

**CITY OF NEW LONDON**

**RIGHT TO KNOW AND  
HAZARDS COMMUNICATIONS PROGRAM**

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## **CITY OF NEW LONDON**

### **RIGHT TO KNOW AND HAZARDS COMMUNICATIONS PROGRAM**

#### **I. STATEMENT OF INTENT**

In order to provide a safe and hazardous free workplace for its employees, and to comply with the provisional requirements of the Wisconsin Employees Right To Know Law (Wisconsin State Statutes 101.58 - 101.599) as well as with the requirements of OSHA's Hazard Communications Standard (29 CFR 1910.1200), the policy incorporated herein presents a complete written hazard communication program that should be followed by all affected City of New London departments.

#### **II. MATERIAL SAFETY DATA SHEETS**

Warning labels on containers of hazardous products are required by the Chemical Hazard Communication Standard, but these labels give only the names of the chemicals in the product, and minimal information about the hazards of the product. The Chemical Hazard Communication Standard as well as the Wisconsin Right To Know Law places considerable reliance on Material Safety Data Sheets (MSDSs) as the primary means of communicating physical and health hazards of products to people who are exposed to them on a regular basis. The Chemical Hazard Communication Standard requires that all manufacturers, importers, or distributors that supply chemicals or products containing chemicals shall obtain or develop a Material Safety Data Sheet (MSDS) for each hazardous chemical they produce or import.

Under OSHA Standard 1910.1200, it is the responsibility of each affected department of the City of New London to:

1. Have a Material Safety Data Sheet (MSDS) for each chemical which they use.
2. Maintain a current and complete MSDS file.
3. Keep MSDS's in a place that is readily accessible at all times during a given work shift.

#### **A. OBTAINING MATERIAL SAFETY DATA SHEETS**

In order to comply with the required Federal and State regulations, the following program must be adhered to.

1. It shall be the responsibility of the City Personnel Officer to secure Material Safety Data Sheets for any hazardous substance (including, but not limited to, toxic chemicals, pesticides, and infectious agents) purchased or provided by the City of New London for use by its employees, which are included in the Hazard Communication Standard. In the event an individual department or

division receives a MSDS, a copy of that document shall be forwarded to the City Personnel Department.

2. Copies of the label on all pesticides utilized by City employees shall be forwarded to the City Personnel Department by those departments utilizing said substance.
3. Copies of MSDSs pertinent to each department shall be forwarded to said department by the City Personnel Officer and shall be maintained by the respective department head or his/her designee. The City Personnel Department shall maintain a master file of all MSDSs and pesticide labels as well as retain each copy for 30 years after the date upon which the City of New London last received said substance.
4. If a MSDS for any City of New London purchased hazardous substance is not obtained from the supplier on the date on which the substance is received by the City of New London, the receiving department shall first attempt to contact the manufacturer and have a MSDS faxed over as soon as possible to the department. If results cannot be obtained, the department head shall notify the City Personnel Officer who will then write to the supplier and request an immediate receipt of the MSDS. A copy of the written request and any telephone calls relating thereto shall be maintained by the City of New London Personnel Officer as documented evidence of said correspondence.

## **B. UNDERSTANDING MATERIAL SAFETY DATA SHEETS**

Interpreting the information given on a MSDS correctly can be difficult at times, and used alone, a MSDS may not provide all the information that is needed. The MSDS is an important resource and should be consulted as a starting point in gathering information. Concerning potential hazards associated with a given chemical. The purpose of this section is to provide assistance in interpreting the nine categories that a typical MSDS contains, and the terms that are likely to be encountered on the sheet. As an additional aid in determining the completeness of a MSDS, Appendix A contains a checklist of the thirteen items of information that the Hazard Communication Standard and Right To Know require to be included in Material Safety Data Sheets.

### 1. Product Identification

This section of the MSDS provides information that will enable a person to match the MSDS with a corresponding product. The chemical name, trade name, generic name, or any common synonyms will be listed. In addition, the name, address, telephone number, and 24 hour emergency telephone number of the manufacturer is shown.

