IOWA STATE UNIVERSITY
Environmental Health and Safety

Hazard Communication Plan

2408 Wanda Daley Drive | Ames, IA 50011-3602 | (515) 294-5359 | www.ehs.iastate.edu

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Protecting the Safety, Health, and Environment of the Iowa State Community

Iowa State University strives to be a model for safety, health, and environmental excellence in teaching, research, extension, and the management of its facilities. In pursuit of this goal, appropriate policies and procedures have been developed and must be followed to ensure the Iowa State community operates in an environment free from recognized hazards. Faculty, staff, and students are responsible for following established policies and are encouraged to adopt practices that ensure safety, protect health, and minimize the institutions' impact on the environment.

As an institution of higher learning, Iowa State University

- fosters an understanding of and a responsibility for the environment,
- encourages individuals to be knowledgeable about safety, health and environmental issues that affect their discipline, and
- shares examples of superior safety, health and environmental performance with peer institutions, the State of Iowa and the local community.

As a responsible steward of facilities and the environment, Iowa State University

- strives to provide and maintain safe working environments that minimize the risk of injury or illness to faculty, staff, students, and the public,
- continuously improves the operations, with the goal of meeting or exceeding safety, health and environmental regulations, rules, policies, or consensus standards, and
- employs innovative strategies of waste minimization and pollution prevention to reduce the use of toxic substances, promote reuse, and encourage the purchase of renewable, recyclable and recycled materials.

The intent of this statement is to promote environmental stewardship, protect health, and encourage safe work practices within the Iowa State University community. The cooperative efforts of the campus community will ensure that Iowa State University continues to be a great place to live, work, and learn.

Wendy Wintersteen
President

Service and Emergency Providers

Environmental Health and Safety
2408 Wanda Daley Drive | (515) 294-5359

Iowa State University Occupational Medicine Department
G11 Technical and Administrative Services Facility (TASF), 2408 Pammel Drive | (515) 294-2056

McFarland Clinic PC, Occupational Medicine
1018 Duff Avenue | (515) 239-4496

Thielen Student Health Center
2647 Union Drive | (515) 294-5801

Emergency

Emergency - Ambulance, Fire, Police
911

Department of Public Safety/ Iowa State University Police
Armory, 2519 Osborn Drive | (515) 294-4428

Mary Greeley Medical Center
1111 Duff Avenue | (515) 239-2011

Non-discrimination Statement

"Iowa State University does not discriminate on the basis of race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. veteran. Inquiries regarding non-discrimination policies may be directed to Office of Equal Opportunity, 3350 Beardshear Hall, 515 Morrill Road, Ames, Iowa 50011, Tel. (515) 294-7612, email eooffice@iastate.edu"

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A. Introduction

Safety and Compliance Statement

To comply with state and federal regulations and to ensure the safety of university employees and the community, Iowa State University (ISU) is dedicated to informing all employees who work with hazardous chemicals of both the hazardous properties of these chemicals and the available protective measures to minimize chemical exposures. This information will be made available to employees through this written manual, labels on chemical containers, safety data sheets (SDS), and by training. Employees will be informed of the recognized hazards associated with the chemicals they work with before their initial assignment and whenever the hazards change. The goal of the ISU Hazard Communication Plan is to reduce employee exposure to hazardous chemicals, prevent chemical-related injuries and illnesses, and meet regulatory requirements.

Regulatory Basis

The Hazard Communication Plan is designed to assist university departments in developing and implementing an action plan to comply with the Federal Occupational Safety and Health Administration OSHA) Hazard Communication Standard 29 CFR 1910.1200 and the Iowa Administrative Code Section 875, Chapters 130 and 140.

B. Responsibilities

Iowa State University:

Iowa State University (ISU) is responsible for ensuring the safety of its employees and for complying with applicable state and federal regulations. University administration places a high value on safety and encourages employees at all levels to promote positive attitudes regarding safety, to incorporate safety into their work practices, and to cooperate fully in the implementation of safety-related programs.

