



**Santa Clara
University**

Hazard Communication Program

**Santa Clara University
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Policy Statement and Scope

It is the policy and practice of Santa Clara University to control chemical hazards in the workplace to the greatest extent feasible. Santa Clara University has developed a Hazard Communication Program to ensure that our employees' health and safety is protected from chemical hazards in the work environment. As a California employer, Santa Clara University is required by the General Industry Safety Order (GISO), Section 5194, of Title 8 of the California Code of Regulations, to provide and maintain this Hazard Communication Program in all work areas where our employees may be potentially exposed to hazardous substances.

This Hazard Communication Program includes the following elements:

- Program responsibilities;
- A discussion of how to use Material Safety Data Sheets (MSDS) and where to find them;
- Labeling of hazardous materials containers;
- Training requirements for employees; and
- Additional information and procedures necessary for the safe handling and use of hazardous substances.

This written Hazard Communication Program is available upon request to any Santa Clara University employee, their designated representative(s), and the California Occupational Safety and Health Administration (Cal-OSHA), in accordance with Section 5194(e)(3). No employee will be discharged or otherwise discriminated against for exercising his/her rights afforded by this program.

Hazard Communication Program Responsibilities

Santa Clara University has developed a comprehensive Hazard Communication Program with the objective of effectively informing and training employees about the potentially hazardous substances in the work place. The following are Santa Clara University employee responsibilities under this program.

Environmental, Health and Safety Manager

The Environmental, Health and Safety (EHS) Manager is responsible for coordinating the Hazard Communication Program, specifically for communication and recordkeeping. This individual is responsible for review of all chemicals used and stored at Santa Clara University, as well as for maintenance of Material Safety Data Sheets (MSDS). The individual will:

- Maintain a list of MSDS's for all chemical materials and substances used at Santa Clara University;

- Maintain a master file of MSDS's;
- Maintaining (and updating) MSDS's for all Facilities related chemicals;
- Maintain, review, and annually update, with the input from managers, the program;
- Coordinate employee training;
- Review and approve hazardous substances prior to purchase;
- Maintain (and update) the Hazardous Material Inventory Statement (HMIS) and ensure document is available;
- Maintain a master file of MSDS's;
- Assist Managers with determining the proper labeling, engineering controls, and personal protective equipment (PPE) to be worn for operations involving hazardous substances;
- Ensure that contractors are aware of the provisions of the Hazard Communication Program;
- Responsible for maintaining the Injury and Illness Prevention Program;
- Ensuring safety precautions are followed for non-routine tasks; and
- Evaluate the purchase of new chemical and recommend additional protective measures, if required.

The EHS Manager may use the services of consultants to aid in carrying out these responsibilities.

Laboratory Manager

Managers are responsible for the safe performance of day-to-day work with hazardous chemicals and substances within their respective work areas. They are responsible for:

- Ensuring that employees are trained in the potential job hazards (including hazardous chemicals) of their work area;
- Ensuring MSDS's are current (latest revisions of MSDS) and available, and providing updates to the EHS Manager;
- Maintain a copy of the current MSDS in a binder in the area where hazardous substances is used/stored;
- Labeling all secondary containers;
- Ensuring that their employees will use, handle, store and dispose of hazardous substances appropriately; and
- Ensuring appropriate personal protective equipment (PPE) and spill cleanup supplies are available and that employees are trained properly in their use.

Employees

Employees should be alert to the potential hazards of all the materials and substances in their work areas. Responsibilities include:

- Actively participating in the Hazard Communication Program;
- Knowing the location of MSDS's;
- Using the new chemical purchase review process;
- Completing all required training;
- Promptly reporting all accidents or unsafe conditions to their manager and or the EHS Manager;
- Using personal protective equipment properly and as required; and
- Properly handling, using, storing and disposing of chemicals.

Purchasers

All chemicals purchases must be reviewed and approved using the following process:

- Complete a New Material/Chemical Authorization Form (see Appendix A) and attach a copy of the MSDS; and
- Forward it to the EHS Manager.

Material Safety Data Sheets (MSDS)

Material Safety Data Sheet (MSDS)

A Material Safety Data Sheets (MSDS) are kept on file for each hazardous substance listed on Santa Clara University's Hazardous Material Inventory Statement, which can be found in Appendix B. The MSDS, in the binder, should be the most current MSDS supplied by the manufacturer, importer or distributor. The buyer is responsible for obtaining MSDS's from the chemical manufacturer, importer or distributor. The contents of the MSDS are described in Appendix Three.