### 2. Hazardous Ingredients

All the information needed to do an independent investigation of the physical and health hazards of a product will be found in this section. Those ingredients that the manufacturer has determined to be hazardous according to the definitions contained in the Chemical Hazard Communication Standard will be listed. The law only requires that the manufacturer list hazardous ingredients that make up 1.0% or more of the product, and cancer causing (carcinogenic) ingredients that make up 0.1% or more of the product. The percentage column is allowed to be optional because often it is the amounts in which ingredients are mixed in a compound that give it a "trade secret" advantage.

- a) **Chemical Abstract Service Number (CAS):** The recommended way to identify any chemical with absolute certainty. Each chemical has only one CAS number, even though it may have several acceptable chemical names.
- b) **Permissible Exposure Limit (OSHA PEL):** The upper limit of a toxicant concentration to which an average healthy person may be repeatedly exposed on an all day, everyday basis without suffering adverse effects. The PEL as required by OSHA regulation is a legally enforceable value.
- c) **Threshold Limit Value (ACGIH TLV):** The upper limit of a toxicant concentration to which an average healthy person may be repeatedly exposed on an all day, everyday basis without suffering adverse effects. The TLV as recommended by the American Conference of Governmental Industrial Hygienists is not a legally enforceable value.
- d) **Abbreviations:**
  - OSHA - Occupational Safety and Health Administration
  - ACGIH - American Conference of Governmental Industrial Hygienists
  - ASTM - American Society of Testing and Materials
  - API - American Petroleum Institute
  - CAS - Chemical Abstract Service
  - PEL - Permissible Exposure Limit
  - TLV - Threshold Limit Value

### 3. Physical Data

This section helps determine whether a substance presents a physical hazard and by what degree. The chemical state, whether solid, liquid, or gas will also be listed in this section. The information contained in this section is important for anticipating volatility, relative danger, and likely routes of exposed persons' bodies.

- a) **Boiling Point:** The temperature at which the vapor pressure of a liquid equals the atmospheric pressure. A low boiling point usually indicates an increased volatility.
- b) **Vapor Pressure:** The pressure of the gas at the surface of a liquid on the surrounding medium. Vapor pressures are measured in units of millimeters of mercury (mm Hg) at 68 degrees Fahrenheit. The higher the vapor pressure, the volatile the liquid. A substance with a high vapor pressure will have a low boiling point.
- c) **Evaporation Rate:** A relative or comparative measure of the volatility of a liquid. The evaporation rate of a liquid is usually compared to either n-Butyl Acetate (BuAc) or Ether. The chemical used in the comparison will be listed and will possess a standard rate of 1.0.

**Example:**

<u>Rating</u>	<u>Range</u>	<u>Example</u>	<u>Value</u>
Standard Rate	1.0	n-Butyl Acetate	1.0
Slow Evap. Rate	<0.8	Water	0.3
Med. Evap. Rate	0.8-3.0	Ethyl Alcohol	1.4
Fast Evap. Rate	>3.0	Acetone	5.6

- d) **Vapor Density:** The relative weight or density of a vapor or gas compared with an equal volume of pure dry air (which has a relative value of 1.0). The vapor density helps to predict where gases will accumulate (floor or ceiling).

**Example:**

<u>Gas or Vapor</u>	<u>Vapor Density</u>	<u>Effect</u>
Pure Dry Air	1.0	
Methane	<1.0	Lighter than air
Ethylene Oxide(100%)	>1.52	Heavier than air

- e) **Specific Gravity:** The weight or density of a solid or liquid substance compared with an equal volume of water. This indicates whether a substance will float on water or sink in water.

**Example:**

<u>Liquid</u>	<u>Spec. Gravity</u>	<u>Effect</u>
Water	1.0	
Carbon Disulfide	>1.0	Heavier than water(sinks)
Gasoline	<1.0	Lighter than water(floats)

- f) **Solubility:** The percentage, by weight, of a substance that can be dissolved or mixed with water.

**Example:**

<u>Term</u>	<u>Meaning</u>
Negligible	Less than 1% solubility in water
Slight	0.1% to 1% solubility in water
Moderate	1% to 10% solubility in water
Appreciable	Over 10% solubility in water

- Complete Soluble at any concentration
- g) **Melting Point:** The temperature at which a solid becomes a liquid under normal atmospheric pressure.