Environmental Health and Safety:

The ISU Department of Environmental Health and Safety (EH&S) is responsible for developing and implementing health and safety-related programs within the university. In fulfillment of this responsibility, EH&S created this manual and will assist individual departments in the development and implementation of a Hazard Communication Plan in their areas. Specifically, EH&S has responsibility for:

- Developing and providing basic Hazard Communication training for university employees.
- Providing assistance to supervisors and employees in the implementation of the Hazard Communication Plan.
- Reviewing the labeling and hazard warning system that is used on secondary containers and ensuring that it is consistent throughout all departments.
- Reviewing safety data sheets on any currently used materials or any proposed new chemicals, when there are questions about potential hazards or safety issues with a chemical.
- Providing technical guidance and policy interpretation to university personnel.

Departments:

Each university department is responsible for evaluating areas under its administrative control and determining whether hazardous chemicals are present. Departments that identify hazardous chemicals in their areas are responsible for adopting and implementing the Hazard Communication Plan. Departments participating in the program must:

- Designate a safety contact.
- Submit and/or update inventories of hazardous chemicals used within the department on the EH&S Chemical Inventory at least annually.
- Inform contractors working in the area of any hazards that they may encounter during the contract term.

- Ensure that managers and supervisors implement the Hazard Communication Plan effectively.

Safety Contact:

Each department using hazardous chemicals will designate a safety contact who will be responsible for facilitating information transfer between the department and EH&S. Safety contacts may also provide Hazard Communication training to department employees.

Managers and Supervisors:

Departmental managers and supervisors are knowledgable about the processes and procedures conducted in their areas; therefore, they are primarily responsible for implementing the Hazard Communication Plan. The manager or supervisor of each work area is responsible for:

- Making safety data sheets readily accessible to all employees during their work shifts.
- Ensuring that containers of hazardous materials are properly labeled and signs are posted at entrances to chemical storage areas.
- Maintaining and updating an inventory of hazardous chemicals present in the workplace.
- Coordinating employee medical consultation and/or surveillance with EH&S and the Occupational Medicine office in the event of an exposure to a hazardous chemical in the workplace.
- Conduct training programs and ensure online Hazard Communication training is taken by department employees who work with or near hazardous materials, to include:
  - Potential hazards associated with workplace chemicals, including the availability of this manual.
  - Chemical-specific information (SDS, chemical inventory)
  - Safe work practices
  - Engineering controls
  - Facility design features
  - Personal protective equipment (PPE)
  - Emergency procedures
  - The methods used to inform employees of the hazards of non-routine tasks (vessel cleaning) and the hazards associated with unlabeled pipes.

Laboratory Supervisors:

Laboratories that use potentially hazardous chemicals are governed by the policies set forth in the Laboratory Safety Manual. Although laboratories are exempt from most requirements of the Hazard Communication Plan, laboratory supervisors are required to:

- Ensure that labels on incoming chemical containers are not removed or defaced.
- Require that safety data sheets are **readily accessible** to laboratory employees.
- Minimize any potential chemical exposure to employees by ensuring appropriate work practices and informing employees of the potential hazards of the chemicals used in their laboratory.

Employees:

The success of the Hazard Communication Plan 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 manual and to report the existence of health and safety hazards associated with chemical use to their supervisor and/or EH&S.

You are in charge of ensuring your own safety by:

- Actively participating in training programs and complying with training provisions.
- Knowing the hazards of materials you use at work.
- Utilizing measures that have been prescribed in order to ensure your protection from exposure to hazardous materials.

C. Program Requirements

Program Availability

Electronic access to or a paper copy of the Hazard Communication Plan, appropriate safety data sheets (SDS), and a list of hazardous chemicals must be available to all employees who work with or near hazardous chemicals.

Employees will also be provided with access to the Federal OSHA Standard 29 CFR 1910.1200 and Iowa Chemical Risks RTK Standard, Section 875, Chapters 130, and 140. As a fulfillment to this requirement, links to these standards are provided in the introduction to this manual.

