



Scarborough Fire Department

Scarborough, Maine



Standard Operating Guidelines

Book:	Routine Operations
Chapter:	Station Operations
Subject:	2020 - Hazardous Communications
Revision Date:	3/6/07 [Revised 07/01/13, 10/16/18, 1/24/19]
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PURPOSE

To establish a program to communicate hazards within the department and to train our personnel in how to identify and deal with hazardous substances found in the workplace.

POLICY

The Scarborough Fire Department has developed this program to set forth policies and procedures concerning Hazard Communications through the use of labels and Safety Data Sheets, which will enhance the safety and well-being of Scarborough Fire Department employees. The execution of this program is designed to provide for compliance with the Maine Bureau of Labor and Occupational Safety and Health Administration's (OSHA) Hazard Communication Standards, Globally Harmonized System (GHS). The Fire Chief shall have the overall responsibility of the administration of the Hazcom plan. The Fire Chief may delegate certain responsibilities and duties to other department officers and members.

DEFINITIONS

- A. **Biohazard** – any substance that is of a biological nature that may be harmful to man, other species or the environment.
- B. **Chemical** - any element, chemical compound or mixture of elements and/or compounds.
- C. **Classification** - to identify the hazards of a chemical and decide whether the chemical will be classified as hazardous by comparing the data with the current criteria for health and physical hazards.
- D. **Combustible liquid** - means any liquid having a flash point at or above 100 °F (37.8 °C), but below 200 °F (93.3 °C), except any mixture having components with flash points of 200 °F (93.3 °C), or higher, the total volume of which make up 99 percent or more of the total volume of the mixture.
- E. **Compressed gas** - any compound that exhibits:
 - a. A gas or mixture of gases having, in a container, an absolute pressure exceeding 40 psi at 70 °F.
 - b. A gas or mixture of gases having, in a container, an absolute pressure exceeding 104 psi at 130 °F regardless of the pressure at 70 °F.
 - c. A liquid having a vapor pressure exceeding 40 psi at 100 °F.

- F. **Container** - any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical.
- G. **Employee** - a worker who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies.
- H. **Employer** - Scarborough Fire Department
- I. **Environmental hazard** - refers to the chemicals ability to cause harm to the environment.
- J. **Explosive** - a chemical that causes a sudden, almost instantaneous release of pressure, gas, and heat when subjected to sudden shock, pressure, or high temperature.
- K. **Exposure or exposed** - an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (accidental or possible) exposure via any route of entry (inhalation, ingestion, skin contact or absorption.)
- L. **Flammable** - a chemical that falls into one of the following categories:
 - a. "Aerosol, flammable" means an aerosol that yields a flame projection exceeding 18 inches at full valve opening, or a flashback (a flame extending back to the valve) at any degree of valve opening;
 - b. "Gas, flammable" means:
 - i. A gas that, at ambient temperature and pressure, forms a flammable mixture with air at a concentration of thirteen (13) percent by volume or less; or
 - ii. A gas that, at ambient temperature and pressure, forms a range of flammable mixtures with air wider than twelve (12) percent by volume, regardless of the lower limit.
 - c. "Liquid, flammable" means any liquid having a flash point below 100 °F, except any mixture having components with flash points of 100 °F or higher, the total of which make up 99 percent or more of the total volume of the mixture.
 - d. "Solid, flammable" means a solid, other than a blasting agent or explosive as defined in 1910.109(a), that is liable to cause fire through friction, absorption of moisture, spontaneous chemical change, or retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious hazard. A chemical shall be considered to be a flammable solid if it ignites and burns with a self-sustained flame at a rate greater than one-tenth of an inch per second along its major axis.
- M. **Flash point** - the minimum temperature at which a liquid gives off a vapor in sufficient concentration to ignite.
- N. **GHS** - Globally harmonized system of classification and labeling of chemicals.
- O. **Hazardous chemical** - any chemical that is a physical, health or environmental hazard.
- P. **Hazard class** - the nature of the physical or health hazards.
- Q. **Hazard warning** - any words, pictures, symbols, or combination appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s).
- R. **Health hazard** - a chemical for which there is evidence that acute or chronic health effects may occur in exposed employees.
- S. **Hazard not otherwise classified** - chemical in which there is evidence of adverse physical or health effects but which do not meet the specified criteria for any of the physical or health hazard classifications.
- T. **Identity** - any chemical or common name which is indicated on the Safety Data Sheet (SDS) for the chemical. The identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label and the SDS.