#### 4. Fire and Explosion Hazard Data

This section provides information for planning appropriate emergency and fire extinguishing procedures. The proper type of fire extinguishing equipment and the procedures to be followed if the material being used is involved in a fire, is as follows:

- a) **Flashpoint:** The lowest temperature at which a flammable liquid produces enough vapors to be ignited at its lowest flammable limit.  
**Example:** Flammable Liquid = Flashpoint < 100 degrees F  
Combustible Liquid = Flashpoint > 100 degrees F  
But < 200 degrees F
- b) **Flammable Range:** Concentration of vapor in air between the Lower Explosive Limit (LEL), below which it is too lean to burn, and the Upper Explosive Limit (UEL), above which it is too rich to burn.
- c) **Lower Explosive Limit (LEL):** The lowest percentage of a gas or vapor in an air mixture that will produce a flash of fire when an ignition source is present.
- d) **Upper Explosive Limit (UEL):** The highest percentage of a gas or vapor in an air mixture that will produce a flash of fire when an ignition source is present.
- e) **Autoignition Temperature:** The minimum temperature required to initiate or cause self-sustained combustion independently of the heating element or source. Everything that burns, whether solid, liquid or gas, will have an ignition temperature.

#### 5. Health Hazard Data

The following are items that must be included in this section:

- a) **Routes of Entry:** There are three primary routes of entry by which a chemical can get into the body; inhalation, ingestion, or absorption through the skin.
- b) **Health Hazards:** These are the harmful effects of the substance on a person's health, and include both Acute Hazards (short term) and/or Chronic Hazards (long term).
- **Acute Exposure:** Exposure to a chemical at a relatively high level over a relatively short period of time.

- **Acute Effect:** A serious but temporary response to an exposure that can be reversed if the exposure is not repeated.
- **Chronic Exposure:** A relatively low level of exposure over a relatively long period of time.
- **Chronic Effect:** A health condition that has gradually developed and is difficult to reverse.
- **Corrosives:** Defined by the reaction of chemicals on animal skin that results in the destruction of cells, or in irreversible changes in living tissue at the site of contact with the substance.
- **Irritants:** Cause damage to living tissue at the site of contact. The damage caused by irritants is usually reversible.
- **Sensitizers:** Substances that have demonstrated the ability to cause an allergic reaction in a significant proportion of an exposed group.
- **Target Organ Effectors:** Chemicals that selectively damage one of the major organs or systems in the body.
- **Toxic Chemicals:** Defined by the results of standardized toxicity tests on animals which measure the amount of the dose required to kill or cause disease in 50% of a group of test animals. Toxicity measurements commonly used on MSDSs include:
  1. **LD 50** (Lethal Dose 50% Kill) - Ingestion poisonings that kills 1/2 of the animals tested.
  2. **LC 50** (Lethal Concentration 50% Kill) - Inhalation poisonings that kill 1/2 of the animals tested, and expressed in parts per million.
  3. **ED 50** The dose needed to produce an illness or cancer in 50% of exposed animals.
- **Signs and Symptoms of Exposure:** Characteristic signs are any measurable evidence of a disease that can be detected upon examination. Reported symptoms are unmeasurable experiences of the feelings of ill health.
- **Carcinogenicity:** The ability of a substance to cause cancer. All potential carcinogens must be reported.
- **Medical Conditions Generally Aggravated By Exposure:** A highly controversial part of a MSDS because it is used to screen people out of jobs, rather than to control exposures to any person performing a job.
- **Emergency First Aid Procedures:** Provides basic general information needed to plan for emergency medical situations.
- **Permissible Exposure Limit (PEL):** A maximum allowable concentration as established by a regulatory

agency such as OSHA, which is legally enforceable. PEL values represent the upper limit of a toxicant concentration to which the average healthy person may be repeatedly exposed on an all-day, everyday basis, without suffering adverse health effects. PELs may be expressed in the following ways.