These binders are labeled as Material Safety Data Sheets. The EHS Manager will ensure the annual notification of new or revised MSDS's to the appropriate departments as necessary.

Master copies of MSDS's are also available from the EHS Manager. MSDS's are available to be viewed by all employees in their work area by viewing www.scu.edu/facilities and clicking on the MSDSonline link. MSDS's are available for all hazardous materials and substances present in the Santa Clara University work environment.

Policy for Obtaining and Accessing an Original MSDS

Prior to purchasing new hazardous materials or substances, or before free samples or no charge items are delivered to the facility, the buyer or responsible department must procure an MSDS from the manufacturer, importer or distributor and supply a copy to the EHS Manager for review. The EHS Manager will review the new MSDS, approving or denying the use of the chemical, and ensure that the master MSDS binder and the MSDSonline web site is updated, as necessary.

Managers should request an MSDS from the EHS Manager if they are missing an MSDS for any hazardous material or substance in their area.

Master copies of MSDS's will be maintained by the EHS Manager.

Inventory of Hazardous Substances

A current list of MSDS's is kept on file at the Santa Clara University site with the master copies and on the MSDSonline Web Site. Additionally, the HMIS maintained by the EHS Manager contains the following information:

- Location where the chemical is used;
- The common or trade name and the chemical name of the hazardous substances;
- The Chemical Abstract Service (CAS) registry number;
- The physical state of the chemical (i.e., solid, liquid, gas);
- Approximate quantity of site and the largest container of the chemical used;
- The number of days the chemical is on site;
- The storage codes for the chemical (i.e., location, pressure, temperature); and
- The SARA Hazard Class(s) for the chemicals.

Container Labeling/Storage

Labeling

Primary Containers

Definition: A primary container is the container in which the product is received from the manufacturer or distributor.

It is the policy of Santa Clara University that no primary container of hazardous substances will be used unless the following label information is present.

- Containers are clearly labeled as to the contents;
- Appropriate hazard warnings are noted; and
- Name and address of the manufacturer are listed.

The following is an example of a primary label.

Hazard Class & Packing Number

Chemical Abstract Number

Formula Weight

Identity of Chemical

Specifications

Hazard Signage

Hazard Warning

STORAGE CODE RED

FLAMMABLE

Methyl Alcohol Anhydrous

Specifications

Methanol, Wood alcohol
SPECIFICATIONS
Assaymin. 99.85%
Flashpoint TCC 11°C (52°F)

First Aid

500 mL

579366

To re-order this chemical, call Frey Scientific and use item number listed above.

freyscientific

FREY SCIENTIFIC CO.
100 PARAGON PARKWAY
MANSFIELD, OHIO 44803
800-223-9729

24-Hour Emergency Number

Manufacturer or Distributor

Date Received

Hazard Rating

HEALTH	3
FLAMMABILITY	3
REACTIVITY	1

Fig. in U.S.A.

Primary Containers

Definition: A secondary container is the container in which the product is dispensed for use (i.e., squeeze bottle).

To further ensure that employees are aware of the hazards of materials and substances used in their work areas, it is the policy of Santa Clara University to label all secondary containers. Examples of secondary containers include squeeze bottles and flip-top containers. The Manager in each department will ensure that all secondary containers are labeled with at least the following:

- Identify of the hazardous material or substance; and

- Appropriate hazard class (i.e., corrosive, flammable, etc.).

The following is an example of a secondary label for Isopropyl Alcohol:

Labeling Systems

There are several acceptable labeling systems available for use. Among these is the National Fire Protection Association (NFPA) 704 labeling system, which provides chemical hazard information utilizing a color-coded diamond. This system is described in Appendix Four. Another method of labeling is the Hazardous Materials Identification System (HMIS), which utilizes the same color-coded concept in a rectangular label.

Storage

It is Santa Clara University's policy that all primary and secondary containers be closed, capped or otherwise covered when not being used. All flammable substances, not in immediate use, are to be kept in a flammable liquid storage cabinet when not being used or when the use of the chemical is complete.

