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## 1.0 POLICY

It is the Company's policy to provide access to hazard information to all employees, contractor employees and visitors. This program is designed to comply with the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200 and serves as the required *Written Hazard Communication Program*.

## 2.0 PURPOSE

The Hazard Communication Program provides information that allows employees to identify the chemicals used in the work place, the hazards associated with those chemicals and the methods of protecting themselves from those hazards. The provisions for labeling, material safety data sheets (MSDS), hazard determinations and employee training are detailed in this program document.

The Hazard Communication Program applies to all employees. Contractors are expected to develop their own written Hazard Communication Program. The contractor's written Hazard Communication Program must be compatible with this document and may reference any applicable sections.

## 3.0 DEFINITIONS

- 3.1 **Combustible liquid:** A liquid having a flashpoint at or above 100<sup>0</sup>F and below 200<sup>0</sup>F.
- 3.2 **Equipment list:** A reference table used to link the equipment identified number to the name(s) of the chemical(s) found within that piece of equipment.
- 3.3 **Flammable liquid:** A liquid having a flashpoint below 100<sup>0</sup>F.
- 3.4 **Hazardous chemical:** Any chemical which is a physical or health hazard, or mixtures containing 1 percent of a hazardous chemical and/or 0.1 percent of a carcinogen.
- 3.5 **Material Safety Data Sheet (MSDS):** Written material prepared in accordance with 29 CFR 1910.1200 (g) that describes the hazards associated to a specific chemical.
- 3.6 **Organic peroxide:** An organic compound containing a -O-O- structure.
- 3.7 **Oxidizer:** A chemical (other than a blasting agent or explosive) that initiates or promotes combustion in other materials, causing fire of itself or through the release of oxygen or other gases.
- 3.8 **Pyophoric:** A chemical that will ignite spontaneously in air at a temperature of 130<sup>0</sup>F or below.
- 3.9 **Substance Identification Number (Sub-ID):** A numbering system for the identification of chemicals. Each MSDS is assigned a unique number. This number is located on the upper right hand corner of the chemical's MSDS. MSDS are filed in sequential numerical order by the Sub-ID in the Hazard Communication Manual.
- 3.10 **Unstable:** A chemical in its pure state will vigorously polymerize, decompose, condense or will become self-reactive under conduction of shock, pressure or temperature.
- 3.11 **Water reactive:** A chemical that reacts with water to release a gas that is either flammable or presents a health hazard.

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## 4.0 RESPONSIBILITIES

- 4.1 The Company is responsible for these items:
  - 4.1.1 The administration and annual review of the written Hazard Communication Program
  - 4.1.2 Providing hazard information requested by employees, contractor employees and/or visitors
  - 4.1.3 Issuing updates of materials for the Hazard Communication Manual.
  - 4.1.4 Maintaining the most current copies of MSDS and distributing updates for each of the Hazard Communication Manuals
  - 4.1.5 Developing the annual Hazard Communication training materials
  - 4.1.6 Communicating any special protective measures or training requirements to the department's supervisors
  - 4.1.7 Specifying any training requirements for new chemicals approved for the work area
  - 4.1.8 Ensuring proper labeling of all portable containers and laboratory chemicals used or stored in its work area(s)
  - 4.1.9 Ensuring that new hire employees attend Hazard Communication training
  - 4.1.10 Ensuring that training is conducted whenever a new hazard is introduced into the work area
  - 4.1.11 Implementing the special protective equipment requirements and conducting any required training before the initial use of a new chemical
- 4.3 Employees are responsible for these items:
  - 4.3.1 Proper labeling of chemicals and portable containers
  - 4.3.2 Proper labeling of any samples collected

## 5.0 Labeling

### 5.1 Container Labels

Container labels shall not be defaced. If the label becomes illegible, it should be replaced. The label developed must contain the name of the material in the container, appropriate warning hazards including physical hazards, acute health hazards and chronic health hazards. Containers will be stored in a manner which ensures labels are readily visible.

### 5.2 Portable Containers

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All portable containers must be labeled with the identity of the chemical(s) and the appropriate hazard warnings including physical hazards, acute health hazards and chronic health hazards. Examples of portable containers include laboratory carboys, squirt bottles and solvent cans.