1. **Time Weighted Average (TWA)** - The allowable concentration averaged over an eight hour day.
  2. **Short Term Exposure Limit (STEL or Ceiling)** - The maximum allowable concentration for a 15 minute exposure period.
  3. **TWA or STEL (But With A Skin Or "S" Notation)** - Indicates that the stated substance may be absorbed through the skin, mucus membranes, or eyes, and that this additional exposure must be considered.
- **Threshold Limit Value (TLV):** A maximum allowable concentration as established by a voluntary standard setting organization, and is not legally enforceable.
  - **Immediately Dangerous To Life And Health Value (IDLH Value):** Provides an indication of atmospheres which are immediately dangerous to life and health (i.e. atmospheres that within 30 minutes of exposure, death or irreversible health implications to the person exposed are expected).

## 6. Reactivity Data

This section describes whether the chemical substance will change its actual composition by combining with another substance or by breaking down to form a new substance. New substances may be more hazardous than the original, and may enter a person's body by a different route of exposure than the original substance. A properly completed MSDS will tell whether a substance is likely to break down or react with other substances, what conditions are likely to cause the substance to change its composition, and what new hazards might result. The information contained in this area addresses these key points.

- a) **Stability:** Provides information on whether the chemical bonds that are holding the molecules in the substance together are stable or unstable. Unstable molecules possess chemical bonds that can be easily broken, resulting in a change in composition without contact with another substance. Changes in temperature and/or pressure can also initiate molecular changes through chemical reaction.
- b) **Incompatibility:** Provides a list of substances that should not come into contact **with** the chemical. Incompatible substances

can react together to form a new hazard or may burn or explode and break down into new hazards.

- c) **Hazardous Decomposition Or By-Products:** This shows whether the substance can break down or decompose under certain conditions to release vapors or gases that are toxic or flammable. The new hazards that are formed should be listed here.
- d) **Hazardous Polymerization:** The chemical process during which small molecules combine to form a long molecule. This can happen rapidly with a simultaneous release of enough heat, energy, and hazardous gases to cause an explosion.

## 7. Spill Or Leak Procedures

- a) **Steps To Be Taken If Material Is Released Or Spilled:** This area should give information needed to plan emergency evacuation procedures, such as types of emergency respirators that may be required, or how to plan routes of egress. It should also tell how to handle smaller spills.
- b) **Waste Disposal:** Describes special procedures that should be used for disposing of hazardous materials. Disposal questions should be referred to the Environmental Protection Agency (EPA) at 1-800-424-9346.

## 8. Special Protection Information

This section normally details the type of ventilation to be provided and what type of personal protective equipment should be issued to exposed personnel. Protective equipment is usually broken down into three types: respiratory protection, eye protection, and skin protection.

## 9. Special Precautions

This is a catch-all section for any specific, additional instructions such as shipping, storage, handling, etc.

# **I. PACKAGING LABELS**

In order to comply with the Chemical Hazard Communication Standard on packaging (warning) labels, the following shall apply.

- 1. It shall be the responsibility of the City Personnel Officer to require that all hazardous substances not exempted by applicable law which are purchased by the City of New London for use by City employees are properly labeled by the supplier with:
  - a) the identity of any hazardous substance(s).
  - b) appropriate hazard warnings.
  - c) the name and address of the manufacturer.

2. It shall be the responsibility of the first-line supervisors in each City department/division to inspect and ensure that all shipments received are properly labeled. A proper label shows the identity of any hazardous substance(s), the appropriate hazard warnings, and the name and address of the manufacturer.
3. Any material which is permanently transferred into additional storage containers shall be appropriately labeled as described above. **No** unlabeled containers are permitted.
4. The City of New London will rely solely on its suppliers to update labels, as required, on hazardous substances shipped to the City. However, periodic, random checks shall be made by each department/division to assure that the information printed on the labels conforms to the information on the MSDS. The City Personnel Officer shall be notified of any discrepancies.
5. Materials which are exempt from the Hazard Communication Labeling requirement, and thus may be accepted for delivery without the labeling required by the Standard, are as follows.
  - a) Any pesticide as defined in the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 et seq.), when subject to the labeling requirements of that Act and regulations issued under that Act, by the Environmental Protection Agency.
  - b) Any food, food additive, color additive, drug, cosmetic, or medical/veterinary device including materials intended for use as ingredients in such products (i.e. flavors, fragrances, etc.), as such terms are defined in the Federal Food, Drug and Cosmetic Act (21 U.S.C. 301 et seq.) and regulations issued under that Act, when they are subject to the labeling requirements under Act 21 by the Food and Drug Administration.
  - c) Any consumer product or hazardous substance as those terms are defined in the Consumer Product Safety Act (15 U.S.C. 2051 et seq.) and Federal Hazardous Substances Act (15 U.S.C. 1261 et seq.) respectively when subject to a consumer product safety standard or labeling requirement of those Acts, or regulations issued under those Acts by the Consumer Product Safety Commission.