- U. **Immediate use** - the hazardous chemical will be under the control of and used only by the person who transfers it from a labeled container and only within the work shift in which it is transferred.
- V. **Label** - any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals which displays the product identifier, pictogram, signal word, hazard and precautionary statements and the supplier identification.
- W. **Mixture** - any combination of two or more chemicals if the combination is not, in whole or in part, the result of a chemical reaction.
- X. **MSDSonline.com** – An on-demand SDS management and compliance solution giving access and organization to safety data sheets for other businesses.
- Y. **Other Hazardous Chemicals:**
 - a. **Pyrophoric gases** - a chemical that will ignite spontaneously in air at a temperature of 130°F or below. Must include the signal word “danger” and hazard statement “catches fire spontaneously if exposed to air”.
 - b. **Simple asphyxiates** - labels must include signal word “warning” and the hazard statement “may displace oxygen and cause rapid suffocation”.
 - c. **Combustible dust** - labels must include the signal word “warning” and the hazard statement “may form combustible dust concentrations in the air”.
- Z. **Oxidizer** - a chemical other than a blasting agent or explosive as defined in 1910.109(a) that initiates or promotes combustion in other materials, thereby causing fire either of itself or through the release of oxygen or other gases.
- AA. **Pictogram** - A composition that may include a symbol plus other graphic elements intended to convey specific information about the hazard of the chemical.
- BB. **Physical hazard** - a chemical that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, an oxidizer, pyrophoric, unstable (reactive) or water-reactive.
- CC. **PPE** - personal protective equipment.
- DD. **Precautionary statement** - a phrase that describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposure to a hazardous chemical or improper handling or storage.
- EE. **Product identifier** - a unique name or number used for a hazardous chemical on a label or in the SDS which permits cross references to be made among the lists of hazardous chemicals, the label, and the SDS.
- FF. **Safety Data Sheet (SDS)** - written or printed material concerning a hazardous chemical which is prepared in accordance with OSHA Standard 1910.1200 requirements.
- GG. **Signal word** - A word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. Danger = severe. Warning = less severe.
- HH. **Specific chemical identity** - the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance.
- II. **Unstable (reactive)** - a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure or temperature.
- JJ. **Use** - to package, handle, react, emit, extract, generate as a byproduct, or transfer.
- KK. **Water-reactive** - a chemical that reacts with water to release a gas that is either flammable or presents a health hazard.
- LL. **Work area** - a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.

MM. **Workplace** - an establishment, job site, or project, at one geographical location containing one or more work areas.

PROCEDURE

The ensuing items are to be followed to ensure both compliance with the OSHA Hazard Communication Standard (GHS) and the safety of our employees.

A. Hazardous Chemical List

- a. A list of hazardous materials and chemicals which are used in the course of the Fire Departments normal business activities must be maintained and continually updated. This list is to include all substances which require a Safety Data Sheet (SDS).
- b. A copy of this list is to be kept in the station portion of MSDSonline. For each chemical used in the workplace, an SDS sheet must be available on that website.

B. Safety Data Sheets (SDS)

- a. All Safety Data Sheets must be kept in an organized fashion in MSDSonline and will be accessible online for all employees to view at will.
- b. SDS and the Hazardous Chemical List must be maintained online and kept up to date. As obsolete MSDS's and SDS's are replaced by updated copies, they must be retained in a separate file of obsolete MSDS's for 30 years. Do not throw them away.
- c. If a hazardous chemical or substance is received without a proper SDS, the receiving person must immediately notify their supervisor. The manufacturer or distributor of the product must be contacted immediately and asked to fax or e-mail the SDS and mail a copy as a follow up. Hazardous materials or substances received without an SDS are to be returned to the sender.

C. Safety Data Sheets are provided by the chemical manufacturer to provide additional information concerning safe use of the product. Each SDS provides a uniform 16 section sheet that includes the following sections:

- **Section 1, Identification:** includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- **Section 2, Hazard(s) identification:** includes all hazards regarding the chemical; required label elements.
- **Section 3, Composition/information on ingredients:** includes information on chemical ingredients; trade secret claims.
- **Section 4, First-aid measures:** includes important symptoms/effects, acute, delayed; required treatment.
- **Section 5, Fire-fighting measures:** lists suitable extinguishing techniques, equipment; chemical hazards from fire.
- **Section 6, Accidental release measures:** lists emergency procedures; protective equipment; proper 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 OSHA's Permissible Exposure Limits (PELs); Threshold Limit Values (TLVs); appropriate engineering controls; personal protective equipment (PPE).

- **Section 9, Physical and chemical properties:** lists the chemical's characteristics.
- **Section 10, Stability and reactivity:** lists chemical stability and possibility of hazardous reactions.
- **Section 11, Toxicological information:** includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.
- **Section 12, Ecological information**
- **Section 13, Disposal considerations**
- **Section 14, Transport information**
- **Section 15, Regulatory information**
- **Section 16, Other information:** includes the date of preparation or last revision.

