LOYOLA UNIVERSITY CHICAGO

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Safety Policy Number: Z-1200

Hazard Communication Program

PURPOSE

The purpose of this program is to implement the requirements of 29 CFR. 1910.1200 also known as the Hazard Communication Program. All employees have both a need and right to know the hazards and identities of the chemicals they are exposed to as a result of performing their assigned duties. By providing information on the hazards of chemicals used in the workplace, injuries and illnesses potentially caused by those chemicals can be reduced. The program is comprised of three elements:

1. Maintaining files of all Safety Data Sheets.
2. Labeling all hazardous chemicals in the workplace.
3. Training all employees who are exposed to these chemicals.

POLICY

Loyola University Chicago is committed to providing a safe and healthful environment for students, faculty, staff, visitors and the general public. This is a shared responsibility and every person at Loyola University Chicago has a role in maintaining a safe environment. This policy provides guidance for the safe handling of chemicals in the workplace. This Hazard Communication Program has limited applications to labortories and clinical labs, which are covered under the OSHA 1910.1450 Laboratory Standard. Only the labeling and MSDS requirements of this program applies to labs covered under that Standard. Academic labs are required to have a Chemical Hygiene Plan or other prescribed safety plan in place.

1.0 Responsibilities

1.1 Responsibilities of the Employer:

1) To develop and implement a written Hazard Communication Program that will satisfy the requirements of the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) Hazard Communication standard.
2) To enforce all provisions of this program in our workplace.
3) To train all current and future employees in the hazards of the chemicals to which they are exposed in their work areas and to familiarize them with the requirements of this program.
4) To designate a person who will be responsible for impiementing and enforcing the provisions of this program.
5) To maintain a list of emergency phone numbers of the persons most familiar with chemical hazards associated with the various workplaces on the Loyola University Chicago campus.
6) To keep the appropriate local and state governmental agencies apprised of potential chemical hazards present on the Loyola University Chicago campus.

1.2 Responsibilities of Employees:

To comply with all occupational safety and health standards, including the requirements of this program, which are applicable to the employee's actions and conduct in the workplace.

2.0 Hazard Determination

2.1 Safety Data Sheets:

Safety Data Sheets (SDS) will be obtained for all chemicals coming onto the campus. This applies to all chemicals whether they are purchased from outside vendors or are donated to the school as samples or gifts. The responsibility for ascertaining that an SDS is on file within a work area lies with the supervisor of the work area in which the chemical is to be used. The supervisor that orders chemicals must specify on the department's requisition, department and contact information as to where the chemicals will be delivered. The Director of Environmental Services will load the SDS into SDS Pro application and all SDS are available online to Loyola personnel at: http://msdspro.int.luc.edu:8019/

A) Hazard determinations for chemicals will be based on the information presented in the SDS' provided by the suppliers of the chemicals. If new and significant hazard information becomes available for a given chemical, or if new SDSs are received from outside suppliers, this information will be incorporated into this program within a reasonable period of time.

B) The Safety Officer will update the Safety Data Sheets received for the entire campus in the SDS Pro application for iimediate access by the campus community.

C) SDSs for all chemicals found in that workplace will be maintained in each workplace by the appropriate supervisor or foreman or a computer must be available to access SDS's through http://msdspro.int.luc.edu:8019/ You can search for SDS's on this web page and request an SDS if there no SDS available for the product being used in the workplace.

Note: This file is to be open to inspection by any employee within the workplace.

D) A list of all hazardous chemicals in use on campus is entered in SDS Pro and broken down by building and room number.

E) The SDS files will be reviewed at least annually by the Safety Officer to enssure that the proper SDS's are on file and updated with the most current version.