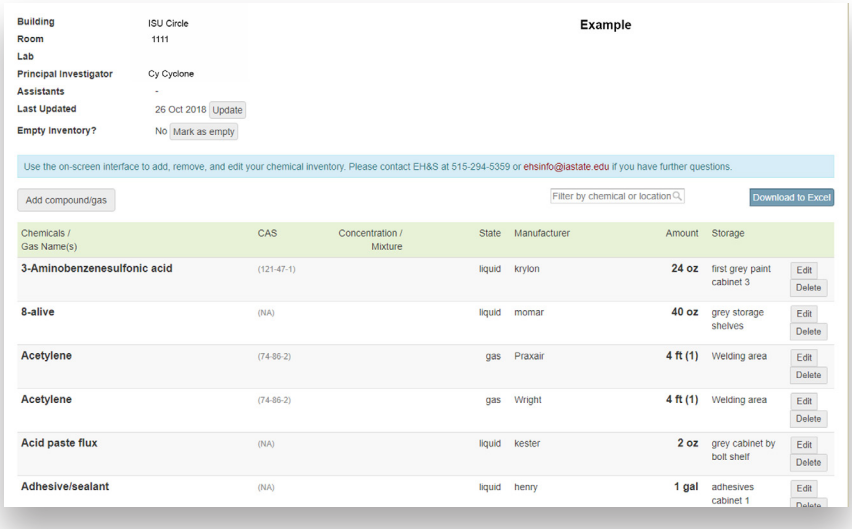
EH&S provides several links to other resources on our website.

Hazard Determination

To evaluate the hazards of the chemicals in the workplace, Iowa State University (ISU) will rely on data from chemical manufacturers, distributors and/or importers from whom hazardous materials are purchased. The information on the SDS is assumed to be accurate and complete.

Chemical Inventory

Managers or supervisors must develop and maintain chemical inventories of hazardous chemicals in areas under their control. For the sake of simplicity, any material for which there is an SDS should be considered hazardous. A chemical identity used on the chemical inventory can be a chemical name, common name or other designation, as long as it allows cross-reference to the container label and SDS. Use of chemical formulas or abbreviations should be avoided.



Example

Building: ISU Circle
Room: 1111
Lab:
Principal Investigator: Cy Cyclone
Assistants: -
Last Updated: 26 Oct 2018 Update
Empty Inventory?: No Mark as empty

Use the on-screen interface to add, remove, and edit your chemical inventory. Please contact EH&S at 515-294-5359 or ehsinfo@iastate.edu if you have further questions.

Add compound/gas | Filter by chemical or location | Download to Excel

Chemicals / Gas Name(s)	CAS	Concentration / Mixture	State	Manufacturer	Amount	Storage	
3-Aminobenzenesulfonic acid	(121-47-1)		liquid	krylon	24 oz	first grey paint cabinet 3	Edit Delete
8-alive	(NA)		liquid	momar	40 oz	grey storage shelves	Edit Delete
Acetylene	(74-86-2)		gas	Praxair	4 ft (1)	Welding area	Edit Delete
Acetylene	(74-86-2)		gas	Wright	4 ft (1)	Welding area	Edit Delete
Acid paste flux	(NA)		liquid	kester	2 oz	grey cabinet by bolt shelf	Edit Delete
Adhesive/sealant	(NA)		liquid	henry	1 gal	adhesives cabinet 1	Edit Delete

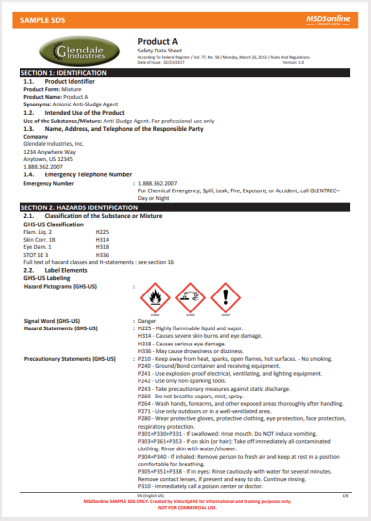
Departments can find more information on the Chemical Inventory Program and how to create a chemical inventory on the EH&S website. If you have questions, contact EH&S at (515) 294-5359.

The following materials are exempt and should not be listed as part of a department's hazardous chemical inventory:

- Hazardous waste regulated by the Environmental Protection Agency (EPA).
- Tobacco and tobacco products.
- Wood and wood products (in some circumstances wood dust is considered hazardous).
- Articles (furniture, tools, etc.) that do not release or otherwise result in exposure to a hazardous chemical under normal conditions of use.
- Foods, drugs, or cosmetics intended for personal consumption by employees.
- Consumer products used in the same manner and duration as a consumer.
- Most office products (white-out, glues, copier inks and toners, stamp pads, etc.).