#### **IV. IN-HOUSE LABELING GUIDELINES**

In addition to the labeling of incoming containers, the City of New London recognizes that its departments/divisions are responsible for labeling "in-house", secondary containers. Supervisors in each respective department/division are responsible for seeing

that these containers of materials, which are used exclusively within their work areas, are labeled using the following guidelines.

1. When hazardous materials are transformed from original containers to secondary containers, each secondary container is labeled, tagged or clearly marked to identify the container contents, appropriate hazard warnings, and recommended personal protective equipment.
2. Labels are of prominent size and firmly attached to the container in such a location as to be easily read, not an obstruction to the other labels, and do not create a hazardous handling situation.
3. Stationary vessels, tanks or pipes which contain hazardous materials have clearly affixed labels, signs or placards which identify the container contents, and have appropriate hazard warnings.
4. Empty containers are not reused for other than the originally contained substances, unless the original labels are removed or defaced, and a new label is attached to identify the new contents and associated hazard warnings.
5. Although labeling is not required for portable containers into which hazardous materials are transferred when the material is intended for use within the same workshift and it remains under the immediate control (at all times) of the employee who performed the transfer, it should be standard practice to label even these "single use" containers whenever possible.

## **V. HAZARDOUS CHEMICAL LISTS**

Hazardous Chemical Lists, which are compilations of hazardous material inventories, should be made by department/division supervisors on a periodic basis to ensure accuracy of the hazardous materials at the worksite. In general, reliance on MSDS information will determine if a specific chemical or product is to be included on the list.

The following classes of materials are, however, excluded from the hazard determination requirements contained in the City of New London's program, as provided by 29 CFR 1910.1200 (b) (6) of the Standard, and therefore, do not have to be included on the Hazardous Chemical Lists.

1. Any Federally Regulated Hazardous Waste
2. Tobacco or Tobacco Products
3. Wood or Wood Products
4. Articles
5. Food, Drugs or Cosmetics Intended for Personal Consumption by Employees While in the Work Place

To ensure that employees have workplace access to every list, copies of the Hazardous Chemical Lists should be kept at an appropriate location within the department/division, along with copies of MSDSs for chemicals used in the surrounding work areas.

## **VI. RESPONSIBILITIES OF DEPARTMENTAL SUPERVISORS**

Departmental/divisional supervisors will be responsible for the on-site management of the City of New London's Hazards Communications Program. Activities that they will be responsible for include:

1. ensuring that training is given to employees on the proper handling of hazardous substances in their work area and use of necessary personal protective equipment.
2. maintaining a supply of personal protective equipment (i.e. gloves, face shields, respirators, etc.) as needed.
3. maintaining an inventory list of hazardous substances in the work area.
4. informing employees of any and all new hazardous chemicals in the work area.
5. ensuring that all containers, including transfer containers, are appropriately labeled.
6. responding to requests by employees for copies of information.

## **VII. EMPLOYEE TRAINING**

Under the Hazard Communication Standard and the Wisconsin Employees' Right-To-Know Law, each department/division must institute an employee education and training program for employees under their supervision, who are exposed to hazardous chemicals/substances. New employees, whether temporary, part-time, full-time, or employees transferring to different jobs, shall receive training in the hazardous substances within their work area at the time of their initial job assignment, and whenever a new hazard, or new hazardous chemical is introduced into that work area. In addition, a refresher session should be held annually to keep the employees' knowledge in these areas current.

Training sessions will include, but may not be limited to, all of the following subjects.