2.2 Container Labeling:

All containers of hazardous chemicals shall be labled. Labels must be legible, in English (additional languages may be included as necessary), and prominently displayed on the container.Departments' labeling system must meet the following minimum criteria:

1. The person in charge of receiving for the department or workplace shall insure that the supplier's label is intact and legible when it first arrives on campus.
2. For any chemicals which are determined to be hazardous, the following information must be supplied on the original label or on a label added at the time of receipt within the department or workplace:

    a. Chemical name, accepted common name or a list of constituents of a mixture, or trade name.
    b. For trade names and mixtures, the intended use of the material must be listed along with the name of the person who formulated the mixture or the company which supplied the material.

c. Specific physical and health hazards involved with the symptoms of contact or overexposure to the chemical, and appropriate first-aid measures.
d. A list of special precautions and protective equipment to be used when working with the chemical.
e. The four digit UN international hazardous material code number should, whenever possible, be listed on the container. The four digit number allows emergency service personnel to verify the health and safety hazards.

1. If any portion of a hazardous chemical is transferred from a labeled container to a different container, the new container must also be labeled with the same information unless the following conditions apply:

   a. The new container is unlike any other in the workplace and:
   b. The chemical will be used only by the person who transferred it to the new container and:
   c. The chemical will be completely used up within the day or work period, or any remaining chemical will be returned to a properly-labeled container.

2. If any portion of the chemical will remain after use as a hazardous waste requiring special disposal procedures, the original container must be labeled to that effect with special labels provided by the responsible department. The container in which the chemical residue is collected must also be labeled with its contents and hazard class.

2.3 Notices

Notices shall be posted in each workplace which describe that department's container labeling system.

3.0 Training

3.1 Department Training:

The Safety Officer, the department supervisors, and the foreman (if applicable) will be jointly responsible for the training of employees within the respective departments as to the provisions of this Hazard Communication Program and in the safe handling of the chemicals within the various workplaces.

3.2 New Employees:

All new employees whose job duties include working with hazardous chemicals will receive training in the provisions of this program before beginning their job assignment at Loyola University Chicago.

3.3 Current Employees:

All current employees who work with hazardous chemicals and have not received training in this program or who are moving to another department where the employee's job duties will include working with hazardous materials, will receive instruction in the provisions of this program at the earliest possible time.

3.4 Required Training:

The Safety Officer, the department supervisor, or another designated and qualified person will provide instruction in the provisions of the Hazard Communication Program which will include, but is not limited to, the following information:

(1) The purpose of the program and the responsibilities assigned under the program.
(2) How to read and interpret Material Safety Data Sheets and where the MSDSs are located within the respective departments.
(3) The type of instruction the employee will receive from his supervisor and the employee's obligation to behave in a safe and responsible manner.
(4) The employer's responsibility to provide a safe working environment and enforce policies and work rules that have been established to support that environment.
(5) The departmental supervisor, foreman, or another designated and qualified person will provide instruction to each employee in the safe handling and use of each chemical found within the workplace before that employee is allowed to work with that chemical. This training will include, but is not limited to, the following information:

(a) The proper use and fit of any protective equipment or clothing required when handling any given chemical.
(b) The effects of overexposure to or contact with the chemical and the first-aid measures which should be followed.
(c) The procedures to follow should a chemical be spilled or otherwise accidentally released to the environment.
(d) Any known hazardous combinations of the given chemical with any materials in the workplace.

(6) In laboratories where a great number of chemicals may be encountered, the training must, at minimum, cover the provisions of (Sec. E., 5) above for each chemical class found in the laboratory. All special hazards found in the individual laboratories must be identified and covered in the training.
(7) The Safety Supervisor will work with the department supervisors to develop training material appropriate to each workplace.
(8) The department supervisors are responsible for identifying non-routine tasks involving hazardous chemicals for which employees have not been trained. Special safety instructions will be given before the task is begun.
(9) Written training records will be kept for each employee receiving training under this program. The records will have the following information:

(a) The employee's name and department.
(b) The name of the person presenting the training material.
(c) The specific topics covered in the training which would include a list of chemicals covered at that session.
(d) The date on which the training was presented.
(e) The signatures of both the employee and the person presenting the training.

