

EASTERN ILLINOIS UNIVERSITY, Charleston, Illinois

# MODEL WRITTEN HAZARD COMMUNICATION PROGRAM

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## "Employee Right - To - Know" Environmental, Health, and Safety Department

### SELF HELP SOURCES FOR MSDS INFORMATION:

Eastern Illinois University is obliged to provide information and to comply with the Illinois Toxic Substances Disclosure to Employees Act (P.A. 38-240) and Occupational Safety and Health Administration's Hazard Communication Standard (39 CFR 1910.1200). To aid in developing the University's operating departments, this model has been developed by the Environmental Health and Safety Department, and was reviewed by the Environmental Health and Safety Campus Committee. The purposes of these laws are to protect employees in their work place from exposure to toxic materials.

This model will provide information to address the required elements of the law:

- REQUEST FOR MATERIAL SAFETY DATA SHEET
- AVAILABILITY OF MATERIAL SAFETY DATA SHEETS
- LABELING
- INFORMATION AND TRAINING OF THE EMPLOYEE

The Internal Governing Policy has directed safety and health and Public Safety Responsibility to the employee's supervisor.

### MATERIAL SAFETY DATA SHEETS (MSDS)

The manufacturer who provides the chemicals to the university must provide an MSDS (Material Safety Data Sheet) sheet for each chemical product. These MSDS sheets are located at Central Stores in the Master MSDS Set. The MSDS sheet must be readily available to the employees at their job site. For the

worker that travels to other work sites, the MSDS sheet may be kept in the department at a central location and made available in short time duration. These must be readily available in an emergency.

The Environmental Health and Safety Department maintain the Master MSDS set at the Chemical Storage Building. The EHS department has made available MSDS information at <http://hq.msdsonline.com/eiuedusl/Search/Default.aspx> .

#### LABELS

Chemicals arrive on campus in several different sizes of containers. The chemical that comes in a large (bulk) container may not be suitable for day to day use in the work place. The worker may use the chemical from the primary container to a secondary container. This secondary container must have the same label information identifying the chemical as the primary container. A proper label must have the following elements:

- labels must be in English
- legible and prominently displayed
- identity of the chemical
- hazard warning such as flammable, toxic, corrosive, etc.
- name and address of manufacture

The responsibility for proper labeling of a secondary container is of the employee that performs the transfer. The only exemption of labeling is if the container is 10 gallons or less and the content will be completely used during the normal working shift by the person that transfers the chemical. Other fixed containers such as tanks and pipes must also be labeled.

#### INFORMATION AND TRAINING

Initial training will be given during the new employee orientation. Follow up training will be given on an annual basis. The university will conduct annual training sessions. New employees will be trained prior to beginning their work assignments by the department supervisor (s).

#### **The typical training program may provide the following:**

1. Completed Written Hazard Communication Program
2. The department's location and storage of chemical used by the department
3. Departmental procedure for detection and response to spilled chemicals
4. Department's MSDS sheets location and availability

5. Description of department process and operation that may use chemical

**The MSDS sheet will provide information of that specific product.**

The MSDS sheet will be broken into eight basic areas: identity, ingredients, physical characteristics, fire and explosion hazard, reactivity, health hazard, safe handling precautions, and control measures.

1. Identity of the product
2. The name, address, and emergency phone number of the manufacturer.
3. Ingredients
4. Common name of the chemical and other identification information.
5. Physical Characteristics
6. This section includes information of the physical description of the product. (i.e. melting point, specific gravity, appearance and order.)
7. Fire and explosion hazard data
8. Information concerning flash point, LEL (lower explosion limit), UEL (upper explosion limit).
9. Reactivity
10. Information on stability and conditions to avoid will be found in this section.
11. Health hazard
  - a. Health hazard section will contain information on health risk if inhaled by breathing, ingested through the mouth, or absorbed through the skin. Also included is if the chemical will cause cancer or other health risks. This section will list the sign and symptoms of chemical exposure. The most common symptoms are nausea, dizziness, rashes, and aggravation of a preexisting medical condition.
12. Safe handling precautions
  - a. Safe handling of the chemical is very important. This section will provide the methods of storage, methods of use, and disposal.
  - b. Control measures
  - c. The use of personal protective equipment (PPE) while handling the chemical will be described in this section. Other procedures that may be listed are ventilation and personal hygienic practices.

## **EMPLOYEE RIGHTS - "RIGHT TO KNOW"**

The Toxic Substance Disclosure Act, commonly known as "Right to Know", is intended to make the workplace safer and healthier. The University certainly agrees with this goal and wants to be sure that you are aware of your rights and obligations under this law. We have signs at the workplace which provides you with a brief overview of your rights under the law. It is a two-way street - both employers and employees have to work together to ensure a safe and healthy environment. In order to help assure that this goal is achieved, the law requires the following:

- That a sign be posted in the workplace advising you of your rights and obligations. (As stated above, this has been done.)
- Containers of toxic substances be labeled with the name of the chemical and with the appropriate hazard warning. All of our containers are labeled, or we are actively attempting to obtain labels from our vendors.
- Material Safety Data Sheets (M.S.D.S.) must be made available to you or your designated representative within ten days of a written request. We have available copies of all such M.S.D.S.'s at the Campus Safety Office. If we do not have one, we will actively attempt to get it from our vendors.
- You must be trained annually. We will conduct annual training sessions. New employees will be trained prior to beginning their work assignments by the department supervisor(s).