D. Pictograms

- a. Pictograms are symbols plus other graphic elements that are intended to convey specific information about the hazards of a chemical. Each pictogram consists of a different symbol on a white background within a red square frame set on a point (i.e. a red diamond).
- b. There are nine pictograms under the GHS. However, only eight pictograms are required under the HCS. The ninth pictogram is environmental hazards and is not within OSHA's jurisdiction. The hazard pictograms and their corresponding hazards are listed in Appendix A:

E. Employee Use of SDS

- a. Know the location of the SDS
- b. Understand the major points for each chemical
- c. Check SDS when more information is needed or questions arise
- d. Be able to quickly locate the emergency information on the SDS
- e. Follow the safety practices provided on the SDS

F. Labeling

- a. Each container of a hazardous chemical that is used in or around the work area must be properly labeled with the Product Identifier (identity of the hazardous material), Pictogram, Signal Word, the appropriate hazard warnings, and the name, phone number and address of the manufacturer. Appropriate labels must be on all containers, regardless of size. Containers must be approved and recommended for storage and/or dispensing of the particular hazardous chemicals contained in them.
- b. Worn and torn labels must be replaced. **It is the responsibility of employees to report inappropriate labels to their supervisor.**
- c. Containers for materials that will be used within a particular work shift do not require labels.

G. Training - Employee training for this Hazard Communication Program consists of the following:

- a. Each affected employee working for the Scarborough Fire Department is required to review the training material. This training is to be done during the new employee orientation process before the new employee actually assumes status as an active employee. In addition to this training, affected employees must be shown the locations of Safety Data Sheets, fire extinguishers, first aid kits, PPE and usage and storage of hazardous materials.
- b. Fire extinguisher training will be provided to employees.
- c. First Aid and CPR training will be provided as required by the training division.
- d. If the Scarborough Fire Department engages the services of contract labor personnel, and exposure to hazardous materials is possible, the contract laborers

must be made aware of the locations of the Hazardous Chemical List and the SDS information book.

H. Classroom training will include the following:

- a. Understanding the purpose of the HazCom Standard (GHS).
- b. Explanation of the existence of federal, state and local right-to-know laws.
- c. Definition of the classification "hazardous chemical".
- d. Explanation of situations and elements that must be present for a material to be considered a health hazard.
- e. Explanation and interpretation of labels, what is required on all containers, and the GHS component.
- f. Understanding and interpretation of Safety Data Sheets (SDS).
- g. Employee responsibilities.
- h. Policies and procedures to follow in case of exposure.

I. Storage

- a. All storage areas for hazardous substances are to be secured, properly ventilated, and identified by signs.

J. Non-Routine Tasks

- a. All non-routine tasks will be evaluated by the officer in charge or senior person before the task commences, to determine all hazards present. All necessary precautions needed to remove the hazard, or protect from the hazard will be taken.

K. Other Personnel Exposures (Contractors) - The Scarborough Fire Department will provide other personnel or outside contractors with the following information:

- a. Location of the SDS and labeling requirements for all hazardous chemicals.
- b. Procedures to follow if they are exposed
- c. Before work is started, each contractor will gather and disseminate any information concerning chemical hazards the contractor is bringing into the workplace.

RESPONSIBILITY

It is the responsibility of all Scarborough Fire Department members to ensure this program is adhered to and that proper reporting is executed.

REFERENCES

- A. Maine Bureau of Labor Standards
- B. 29 CFR 1910.1200

Appendix A

HCS Pictograms and Hazards

<p>Health Hazard</p>  <ul style="list-style-type: none"> ▪ Carcinogen ▪ Mutagenicity ▪ Reproductive Toxicity ▪ Respiratory Sensitizer ▪ Target Organ Toxicity ▪ Aspiration Toxicity 	<p>Flame</p>  <ul style="list-style-type: none"> ▪ Flammables ▪ Pyrophorics ▪ Self-Heating ▪ Emits Flammable Gas ▪ Self-Reactives ▪ Organic Peroxides 	<p>Exclamation Mark</p>  <ul style="list-style-type: none"> ▪ Irritant (skin and eye) ▪ Skin Sensitizer ▪ Acute Toxicity (harmful) ▪ Narcotic Effects ▪ Respiratory Tract Irritant ▪ Hazardous to Ozone Layer (Non-Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none"> ▪ Gases Under Pressure 	<p>Corrosion</p>  <ul style="list-style-type: none"> ▪ Skin Corrosion/Burns ▪ Eye Damage ▪ Corrosive to Metals 	<p>Exploding Bomb</p>  <ul style="list-style-type: none"> ▪ Explosives ▪ Self-Reactives ▪ Organic Peroxides
<p>Flame Over Circle</p>  <ul style="list-style-type: none"> ▪ Oxidizers 	<p>Environment (Non-Mandatory)</p>  <ul style="list-style-type: none"> ▪ Aquatic Toxicity 	<p>Skull and Crossbones</p>  <ul style="list-style-type: none"> ▪ Acute Toxicity (fatal or toxic)