Contractors

EHS Manager and Managers

To ensure the safety of contractors working at Santa Clara University, EHS Manager will provide all contractors working on-site with the appropriate information pertaining to hazardous chemicals and/or processes which they may encounter.

To ensure the safety of contractors working in specific locations within Santa Clara University, the Managers of the area must make the following information available to contractors before they begin the work (if applicable):

- Precautions and protective measures to be utilized while working in specific areas;
- Personal protective equipment requirements;
- Santa Clara University safety program/procedure requirements for specific locations; and
- Emergency procedures and contact lists.



Contractors

To ensure the safety of employees, visitors and protect Santa Clara University property, contractors who use hazardous substances must get written approval from the EHS Manager before bringing any chemicals on site. Contractors will make available upon request to the EHS Manager and/or Managers.

- MSDS's for each material used during the job;
- An explanation of the labeling and/or warning system used to identify hazardous chemicals or materials;
- Information on hazardous work performed by the contractor (e.g., welding, volatile solvent use, operating equipment powered by internal combustion engines, laser use, etc.); and
- Contingency plan for isolating the construction/renovation area from adjacent occupied work areas and for preventing the release of hazardous materials to the environment (e.g., release of contaminated liquid to a storm drain.

Contractors are responsible for providing all personal protective equipment for their employees. All hazardous waste generated by the contractor must be removed by the contractor from Santa Clara University property and disposed of properly at the contractor's own facility.

Employee Information and Training

Safety Orientation Training

Safety Orientation Training for all Santa Clara University employees consists of an overview of the requirements contained in the Injury and Illness Prevention Program (IIPP) and Hazard Communication Regulations. Topics covered include:

- Location and availability of the written Hazard Communication Program and IIPP;
- Freedom from discharge or other discrimination due to the employee's exercise of the rights afforded pursuant to the provisions of the standards;
- The right to receive information regarding hazardous substances to which the employee may be exposed;
- Operations in the employees' work area where hazardous substances are present;
- Physical and health effects of the hazardous substances to which employees work with and/or might be exposed to;

- Methods or techniques the employees can use to determine the presence or release of hazardous substances to the work area;
- ‘Types of personal protective equipment that can be used to decrease or prevent exposure to these hazardous substances;
- Emergency and first aid procedures to follow if employees are exposed to hazardous substances;
- How to read labels and review MSDS’s to obtain appropriate hazard information; and
- How to react to a chemical spill, leak or other exposure.

Job Specific Hazard Training

All employees working with chemicals as part of their routine work tasks will be provided with training on job-specific hazards by the EHS Manager, Managers and/or competent designee. The training will be provided before work with chemicals begins.

Specific Chemical Safety Policy

Policy

Chemicals in any form can be stored, handled, and used safely if their hazardous chemical and physical properties are fully understood. This is accomplished through engineering controls, administrative controls, and the use of appropriate personal protective equipment. If used improperly, chemicals could cause serious injury if inhaled, absorbed through the skin, or ingested in sufficient quantities.

Chemical Categories

Santa Clara University uses chemicals including corrosive acids and bases, and flammable and combustible solvents. Some general examples of chemicals for each hazard class follow; however, this list is not inclusive.

Corrosives

- Acid:
 - Nitric Acid, 4%
 - Extremely corrosive to skin and eyes on contact
- Base:
 - Sodium Hydroxide, 30%
 - Extremely corrosive to skin and eyes on contact

Solvents

- Flammable:
 - Isopropyl Alcohol (IPA), Ethanol
 - Eye, skin and respiratory hazard
 - Central nervous system effects
 - Fire hazard, may explode if significant concentration is ignited
 - Some solvents are absorbed through the skin.
- Combustible:
 - Kerosene
 - Eye, skin and respiratory hazard
 - Central nervous system effects
 - Fire hazard, if heated above critical temperatures

Note: Many chemicals fall into more than one chemical hazard category.

Hazard Control

Chemical and physical hazards can be controlled through a combination of techniques. The most effective control method is the use of engineering controls (e.g., local exhaust ventilation, chemical isolation, and/or substitution for less hazardous materials). A secondary control method is administrative controls (e.g., establishing safe work practices, designing safer procedures for processes, etc.). The final control method is the use of personal protective equipment such as chemical resistant gloves, safety glasses, and protective clothing.