Located in the Human Resources Department is a "Right to Know" information notebook. The notebook and this Employee Rights handout are the first steps of Eastern's Hazardous Substance Training Program.

\* You may not be, and will not be, discharged, disciplined, or discriminated against for exercising your rights under the law. If you believe your rights are denied, you or your representative may file a complaint with the Department of Labor.

\* If you feel that a chemical which is not a toxic chemical should be so designated, you may petition the Department of Labor to add the chemical to the list. The Department of Labor will consider your petition at a public hearing held annually.

\* Your personal physician is entitled to receive, upon written request, any M.S.D.S.'s we have, regardless of whether the substance is toxic or not.

This is a brief summary of your rights under the Act. The University fully intends to assure that your rights are upheld.

SAMPLE: REQUEST FOR MATERIAL SAFETY DATA SHEET may go on line at <http://hq.msdsonline.com/eiuedusl/Search/Default.aspx> and type in the chemical product name to receive information.

## DEFINITIONS

**Action Level:** A quantitative limit of a chemical, biological, or radiological agent at which actions are taken to prevent or reduce exposure or contact. Usually set at one-half of the Permissible Exposure Limit.

**Acute Severe:** Often dangerous conditions in which relatively rapid changes occur in a short period of time.

**Acute Exposure:** An intense exposure over a relatively short period of time.

**Boiling Point:** The temperature at which the vapor pressure of a liquid equals atmospheric pressure or a liquid changes to a vapor. The boiling point is usually expressed in degrees Fahrenheit. If a flammable material has a low boiling point, it indicates a special fire hazard.

**"C" or ceiling:** A description usually seen in connection with a published exposure limit. It refers to the concentration that should not be exceeded, even for an instant. It may be written as TLV-C or Threshold Limit Value-Ceiling (also see THRESHOLD LIMIT VALUE).

**Chemical:** As broadly applied to the chemical industry, an element or a compound produced by chemical reactions on a large scale for either direct industrial or consumer use or for reaction with other chemicals.

**Chemical Reaction:** A change in the arrangement of atoms or molecules to yield substances of different composition and properties.

**Chronic:** Persistent, prolonged or repeated conditions or an illness such as black lung disease which occurs over a long period of exposure.

**Chronic Exposure:** A prolonged exposure occurring over a period of days, weeks, or years.

**Combustible:** According to the DOT and NFPA, combustible liquids are those having a flash point at or above 100 degrees F (37.8 degrees C), or liquids that will burn. They do not ignite as easily as flammable liquids. However, combustible liquids can be ignited under certain circumstances, and must be handled with caution. Substances, such as wood, paper, etc. are termed "Ordinary Combustibles".

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**Corrosive:** A substance that according to the DOT, causes visible destruction or permanent changes in human skin tissue at the site of contact or is highly corrosive to steel.

**Degree of Hazard:** A relative measure of how much harm a substance can do.

**Dose:** An amount of a substance given or exposed to over time.

**Dyspnea:** Shortness of breath, difficult or labored breathing.

**First Responder:** The first trained personnel to arrive on the scene of a hazardous material incident. Usually officials from local emergency services, fire-fighters, and police.

**Flammable Liquid:** According to the DOT and NFPA, a flammable liquid is one that has a flash point below 100 degrees F (see Flash Point).

**Hazard:** A circumstance or condition that can do harm. Hazards are categorized into four groups: Biological, chemical, radiation, and physical.

**Hazardous:** Capable of posing an unreasonable risk to health and safety (DOT). Capable of doing harm.

**Hazardous Material:** Any substance or compound that has the capability of producing adverse effects on the health and safety on human.

**Hazardous Sample:** Samples that are considered to contain high concentrations of contaminants.

**Hazardous Substance:**

1) A material and its mixtures or solutions that is identified by the "E" in Column (1) of the Hazardous Materials Table, CFR 49, Section 172.1 when offered for transportation in one package, or in one transport vehicle if not packaged, and when the quantity of the material therein equals or exceeds the reportable quantity.

2) Any substance designated pursuant to Section 311(b)(2), (a) of the Federal Water Pollution Control Act, (b) any element, compound, mixture, solution, or substance designated pursuant to Section 102 or this Act, (c) any hazardous waste having the characteristics identified under or listed pursuant to Section 3001 of the Solid Waste Hazardous Disposal Act (but not including any waste under the Solid Waste Disposal Act which has been suspended by Act of Congress), (d) any toxic pollutant listed under Section 307(a) of the Federal Water Pollution Control Act, (e) any hazardous air pollutant listed under Section 112 of the Clean Air Act, (f) any imminently hazardous chemical substance or mixture with respect to which the Administrator has taken action pursuant to Section 7 of the Toxic Substance Control Act. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (a) through (f) of this definition, and the term does not include natural gas, natural gas liquids, liquified natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such as synthetic gas).