Portable containers are labeled with tags or stickers that have either the name of the chemical or the equipment identification number where the company got the chemical.

### 5.3 Material Safety Data Sheets (MSDS)

#### 5.3.1 MSDS

MSDS must be provided for any chemicals that will be brought to the site by contractors or others.

#### 5.3.5 MSDS Available for Medical Emergencies

The Company will make MSDS available to persons providing emergency medical attention to persons potentially effected by hazardous materials. When any person is transported to a hospital or doctor, MSDS will be sent with the person.

### 5.4 Hazard Determination

The Company generally relies on the hazard determination performed by the chemical manufacturer as communicated on the MSDS.

### 5.5 Employee Information and Training

#### 5.5.1 Hazard Communication Training

The Company shall provide Hazard Communication training to all new employees upon initial assignment, whenever new chemical(s) are introduced into the work area or when it receives new hazard information on existing chemicals. Hazard Communication training shall consist of:

- The hazardous chemicals present in the work area
- The physical and health effects of the hazardous chemicals in the work area
- Methods and observation techniques used to determine the presence or release of these hazardous chemicals
- How to lessen or prevent exposure to chemicals through the use of controls, work practices and personal protective equipment (PPE)
- Steps the company has taken to prevent or reduce exposures to the hazardous chemicals
- Emergency procedures to follow in the event of exposure to these hazardous chemicals
- How to read labels and review MSDS and key chemical training guides to get appropriate hazard information.

#### 5.5.2 Documentation of Training

The person providing the Hazard Communication training or his or her designee for the training programs contained in section 5.5 of this policy shall maintain this information:

- Date(s) when training was performed
- Names of attendees
- Name of instructor
- Results of any evaluations given to determine the effectiveness of the training

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## 6.0 REFERENCES

- 6.1 Occupational Safety and Health Administration Standard 29 CFR 1910.1200, Hazard Communication

## 7.0 ATTACHMENTS

- 7.1 Attachment A: Guide to Reading a Material Safety Data Sheet

## 8.0 SIGNATURES

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**ATTACHMENT B**  
**Guide to Reading a Material Safety Data Sheet**

These are notes to help you understand the information on a material safety data sheet (MSDS). The items are in the same order as they appear on most data sheets. Some data sheets may not contain all of the categories of information reflected in this guide.

<b>PRODUCT IDENTIFICATION</b>	
Synonyms	Other terms for the substance
CAS Number	A unique registry number assigned to the substance by the Chemical Abstracts Service.
Chemical Formula	Formula for the number and types of atoms contained in the substance. Ex.: water = H <sub>2</sub> O (two atoms of hydrogen and one atom of oxygen).
Chemical Family	General class of compounds to which the substance or mixture belongs. Ex.: ether, acid, ketone.
DOT Proper Shipping Name	Name for the substance assigned by the U. S. Department of Transportation.
DOT Hazard Class/ID Number	Under the U. S. Department of Transportation's Hazardous Material Table, the descriptive name and identification number which classifies the type of hazard the substance presents. The number is used to determine initial emergency response actions.
DOT Label	The U. S. Department of Transportation's required terminology for labeling of hazardous substance. Ex.: Flammable.
Hazardous Substance/RQs	The minimum spill or leakage of substance that necessitates reporting the incident to the National Emergency Response Center as required under the Superfund Law.
U. S. Surface Freight Classification	Classification given to a substance by committees of trucking and railroad industries so the proper freight rate can be applied.
Warning Statement	Includes a single word (DANGER, WARNING or CAUTION) plus a description of harmful effects from exposure. Ex.: WARNING: May cause eye damage or burns to skin.
Precautionary Measures	Instructions about how to avoid injury from harmful effects. Ex.: Avoid contact with skin.
Emergency First Aid Procedure	Instructions for emergency treatment for a person exposed to unsafe amounts of a potentially hazardous substance. Ex.: Remove person to fresh air. Flush eyes with water.