Storage and Use

Proper storage of chemicals will avoid a serious safety hazard. Incompatible chemical mixtures can result in fire, explosion or release of toxic gases. By storing chemicals in separate storage areas, the potential for an incompatible reaction (e.g., through a spill) is avoided. For additional storage guidelines refer to the manufacturer's Material Safety Data Sheet (MSDS).

Each chemical container shall be clearly labeled. Any container not labeled and unattended should be immediately reported to the area manager. Always read the warning label on the chemical container before use. All containers in storage must have adequate secondary containment.

Disposal

All used chemical containers are to be rinsed thoroughly, and marked as empty, then be placed into waste receptacles to be disposed of as routine waste. However, containers having significant residue are to be disposed of in the same manner as all other hazardous waste. It must be ensured that a container is empty by pouring excess material into an appropriate hazardous waste container. Chemical wastes possess the same hazards as the original material. They can still be reactive, flammable, or corrosive. **Use of empty containers for collection of other**

wastes is prohibited. If you are unsure of how to handle waste chemicals, contact the EHS Manager or an appropriate Laboratory Manager. For more information on disposal, see the “Hazardous Waste Management Program”.

Emergency Response

Direct or suspected chemical contact should be treated immediately:

- Flush the affected area with water for at least 15 minutes;
- Remove contaminated clothing;
- Call 9-911 for help;
- Notify your supervisor; and
- Seek medical attention, if necessary. The designated medical care provider (during normal business hours) is U.S. Health Works Medical Group at 988 Walsh Avenue, Santa Clara, CA, (408) 988-6868.

For more information on emergency procedures, see the “Emergency Action/Fire Prevention Plan/Contingency Plan.

Appendix A: New Material/Chemical Authorization Form

New Material/Chemical Authorization Form

Date of Request: _____

Department: _____

To: _____

From: _____

I hereby request that the following new material/product be approved for use at our facility:

Material/Product Name: _____

Amount Being Purchased: _____

Use Location _____

Description of Use: _____

Storage Location: _____

Special Storage/Handling Requirements: _____

Maximum Storage Quantity: _____

Container Size: _____

Container Type: _____

Estimated Usage Rate: _____

Waste Disposal Method: _____

NOTE: MSDS IS REQUIRED AND MUST BE ATTACHED FOR APPROVAL

Signatures for Approval

If not approved, check and initial here ()

Requesting Employee: _____ Date: _____

Department Manager: _____ Date: _____

EHS Manager (or designee): _____ Date: _____

EHS Manager (or designee) Print Name: _____

The following must be completed before forwarding this approval to Procurement:

- MSDS is added to the site master chemical inventory/hazardous material inventory statement (HMIS) list.
- A copy of the MSDS is placed in the site master book.

Signature of Verification

Department Manager: _____ Date _____

Appendix B: Hazardous Material Inventory Statement (HMIS)

Appendix C: Understanding a Material Safety Data Sheet (MSDS)

Understanding a Material Safety Data Sheet (MSDS)

Introduction

The purpose of the MSDS is to provide vital information on health and physical hazards and information for first responders (e.g., Fire Department). This Section of the Manual will illustrate and describe each section of the MSDS. A Glossary of Useful Terms is provided in each MSDS Binder.

The MSDS must include, at a minimum, all eight of the described sections. Although the style and layout may vary by manufacturer or distributor, every section must be complete, even if the item is not applicable (indicated by N/A). There should be no blank spaces. Note that some information, such as the chemical family, may be included, but is not required.

The MSDS is prepared by the manufacturer of the product. Some data sheets contain excellent information, some are adequate, and others are poor. Other sources of data on toxic and health effects can be consulted for more complete information. Contact the EHS Manager if additional information or clarification is needed.

Product Identity [MSDS Section I]

Identity: The name of the product as it appears on the label. A product may be a mixture of two or more chemicals.

Manufacturer's Name, Address, and Phone Number: Self explanatory. If the data comes from a source other than the manufacturer, the actual source must be indicated. The date of preparation or revision must be indicated.

Emergency Telephone Number(s): 24-hour number(s) provided by the manufacturer to supply emergency information (e.g., medical emergencies).

Chemical Family: The general class of compounds to which the hazardous substances or mixture belongs (e.g., ethers, acids, ketones, solvents). This term does not give you the exact content of the product.