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**Ingestion:** Taking a substance into the body through the mouth as food, drink, medicine, or unknowingly as on contaminated hands or cigarettes, etc.

**Inhalation:** The breathing in of an airborne substance that may be in the form of gases, fumes, mists, vapors, dusts, or aerosols.

**Irritant:** A substance that produces an irritating effect when it contacts skin, eyes, nose, or respiratory system.

**Lethal Concentration:** The concentration of an air contaminant that will kill all of the test animals in a group within the first 30 days following exposure.

**Lethal Dose: 50 (LD50)** The dose of a substance or chemical that will kill 50 percent of the test animals in a group within the first 30 days following exposure.

**Limited Quantity:** With the exception of Poison E materials, the minimum amount of a hazardous material for which there is a specific labeling and packaging.

**Odor Threshold:** The minimum concentration of a substance at which a majority of test subjects can detect the substance's characteristic odor.

**Oral:** Having to do with the mouth.

**Oxidation:** The process of combining oxygen with some other substance or a chemical change in which an atom loses electrons.

**Oxidizer:** Is a substance that gives up oxygen easily to stimulate combustion of organic material.

**Permissible Exposure Limit (PEL):** An exposure limit that is published and enforced by OSHA as a legal standard. PEL may be either a time-weighted average (TWA) exposure limit (8 hour), a 15-minute short term exposure limit (STEL), or a ceiling (C). The PEL's are found in Tables Z-1, Z-2, and Z-3 of OSHA regulations 1910.1000 (see also TLV).

**Personal Protective Equipment:** Any devices or clothing worn by the worker to protect against hazards in the environment. Examples are respirators, gloves, and chemical splash goggles.

**Polymerization:** A chemical reaction in which two or more small molecules combine to form larger molecules that contain repeating structural units of the original molecules. A hazardous polymerization is the above reaction with an, uncontrolled release of electrons.

**Reactivity:** A substance's susceptibility to undergoing a chemical reaction or change that may result in dangerous side effects, such as explosion, burning, and corrosive or toxic emissions. The conditions that cause the reaction, such as heat, other changes and dropping will usually be specified as "Conditions to Avoid" when a chemical's reactivity is discussed on a MSDS.

**Respirator:** A device that is designed to protect the wearer from inhaling harmful contaminants.

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**Respiratory Hazard:** A particular concentration of an airborne contaminant that enters the body by way of the respiratory system or by being breathed into the lungs and results in some body function.

**Response Activities:** Activities taken to recognize, evaluate, and control an incident.

**Safety:** Freedom from man, equipment, material, or environmental actions that result in injury or illness.

**Short Term Exposure Limit Represented as STEL or TLV-STEL:** This is the maximum concentration to which workers can be exposed for a short period of time (usually 15 minutes) for only four times throughout the day with at least one hour between exposures. Also the daily TLV-TWA must not be exceeded.

**Skin:** This designation sometimes appears alongside a TLV or PEL. It refers to the possibility of absorption of the particular chemical through the skin and eyes. Thus, protection of large surface areas of skin should be considered to prevent skin absorption so that the TLV is not exceeded or counteracted.

**Synonym:** Another name by which the same chemical may be known.

**Threshold Limit Value (TLV):** Airborne concentrations of substances devised by the ACGIH that represents conditions under which it is believed that nearly all workers may be exposed day after day with no adverse effect, TLV's are advisory exposure guidelines, not legal standards, that are based on evidence from industrial experience, animal studies, or human studies when they exist. There are three different types of TLV'S. They are: Time Weighted Average (TLV-TWA), Short Term Exposure Limit (TLV-STEL), and Ceiling (TLV-C), (see also PEL).

**Time Weighted Average:** The average time, over a given work period (e.g. 8-hour workday), of a person's exposure (TWA) to a chemical or agent. The average is determined by sampling for the contaminant throughout the time period. Represented as TLV-TWA.

**Toxicity:** The potential of a substance to exert a harmful effect on humans or animals and a description of the effect and the conditions or concentration under which the effect takes place.

**Trade Name:** The commercial name or trademark by which a chemical is known. One chemical may have a variety of trade names depending on the manufacturers or distributors involved.

**Upper Explosive Limit Also known as Upper Flammable Limit:** Is the highest concentration (expressed in percent of vapor or gas in the air by volume) of a substance that will burn or explode when an ignition source is present. Theoretically above this limit, the mixture is said to be too "RICH" to support combustion. The difference between the LEL and UEL constitutes the flammable range or explosive range of a substance. That is, if the LEL is 1 ppm and the UEL is 5 ppm, then the explosive range of the chemical is from 1 to 5 ppm. (See also LEL).



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Vapor: The gaseous form of substances which are normally in liquid or solid state (at room temperature and pressure). Vapors evaporate into the air from liquids such as solvents. Solvents with low boiling points will evaporate readily.

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