Safety Data Sheets

The Safety Data Sheets (SDS) Information and Glossary document describes the information that can be found on SDSs and provides a glossary of terms that may be used on SDSs.


SAMPLE SDS

MSDSonline

Product A

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Product A

Synonyms: Anionic Anti-Sludge Agent

1.2. Intended Use of the Product

Use of the Substance/Mixture: Anti Sludge Agent. For professional use only

1.3. Name, Address, and Telephone of the Responsible Party

Company

Glendale Industries, Inc.

1234 Anywhere Way

Anytown, US 12345

1.888.362.2007

1.4. Emergency Telephone Number

Emergency Number : 1.888.362.2007

For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call GLENTREC– Day or Night

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US Classification

Flam. Liq. 2 H225

Skin Corr. 1B H314

Eye Dam. 1 H318

STOT SE 3 H336

Full text of hazard classes and H-statements : see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H225 - Highly flammable liquid and vapor.

H314 - Causes severe skin burns and eye damage.

H318 - Causes serious eye damage.

H336 - May cause drowsiness or dizziness.

Precautionary Statements (GHS-US) : P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.

P240 - Ground/Bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating, and lighting equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P260 Do not breathe vapors, mist, spray.

P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P280 - Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.

P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 - Immediately call a poison center or doctor.

EN (English US) 1/8

MSDSonline SAMPLE SDS ONLY. Created by VelocityEHS for informational and training purposes only. NOT FOR COMMERCIAL USE.

Sample Safety Data Sheet by OSHA

- Departments are required to obtain an SDS from chemical manufacturers, distributors and/or importers, for each hazardous chemical used in their work areas and have them readily available to employees at all times. An SDS must be provided, upon request.
- An SDS should be requested on every purchase-order requisition form. It must be provided to the department (by the manufacturer or distributor) at time of initial shipment, but does not need to physically accompany the shipment. Because manufacturers do not have to send multiple copies to a single employer, it will ultimately be the department's responsibility to have the SDS in their work areas.
- Departments that transfer or ship hazardous chemicals to other entities external to ISU must ensure that the receiving party has the corresponding SDS at or prior to the time of transfer. Additional requirements may apply to the shipment of hazardous/infectious materials. Contact EH&S at (515) 294-5359 for details or visit the EH&S website to view more information on safety data sheets.

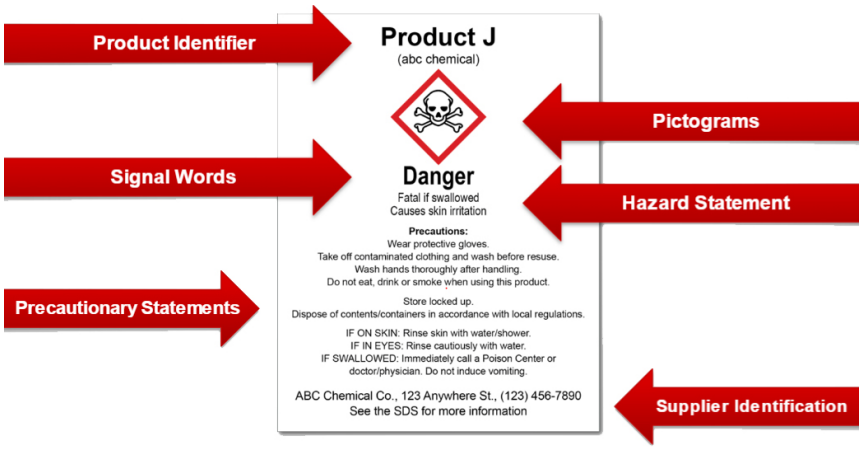
- The assistance of the Iowa Occupational Safety and Health Administration (IOSHA) may be solicited if the university is unsuccessful in obtaining an accurate and complete SDS from a manufacturer.