Chemical Name: The scientific name of the hazardous substance. The Chemical Abstract Service (CAS) registry number may also be given for specific chemicals.

Formula: The chemical formula may be given for single elements and compounds [e.g., sulfur dioxide (SO₂), formaldehyde (HCHO)]. This is not the formulation for mixtures.

Hazardous Ingredients [MSDS Section II]

If the product is a mixture, all hazardous ingredients must be listed. However, ingredients that is not hazardous or hazardous ingredients that make up less than 1% of the product (less than 0.1% for carcinogens), do not have to be reported.

Exposure standards, e.g., Threshold Limit Value (TLV) or Permissible Exposure Limit (PEL), are included either in this section or under Health Hazards. **Note:** the higher the number for a TLV or PEL, the less hazardous the substance. See the Glossary for definitions of TLV and PEL.

The percent (%) column is intended to show the approximate percentage by weight or volume of each hazardous ingredient compared to the total weight or volume of the product. Normally,

percentages will be listed to the nearest 5%. When the substance constitutes less than 5% of the product, this is indicated.

Physical Data [MSDS Section III]

This section contains important data to help predict the behavior of the substance during use. The information provided may be for the substance as a whole, or for each hazardous ingredient. Some physical data communicate the same information. For example, vapor pressure, vapor density, % volatiles, and evaporation rate, all indicate whether vapors are likely to be present, creating a potential breathing, fire hazard, or ventilation problem.

Boiling Point: The temperature at which a liquid changes to a vapor at a given pressure, usually in degrees Fahrenheit (°F) at the sea-level pressure of 760 millimeters of mercury (mm of Hg). For mixtures, the initial boiling point or the boiling range may be given. A low boiling point may indicate a special fire hazard.

Vapor Pressure: Refers to the pressure exerted by a saturated vapor above its own liquid, usually stated in millimeters (mm) of Hg at 25°C (77°F). A high vapor pressure indicates easy evaporation. In general, the lower the boiling point, the higher the vapor pressure.

Vapor Density: Indicates whether the vapor is heavier or lighter than air. If the vapor density is heavier than air, the vapor of the substance may concentrate in low places, such as floors, elevator shafts, sewers, or the bottom of tanks. This information is useful in identifying confined-space hazards.

% Volatiles by Volume: The amount of the substance that evaporates at room temperature. A substance that is 100% volatile will evaporate completely, leaving no residues.

Evaporation Rate: The rate at which the substance will evaporate when compared to the rate of evaporation of a known material, usually butyl acetate. If another material is used for comparison, it should be indicated. If the evaporation rate number is greater than 1, the product evaporates more easily than the comparison material.

Solubility in Water: The percentage of a substance (by weight) that will dissolve in distilled water, at room temperature.

Specific Gravity: The ratio of the weight of a volume of a substance to the weight of an equal volume of water. A specific gravity of less than one means the material is lighter than water and will float. Greater than one means the substance sinks in water.

Melting Point: The temperature at which a solid becomes a liquid at a given pressure (usually under normal room conditions).

Appearance and Odor: A brief description of the substance at normal room temperature and atmospheric conditions. Do not rely on odor to alert you to a dangerous exposure. Some substances can reach hazardous levels and have no noticeable odor.

Fire & Explosion Hazard Data [MSDS Section IV]

This section should clearly indicate whether the substance is flammable. If it is flammable, make sure there are no ignition sources nearby and that the correct fire extinguisher is on hand. This section is particularly important if you work with solvents, peroxides, explosives, metal dusts, or other unstable substances.

Flash Point: The lowest temperature at which the material gives off enough vapor to ignite; this will help determine storage and handling procedures. The method used to obtain this information should be stated (e.g., closed cup).

Flammable or Explosive Limits: The range over which a flammable vapor, when mixed with the proper proportions of air, will flash or explode if ignited. The range is designated by lower explosive limit (LEL) and upper explosive limit (UEL), and is expressed in % of volume of vapor in the air.

Extinguishing Media: Indicates what type of fire extinguisher to use, such as water, fog, foam, alcohol foam, carbon dioxide, or dry chemical.

Special Firefighting Procedures: Special handling procedures, personal protective equipment, and unsuitable firefighting substances should be listed. For example, water should not be used on fires involving reactive metals. General firefighting methods are not described.