(10) Copies of each training record will be kept on file in the employee's departmental file. The supervisor and employee should review her/his training file on a yearly basis to ensure that the information is accurate.

4.0 Outside Contractors

4.1 University Employee's Responsibility:

It is the responsibility of the person requesting the work of an outside contractor to determine what hazardous chemicals, if any, the employees of a contractor may be routinely exposed to while on the job site. The contractor will be provided with SDSs for any chemicals used by Loyola University Chicago in the area where the contractor will be working.

4.2 Contractor's Responsibility:

The contractor must provide Loyola University Chicago with copies of SDSs for all hazardous chemicals that the employees of the contractor will be routinely working with while on the job site. A signed statement indicating that this information has been received must be obtained from the contractor.

REFERENCES

U.S. Department of Labor OSHA Standards for General Industry:

OSHA has established the following standards for the Hazard Communication Program

29 CFR 1910.1200 (a), (b), (c), (d), (e), (f), (g), (h), (i) and (j).

Appendices:
1910.1200 - Appendix A Health Hazard Definitions
1910.1200 - Appendix B Hazard Determination
1910.1200 - Appendix C (Reserved)
1910.1200 – Appendix D Definition of "Trade Secret"

Revised: September 7, 2017

1910.1200 - Appendix A Health Hazard Definitions

Although safety hazards related to the physical characteristics of a chemical can be objectively defined in terms of testing requirements (e.g. flammability), health hazard definitions are less precise and more subjective. Health hazards may cause measurable changes in the body - such as decreased pulmonary function. These changes are generally indicated by the occurrence of signs and symptoms in the exposed employees - such as shortness of breath, a non-measurable, subjective feeling. Employees exposed to such hazards must be apprised of both the change in body function and the signs and symptoms that may occur to signal that change.

The determination of occupational health hazards is complicated by the fact that many of the effects or signs and symptoms occur commonly in non-occupationally exposed populations, so that effects of exposure are difficult to separate from normally occurring illnesses. Occasionally, a substance causes an effect that is rarely seen in the population at large, such as angiosarcomas caused by vinyl chloride exposure, thus making it easier to ascertain that the occupational exposure was the primary causative factor. More often, however, the effects are common, such as lung cancer. The situation is further complicated by the fact that most chemicals have not been adequately tested to determine their health hazard potential, and data do not exist to substantiate these effects.

There have been many attempts to categorize effects and to define them in various ways. Generally, the terms “acute” and “chronic” are used to delineate between effects on the basis of severity or duration. “Acute” effects usually occur rapidly as a result of short-term exposures, and are of short duration. “Chronic” effects generally occur as a result of long-term exposure, and are of long duration.

The acute effects referred to most frequently are those defined by the American National Standards Institute (ANSI) standard for Precautionary Labeling of Hazardous Industrial Chemicals (Z129.1-1988) - irritation, corrosivity, sensitization and lethal dose. Although these are important health effects, they do not adequately cover the considerable range of acute effects which may occur as a result of occupational exposure, such as, for example, narcosis.

Similarly, the term chronic effect is often used to cover only carcinogenicity, teratogenicity, and mutagenicity. These effects are obviously a concern in the workplace, but again, do not adequately cover the area of chronic effects, excluding, for example, blood dyscrasias (such as anemia), chronic bronchitis and liver atrophy.

The goal of defining precisely, in measurable terms, every possible health effect that may occur in the workplace as a result of chemical exposures cannot realistically be accomplished. This does not negate the need for employees to be informed of such effects and protected from them. Appendix B, which is also mandatory, outlines the principles and procedures of hazard assessment.

For purposes of this section, any chemicals which meet any of the following definitions, as determined by the criteria set forth in Appendix B are health hazards. However, this is not intended to be an exclusive categorization scheme. If there are available scientific data that

involve other animal species or test methods, they must also be evaluated to determine the applicability of the HCS.