<b>OCCUPATIONAL CONTROL PROCEDURES</b>	
Eye Protection	Type of eye protective device to be worn when working with a potentially hazardous substance.
Skin Protection	Type of clothing, gloves, aprons, boots and face protection to be worn when working with a potentially hazardous substance. Also, instructions on handling contaminated clothing.
Respiratory Protection	Class of breathing device acceptable for use and any special conditions or limitations on use.
Ventilation	The ventilation system needed to capture or contain contaminants at their source to control personal exposure or to prevent a hazardous atmosphere.
Airborne Exposure Limit	Maximum acceptable levels of a potentially hazardous substance in the workplace air for varying periods of time as assigned by the Occupational Safety and Health Administration (OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH).

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<b>FIRE PROTECTION INFORMATION</b>	
Flash Point – Method	Lowest temperature in degrees Fahrenheit (°F) at which a liquid will give off enough flammable vapor to ignite. Since flash points vary, the method used must be listed.
Ignition Temperature	Temperature at which a substance will start and continue to burn without any spark or flame.
Flammable Limits (In Air) (% by Volume)	Range of concentrations over which a flammable vapor mixed with air will flash or explode if an ignition source is present. Range extends between lower explosive limit (LEL) and upper explosive limit (UEL) and is expressed in percentage of volume of vapor in air.
Extinguishing Media	Fire fighting material for use on a substance that is burning. Fire fighting material should be indicated by its generic name. Ex.: water, fog, foam, alcohol foam.
Special Fire Fighting Procedure	Listing of certain fire fighting materials unsuitable or unsafe to use on the burning substance. Also a listing of special handling equipment and procedures and personal protective equipment.
Unusual Fire or Explosion Hazards	Hazards which might occur from overheating or burning of a substance, including any chemical reactions or change in chemical form or composition. Also, any special hazard which may need to be considered while extinguishing a fire.

<b>REACTIVITY DATA</b>	
Material to Avoid	A list of common materials or contaminants (if any) with which the specific substance may come in contact and release large amounts of energy, flammable vapor or gas, or produce toxic vapor or gas. Conditions to avoid (if any) should be listed. Ex.: extreme temperatures, jarring, inappropriate storage.
Hazardous Decomposition Products	A list of the hazardous materials (if any) that may be produced in dangerous amounts if the subject substance is exposed to burning, oxidation, heating or allowed to react with other chemicals.
Hazardous Polymerization	An unintended chemical reaction that may create a great deal of heat and may release a hazardous substance. This listing indicates whether such a reaction is possible and under what conditions. It also indicates how long “inhibitors” in the substance will prevent such a reaction from occurring.

<b>PHYSIOLOGICAL EFFECTS SUMMARY</b> (Also called Health Effects Summary)	
Covers immediate and long-term effects of overexposure to a substance. Includes information from the human experience and animal tests. This detailed health effects information is intended for employees and to assist health professionals in treating employees.	

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<b>PHYSICAL DATA</b>	
pH	Alkalinity of a substance expressed on a scale from 1 to 14. Numbers less than 7 indicate increasing acidity and numbers greater than 7, increased alkalinity. Thus, the pH of pure water is about 7, vinegar is between 3 and 4, and blood is between 7 and 8.
Appearance and Odor	Brief description of the substance at normal room temperature and atmospheric conditions such as: viscous, colorless liquid and an aromatic hydrocarbon odor.
Boiling Point	Temperature at which a liquid changes to a vapor at a given pressure, usually stated in degrees Fahrenheit (°F).
Vapor Pressure	The pressure exerted by a vapor above its own liquid in a closed container.
Vapor Density at Bp (Air = 1)	A comparison between the weight of the substance's vapor and that of air. Will the vapor rise or sink?
Specific Gravity (Water = 1)	The ratio of the substance's weight to the weight of an equal amount of water. Will the substance float or sink?
Solubility in Water	The amount of a substance that can be dissolved in a given volume of water. Expressed usually in terms of milligrams per liter or in general terms such as "negligible."
% Volatile (by volume)	The percentage of a liquid or solid (by volume) that will evaporate at an ambient temperature of 70°F.
Freezing Point	Temperature at which a substance changes from a liquid to a solid.
Molecular Weight	The relative average weight of a molecule of the substance.

<b>SPILL, LEAK AND DISPOSAL INFORMATION</b>
Immediate steps to be taken to assure safety to people and property in the event of a spill or leak of the substance. Also gives instructions on its disposal. Includes advisory to comply with all applicable local, state and federal laws and regulations.