, and Cosmetic Act (FDA) - food, food additive, color additive, drug, cosmetic, or medical or veterinary device, including materials intended for use as ingredients in such products.
  - iii. Federal Alcohol Administration Act (Bureau of Alcohol, Tobacco, and Firearms) - distilled spirits, wine, or malt beverage.
  - iv. Consumer Product Safety Act and Federal Hazardous Substances Act (Consumer Product Safety Commission) - consumer products.
  - v. Every effort must be made to use up the old chemicals prior to ordering new supplies. Manufacturers supplied labels on old bottles do not need to be upgraded to the new OSHA Standard. Old chemicals may be discarded at any time through the hazardous waste disposal process. See [www.k-state.edu/safety](http://www.k-state.edu/safety) for more information.

**Safety Data Sheets.** Safety Data Sheets (SDS) are a printed description of the chemicals used in the workplace. These sheets provide the employer and employees with the necessary information to use the chemicals safely and how to deal with chemical accidents.

Each SDS contains the following information that should be reviewed by employees:

- a. Identification.
  - Product and company identification;
  - Product identifier used on the label;

- Other means of identification;
  - Recommended use of the chemical and restrictions on use;
  - Name, address and telephone number of the chemical manufacturer, importer or other responsible party;
  - Emergency phone number.
- b. Hazard(s) identification.
- Classification of the chemical;
  - Signal word (“warning” or “danger”), hazard statement(s), pictogram(s) and precautionary statement(s);
  - Any “hazards not otherwise classified” that have been identified.
- c. Composition/information on ingredients.
- Chemical name;
  - Common name and synonyms;
  - CAS number and other unique identifiers;
  - Impurities and stabilizing additives which are themselves classified and which contribute to the classification;
  - Trade secret information can be withheld if claimed in this section.
- d. First aid measures.
- Description of necessary measures subdivided by routes of exposure;
  - Most important acute and delayed symptoms/effects;
  - Indication of immediate medical attention and special treatment necessary.
- e. Fire-fighting measures.
- Extinguishing media used or avoided;
  - Specific hazards;
  - Special personal protective equipment (PPE) and precautions for fire-fighters.
- f. Accidental release measures.
- Personal precautions, PPE and emergency procedures;
  - Methods and materials for containment and cleaning up.
- g. Handling and storage.
- Precautions for safe handling;
  - Conditions for safe storage including any incompatibilities.
- h. Exposure controls/personal protection.
- OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) and other exposure limits;
  - Appropriate engineering controls;

- PPE.
- i. Physical and chemical properties.
  - Appearance;
  - Odor;
  - Odor threshold;
  - pH;
  - Melting point/freezing point;
  - Initial boiling point and boiling range;
  - Flash point;
  - Evaporation rate;
  - Flammability;
  - Upper/lower flammability or explosive limits;
  - Vapor pressure;
  - Vapor density;
  - Relative density;
  - Solubility(ies);
  - Partition coefficient: n-octanol/water;
  - Auto-ignition temperature;
  - Decomposition temperature;
  - Viscosity.
- j. Stability and reactivity.
  - Reactivity;
  - Chemical stability;
  - Possibility of hazardous reactions;
  - Conditions to avoid;
  - Incompatible materials;
  - Hazardous decomposition products.
- k. Toxicological information.
  - Description of the various toxicological (health) effects and the available data used to identify those effects including:
  - Routes of exposure;
  - Symptoms;
  - Delayed and immediate effects;
  - Chronic effects from short- and long-term exposure;

- Numerical measures of toxicity;
- Listed as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or by OSHA.

l. Ecological information.

- Ecotoxicity;
- Persistence and degradability;
- Bioaccumulative potential;
- Mobility in soil;
- Other adverse effects.

m. Disposal considerations.

- Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

n. Transport information.

- UN number;
- UN proper shipping name;
- Transport hazard class(es);
- Packing group;
- Environmental hazards;
- Transport in bulk;
- Special precautions.

o. Regulatory information.

- Safety, health and environmental regulations specific for the product.

p. Other information.

- The date of preparation or last revision.

Manufacturers and importers of chemicals or chemical products presently provide SDS's to distributors and retailers. The SDS's are sent to all buyers. If the department does not receive the required SDS, the Department Safety Coordinator must request the SDS from the manufacturer.

Any department that manufactures or provides a chemical product must prepare and make available an SDS for that product. Storerooms, such as the Chemistry Storeroom, Biology Storeroom and Facilities Storeroom that sell chemicals to the campus must provide SDS's for the chemicals sold.

Each department must make available to the employees a complete, current set of SDS's for all chemical(s) used in the department. The Department Safety Coordinator must maintain the set of SDS's.

- a. As a minimum, a set of SDS's must be kept in a conspicuous place in each department in each building.

- b. Research laboratories that use chemicals should keep a set of SDS's in a conspicuous place in the laboratory.
- c. SDS's may be kept online rather than physically presented in a notebook. However, they must be available at all times and all employees must be trained in how to access them.

**VIII. EMPLOYEE INFORMATION & TRAINING**

Public Safety shall provide training on hazardous chemicals to the Department Safety Coordinators. Hazard Communication training is available online at [www.k-state.edu/safety/safety/training](http://www.k-state.edu/safety/safety/training). Public Safety will also provide introductory information to all new employees hired by KSU.

The Department Safety Coordinator will provide employees with information and training on chemicals at the time of their initial assignment, and whenever a new chemical is introduced. This includes the location and availability of the SDS set.

Employee training shall include:

- a. Methods and observations to detect the presence or release of a hazardous chemical in the workplace.
- b. The physical and health hazards of the chemicals in the workplace.
- c. The measures employees can take to protect themselves from the chemical hazards.
- d. The details of the HCS Program including how employees can obtain, read, and understand the SDS's.
- e. Every effort must be taken by the Department Safety Coordinator to train employees who cannot read English.
- f. Each department must keep records of each employee's training.

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