1. A review of the City of New London's policy on Hazard Communications and Right-To-Know, including employee rights under the law (see Appendix B for a copy of the State of Wisconsin notice, which must be on display at all times at the work site).
2. An explanation of what a Material Safety Data Sheet (MSDS) is, and where to find them, including which individual is responsible for the MSDSs in each department/division.
3. Training in how to understand a warning label.
4. What hazardous substances are present in the work area(s) and where they can be found.
5. A discussion of any symptom of acute and chronic effects of over-exposure to work site hazardous substance(s), the potential for flammability, explosion, and reactivity of the hazardous substance(s), if any, and the proper conditions for the safe use of the hazardous substance(s).

6. Special precautions to be taken and personal protective equipment to be utilized when handling or coming into contact with the hazardous substance(s).
7. Procedures for the safe and proper handling, cleanup, storage and disposal of the hazardous substance(s).
8. Explanations of first aid and emergency procedures.
9. Information relating to the performance of non-routine tasks during which a hazardous substance may be encountered.
10. A written and/or oral quiz at the conclusion of each training session.

### **VIII. EMPLOYEE WRITTEN INQUIRIES AND INFORMATION**

Departmental/divisional supervisors shall respond to written requests by an employee regarding any hazardous substance to which the employee is likely to be exposed with the following time frame.

1. Written inquiries regarding hazardous substances shall receive responses within 15 days of receipt of the inquiry, if said information has been received from the supplier. If said information has not been received at the time of the inquiry, the supervisor shall respond in writing within 30 days.
2. Access to the labels of pesticides with which an employee works or to which an employee is likely to be exposed shall be made available within 72 hours of said request.
3. Written inquiries regarding infectious agents shall receive responses within 72 hours of receipt of the inquiry, if said information has been received from the supplier. If said information has not been received from the supplier at the time of the inquiry, the supervisor shall respond in writing within 30 days.
4. Written requests for copies of the Hazardous Chemical List(s), or for individual copies of MSDSs, shall be delivered within 5 days of the request.
5. Any product information deemed to be a trade secret by the supplier does not have to be released to the City of New London. However, the City of New London shall be notified of any special handling procedures, and if medical treatment is necessary, the supplier is required to supply any requested information to medical personnel.

### **IX. ON-SITE CONTRACTORS**

Contractors hired by the City of New London shall be responsible for their own training, labeling, and communication of chemical hazards in the areas in which they are required to work. Said contractors shall have access to all MSDS provided to the City, and shall inform the affected City departments/divisions of any hazardous chemicals they bring out to City of New London sites.

### **X. NEW CHEMICALS/SUBSTANCES**

In general, the following rules apply.

1. No new hazardous substances shall be purchased for City of New London employee usage without the approval of the respective department/division head.
2. Prior to the introduction of any new hazardous substance into City of New London operations or use of any sample product containing a hazardous substance, the respective department/division head shall obtain the MSDS pertaining to said product and shall:
  - a) review all safety/health hazards which the item presents.
  - b) implement special handling precautions, if necessary.
  - c) obtain any additional equipment which may be needed before the item is used.

## **XI. SAFETY TIPS**

Employees should be aware of some general do's and don'ts to help keep them safe and healthy when dealing with hazardous substances.

1. **DO**
  - a) Read the label and MSDS before using the product.
  - b) Keep your work area clean.
  - c) Use safety equipment.
  - d) Keep chemicals which may react with each other separate.
  - e) Use approved, labeled containers for storing and handling potentially hazardous materials. Obey all safety rules and product directions.
  - f) Make sure there is enough ventilation, especially in a confined space. Use respirators.
  - g) After using chemicals, wash thoroughly before eating or smoking.
  - h) Keep compressed gases, flammables, and explosive materials away from heat.
  - i) If there is any question regarding safety, ask your supervisor.
2. **DON'T**
  - a) **DON'T** leave containers open when not in use.
  - b) **DON'T** siphon by mouth.
  - c) **DON'T** pour water into acid.
  - d) **DON'T** mix a chemical with another substance, unless instructed to do so.
  - e) **DON'T** remove labels or store chemicals next to each other without checking the MSDS for possible reactions.
  - f) **DON'T** breathe gases produced from chemical reactions. Leave area until ventilated.
  - g) **DON'T** wear contact lenses around toxic vapors.
  - h) **DON'T** depend on a "funny smell" to detect hazardous gases, some gases are odorless.
  - i) **DON'T** cut corners when it comes to safety.