1. “Carcinogen:” A chemical is considered to be a carcinogen if:

(a) It has been evaluated by the International Agency for Research on Cancer (IARC), and found to be a carcinogen or potential carcinogen; or

(b) It is listed as a carcinogen or potential carcinogen in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or,

(c) It is regulated by OSHA as a carcinogen.

2. “Corrosive:” A chemical that causes visible destruction of, or irreversible alterations in, living tissue by chemical action at the site of contact. For example, a chemical is considered to be corrosive if, when tested on the intact skin of albino rabbits by the method described by the U.S. Department of Transportation in appendix A to 49 CFR part 173, it destroys or changes irreversibly the structure of the tissue at the site of contact following an exposure period of four hours. This term shall not refer to action on inanimate surfaces.

3. “Highly toxic:” A chemical falling within any of the following categories:

(a) A chemical that has a median lethal dose (LD(50)) of 50 milligrams or less per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

(b) A chemical that has a median lethal dose (LD(50)) of 200 milligrams or less per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

(c) A chemical that has a median lethal concentration (LC (50)) in air of 200 parts per million by volume or less of gas or vapor, or 2 milligrams per liter or less of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

4. “Irritant:” A chemical, which is not corrosive, but which causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41 for four hours exposure or by other appropriate techniques, it results in an empirical score of five or more. A chemical is an eye irritant if so determined under the procedure listed in 16 CFR 1500.42 or other appropriate techniques.

5. “Sensitizer:” A chemical that causes a substantial proportion of exposed people or animals to develop an allergic reaction in normal tissue after repeated exposure to the chemical.

6. “Toxic.” A chemical falling within any of the following categories:

(a) A chemical that has a median lethal dose LD (50)) of more than 50 milligrams per kilogram but not more than 500 milligrams per kilogram of body weight when administered orally to albino rats weighing between 200 and 300 grams each.

(b) A chemical that has a median lethal dose LD(50) of more than 200 milligrams per kilogram but not more than 1,000 milligrams per kilogram of body weight when administered by continuous contact for 24 hours (or less if death occurs within 24 hours) with the bare skin of albino rabbits weighing between two and three kilograms each.

(c) A chemical that has a median lethal concentration (LC(50)) in air of more than 200 parts per million but not more than 2,000 parts per million by volume of gas or vapor, or more than two milligrams per liter but not more than 20 milligrams per liter of mist, fume, or dust, when administered by continuous inhalation for one hour (or less if death occurs within one hour) to albino rats weighing between 200 and 300 grams each.

7. “Target organ effects.”

The following is a target organ categorization of effects which may occur, including examples of signs and symptoms and chemicals which have been found to cause such effects. These examples are presented to illustrate the range and diversity of effects and hazards found in the workplace, and the broad scope employers must consider in this area, but are not intended to be all-inclusive.

a. Hepatotoxins: Chemicals which produce liver damage Signs & Symptoms: Jaundice; liver enlargement Chemicals: Carbon tetrachloride; nitrosamines
b. Nephrotoxins: Chemicals which produce kidney damage Signs & Symptoms: Edema; proteinuria Chemicals: Halogenated hydrocarbons; uranium
c. Neurotoxins: Chemicals which produce their primary toxic effects on the nervous system
Signs & Symptoms: Narcosis; behavioral changes; decrease in motor functions
Chemicals: Mercury; carbon disulfide
d. Agents which act on the blood or hemato-poietic system: Decrease hemoglobin function; deprive the body tissues of oxygen
Signs & Symptoms: Cyanosis; loss of consciousness
Chemicals: Carbon monoxide; cyanides
e. Agents which damage the lung: Chemicals which irritate or damage pulmonary tissue
Signs & Symptoms: Cough; tightness in chest; shortness of breath
Chemicals: Silica; asbestos
f. Reproductive toxins: Chemicals which affect the reproductive capabilities including chromosomal damage (mutations) and effects on fetuses (teratogenesis)
Signs & Symptoms: Birth defects; sterility
Chemicals: Lead; DBCP
g. Cutaneous hazards: Chemicals which affect the dermal layer of the body Signs & Symptoms: Defatting of the skin; rashes; irritation Chemicals: Ketones; chlorinated compounds
h. Eye hazards: Chemicals which affect the eye or visual capacity Signs & Symptoms: Conjunctivitis; corneal damage Chemicals: Organic solvents; acids