Example of a label created for a secondary container

Container Labeling

Chemical manufacturers, importers, and distributors are required to label, tag, or mark containers of hazardous chemicals they sell with specific information to identify the contents and the hazards of the product. Container labels must have, at a minimum:

- Product identifier (Proper chemical or common name of contents. Mixtures or solutions must include a list of constituents and their concentrations.)
- Signal word (warning or danger)
- Hazard statement(s) (fatal if swallowed, flammable liquid, corrosive, etc.)
- Pictogram(s)
- Precautionary statement(s)
- Name, address and telephone number of the manufacturer or other responsible party



Purchasers of hazardous chemicals must verify that containers received are labeled, tagged or marked with this information before adding it to their inventory. The chemical owner should routinely check to ensure labels remain legible and in good condition during storage and use. Include additional information, such as dates received, prepared or opened, storage location, and owner or user information.

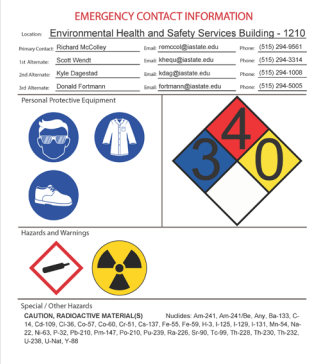
When chemicals are transferred to or mixed in a secondary container, label this new container, at minimum, with the product identifier, signal word, and hazard statement(s). This information can be pulled from the original container label or from the SDS. The original container label may be reproduced or created. You can avoid secondary container

labeling requirements by ordering smaller containers and refilling containers with manufacturers' labels already attached. Hazardous chemicals transferred from labeled containers may be used in a secondary container without a label, only if the entire contents of the secondary container are used immediately.

All labels must be legible, in English, with NO abbreviations, formulas or shorthand.

Pipes and Piping Systems

Where accessible to employees, pipes and piping systems containing hazardous materials must be labeled. Employees must be informed of and/or trained on the potential hazards associated with hazardous chemicals in piping systems during department-specific hazard communication training.



Door Signage Example

Signage

Hazard communication signage is used to identify hazards, communicate procedures to follow, and provide guidance during emergencies. Post hazard communication signage at the main entrance to each location where hazardous chemicals are used or stored within a building or structure. The door signage application requires a current chemical inventory. Managers or supervisors are responsible for keeping their hazard communication signage up to date.

Buildings with floor space of 5000 square feet or less that are used to store hazardous chemicals, shall be posted with a sign on the outside of the building or structure. The sign must conform to the National Fire Protection Association (NFPA) 704-1980 as required by Iowa Chapter 140 – Public Safety/Emergency Response Right to Know.

Information and Training

ISU employees will be informed of the requirements of the Hazard Communication Standard through a training program. Employees will be informed of operations in their department where hazardous chemicals are present and the dangers posed by those chemicals. Methods to avoid exposure will be explained during department-specific information and training sessions. An online Hazard Communication course, available through Workday Learning, must be taken by all employees that use chemicals outside the laboratory environment.

EH&S provides links to other informational resources on our website.

Department Responsibilities

Safety contacts or department supervisors will provide the department-specific Hazard Communication training for their employees. This training will be provided before work with hazardous chemicals begins, new chemical information is acquired, and whenever new

hazardous chemicals are introduced into the work area.

During an inspection, departments are expected to make Hazard Communication training materials readily available for review by IOSHA. This training will inform employees as to:

- The location and contents of 29 CFR 1910.1200 and the Iowa Chemical Risks RTK standard, Section 875, Chapters 130, and 140.
- The location of the hazardous chemical inventory in their work area.
- The physical and health hazards associated with said hazardous materials.
- How to read and understand safety data sheets and where they are located.
- How to read and understand product labels and other warnings used to identify hazardous materials in their work area (signs, placards, etc.).
- How and where the university's written Hazard Communication Plan can be obtained.
- How to determine the presence or release of a hazardous material in their work area.
- How to protect themselves from physical and health hazards: proper work procedures, emergency procedures, and appropriate personal protective equipment (PPE).
- Emergency procedures for chemical incidents.

Each training session must include verbal presentations, written communication, and the opportunity to ask questions. Audiovisuals (videos, pictures, etc.) may be used to augment training sessions, but cannot be solely substituted for verbal communication and question-and-answer sessions.

Employees must receive training prior to performing any non-routine task involving hazardous chemicals and hazards associated with unlabeled pipes. The training will include information on the specific chemical hazards and measures the employee must take to ensure safety during performance of the new task.