Unusual Fire and Explosive Hazards: Hazards that might occur as a result of overheating or burning of the substance, including any chemical reactions or change in chemical form or composition.

Reactivity Data [MSDS Section V]

This section evaluates the stability and reactivity of the substance and lists conditions to avoid or prevent dangerous reactions. This information will help you handle and store the substance properly.

Stability: A check box will indicate whether the material is stable or unstable and under what conditions instability occurs.

Incompatibility: Lists materials and conditions to avoid. Such conditions may include extreme temperatures, jarring, or inappropriate storage. This is important in determining what other chemicals the material can be stored or used with.

Hazardous Decomposition Products: A list of the hazardous materials that may be produced through aging or if the material is exposed to burning, oxidation, heating, or certain chemical reactions. The product shelf life should be included, when applicable.

Hazardous Polymerization: Polymerization is a chemical reaction in which two or more molecules of a substance combine to form repeating structural units of the original molecule. A hazardous polymerization causes an uncontrolled release of energy in the form of heat. If this reaction can occur, it must be indicated.

Health Hazard Data [MSDS Section VI]

This section discusses health hazards and first aid information. The potential routes of entry into the body – inhalation, skin absorption, ingestion and injection – are evaluated. Specific short-term (acute) and long-term (chronic) health effects due to overexposure to the identified substance are discussed. Signs and symptoms of acute overexposure may include eye irritation, skin rash, or dizziness. Symptoms of chronic overexposure may include cancer (carcinogenicity), birth defects (teratogenicity), or “target organ” damage. Some products cause both short-term and long-term effects.

Information on exposure standards, such as TLV, PEL, or STEL, as well as toxicity data (e.g., an LD₅₀ number), may be included here. Carcinogenicity data from the National Toxicology Program (NTP) or the International Agency for Research on Cancer (IARC) may be presented if available. It is important to note that toxicity data from animal studies gives only an estimate of potential human responses. Experimental animals and humans do not always react the same way to the same chemicals.

Instructions for first aid and emergency procedures for victims of acute inhalation, ingestion, or skin or eye contact must be included. Medical conditions that can be aggravated by exposure must also be listed.

Handling Precautions [MSDS Section VII]

This section includes appropriate health and safety practices for handling the substance, protective measures to be taken during transport, and spill management requirements. Instructions for safe handling and storage, such as the warning not to store acids and bases together, may be. Any additional special precautions not addressed elsewhere in the MSDS should also be listed here. These may include instructions for storage life or transportation, such as special packaging or temperature control.

The information on methods, special equipment, and precautions necessary to control and clean up spills, leaks, and other releases will help prepare for emergencies. For example, the MSDS may state that respirators are required to clean up a spill. Acceptable waste-disposal methods are also described. The user will be alerted to any potential environmental danger to the general population, crops, water supplies, or other receptors.

Control Measures [MSDS Section VIII]

This section is essential for protecting employees from overexposure. It lists personal protective equipment, such as proper gloves, safety glasses, or respirators; ventilation necessary to work safely with the material, and safe work/hygienic practices. Types and descriptions of necessary equipment should be specified (e.g., organic vapor cartridge, neoprene gloves). If the material has a low TLV, indicating a potentially dangerous health hazard, local exhaust ventilation is typically recommended, not general or dilution ventilation.

Appendix D: National Fire Protection Association Labeling System

NFPA Labeling System

The National Fire Protection Association (NFPA) 704 standard presents a hazard labeling system that incorporates information on toxicity, flammability, reactivity, and special hazards. This system was designed to provide uniform, clearly visible information to Fire Department personnel (e.g., firefighters, inspectors). The following, adapted from the appendix of the NFPA standard, summarizes the hazard information.

The numbers from 0 through 4 are placed in the three upper squares of the diamond to show the degree of hazard present for each of the three hazard categories. The 0 indicated the lowest degree of hazard, and 4, the highest. The fourth square, at the bottom, is used for special information. Two symbols for this bottom space are recognized by NFPA 704, they are:

- A letter W with a bar (**W**) indicates that a material may react with water. This does not mean “do not use water,” since some forms of water – fog or fine spray – may be used in many cases.
- The letters OX indicate an oxidizer.

Although not recognized by NFPA 704, some users will insert the letters ALK for alkaline materials and ACID for acidic materials.

<NFPA system>

Appendix E: Hazard Communication Training Materials