EH&S Responsibilities

EH&S provides mandatory online training that gives employees an understanding of the Hazard Communication Plan, including its training requirements. This course is available in Workday Learning and must be taken before the employee begins work with hazardous chemicals. Online Hazard Communication training from EH&S includes:

- How employees can detect the presence or release of hazardous chemicals.
- Types of physical and health hazards of chemicals that may be encountered at work.
- How employees can protect themselves from hazards associated with chemicals and the procedures Iowa State University has implemented to provide employee protection such as workplace practices and PPE.
- Details of the Hazard Communication Plan, including how to read and interpret information found on chemical labels and safety data sheets.

Record Keeping

EH&S maintains training records for all university personnel who complete EH&S training. Copies may be obtained by viewing your personal training history in Workday Learning.

Departments are responsible for keeping proper records of Hazard Communication training they give to their employees. Records should include:

- An employee sign-in sheet (with the date, time and location of the training session).
- An outline of topics covered.
- Copies of any written materials given out during the training.
- Quizzes or other means used to ensure employee understanding and retention of materials presented.

Contractor Work

Any contractor hired by ISU will be informed by the contracting department of any chemical hazards present, which its employees may encounter during the term of the contract.

The contractor will be required to adhere to all established safe work practices and university procedures. The contractor will also inform the university, in advance, of all hazardous materials that will be used during a project. Safety data sheets will be available for all hazardous products used. ISU reserves the right to refuse the use of any product that poses an excessive risk or will require additional training of university employees.

D. Regulatory Overview

The State of Iowa has adopted the following state and federal regulations to govern hazard communication in Iowa:

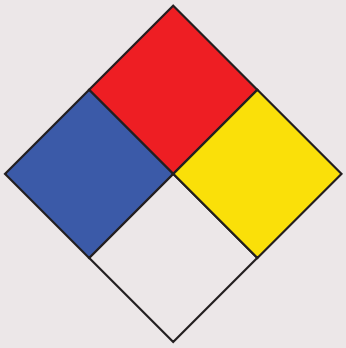
- Iowa Administrative Code Section 875, Chapter 130 - Community Right to Know
- Iowa Administrative Code Section 875, Chapter 140 - Public Safety/Emergency Response Right to Know
- U.S. Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1200 - Hazard Communication

Listed below is a brief overview of each regulatory requirement.

Chapter 130 — Community Right to Know

Upon request, Iowa State University (ISU) will inform the public of the presence of hazardous chemicals stored on campus and the potential health and environmental hazards that the chemicals pose. If the release of the information could create a possible security concern, the university will provide the reason for refusal within ten days. If the request is from a health professional, the information will be provided as soon as possible.

A department's chemical inventories and information on safety data sheets developed for this Hazard Communication Plan may be used to meet the requirements of Chapter 130—Community Right to Know.



Blank NFPA Placard

Chapter 140 — Public Safety/Emergency Response Right to Know

Iowa Public Safety/Emergency Response Right to Know requires departments to identify and label hazardous chemical storage areas. Labels or signs must conform to the National Fire Protection Association's (NFPA's) standard system for identifying fire hazards of chemicals. Signage rules (based on NFPA standard 704-1980) have been adopted under Iowa code.

Signs shall identify health, flammability, reactivity, and any special hazards. Each category shall indicate severity, numerically by five classifications, with "4" indicating a severe hazard and "0" indicating no hazard.

Where posting of signs could be misleading due to small quantities on hand, the posting requirement may be waived. Consult the Hazard Communication Standard or contact EH&S at (515) 294-5359 for details on posting requirements.

Chemical inventories and locations of hazardous chemicals will be made available to the Ames Fire Department, upon their request.

OSHA 29 CFR 1910.1200 Hazard Communication

The ISU Hazard Communication Plan is intended to ensure compliance to this federal standard. The statute requires the university to ensure that information concerning chemical hazards is transmitted to affected employees. This must be accomplished by a comprehensive hazard communication program which includes:

- A written program
- Employee information and training
- Container labeling requirements
- Safety data sheets
- Department-specific chemical inventories
- Contractor work at ISU
- Non-routine tasks
- Trade secrets