1910.1200 - Appendix B Hazard Determination

The quality of a hazard communication program is largely dependent upon the adequacy and accuracy of the hazard determination. The hazard determination requirement of this standard is performance-oriented. Chemical manufacturers, importers, and employers evaluating chemicals are not required to follow any specific methods for determining hazards, but they must be able to demonstrate that they have adequately ascertained the hazards of the chemicals produced or imported in accordance with the criteria set forth in this Appendix.

Hazard evaluation is a process which relies heavily on the professional judgment of the evaluator, particularly in the area of chronic hazards. The performance-orientation of the hazard determination does not diminish the duty of the chemical manufacturer, importer or employer to conduct a thorough evaluation, examining all relevant data and producing a scientifically defensible evaluation. For purposes of this standard, the following criteria shall be used in making hazard determinations that meet the requirements of this standard.

1. “Carcinogenicity:” As described in paragraph (d)(4) of this section and Appendix A of this section, a determination by the National Toxicology Program, the International Agency for Research on Cancer, or OSHA that a chemical is a carcinogen or potential carcinogen will be considered conclusive evidence for purposes of this section. In addition, however, all available scientific data on carcinogenicity must be evaluated in accordance with the provisions of this Appendix and the requirements of the rule.
2. “Human data:” Where available, epidemiological studies and case reports of adverse health effects shall be considered in the evaluation.
3. “Animal data:” Human evidence of health effects in exposed populations is generally not available for the majority of chemicals produced or used in the workplace. Therefore, the available results of toxicological testing in animal populations shall be used to predict the health effects that may be experienced by exposed workers. In particular, the definitions of certain acute hazards refer to specific animal testing results (see Appendix A).
4. “Adequacy and reporting of data.” The results of any studies which are designed and conducted according to established scientific principles, and which report statistically significant conclusions regarding the health effects of a chemical, shall be a sufficient basis for a hazard determination and reported on any material safety data sheet. In vitro studies alone generally do not form the basis for a definitive finding of hazard under the HCS since they have a positive or negative result rather than a statistically significant finding.

The chemical manufacturer, importer, or employer may also report the results of other scientifically valid studies which tend to refute the findings of hazard.

1910.1200 - Appendix C (Reserved)

The Federal Register of March 7, 1996, removed 1910.1200 Appendix C.

[61 FR 9227, March 7, 1996]

1910.1200 – Appendix D Definition of "Trade Secret"

The following is a reprint of the "Restatement of Torts" section 757, comment b (1939):

b. "Definition of trade secret." A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. It may be a formula for a chemical compound, a process of manufacturing, treating or preserving materials, a pattern for a machine or other device, or a list of customers. It differs from other secret information in a business (see s759 of the Restatement of Torts which is not included in this Appendix) in that it is not simply information as to single or ephemeral events in the conduct of the business, as, for example, the amount or other terms of a secret bid for a contract or the salary of certain employees, or the security investments made or contemplated, or the date fixed for the announcement of a new policy or for bringing out a new model or the like. A trade secret is a process or device for continuous use in the operations of the business. Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article. It may, however, relate to the sale of goods or to other operations in the business, such as a code for determining discounts, rebates or other concessions in a price list or catalogue, or a list of specialized customers, or a method of bookkeeping or other office management.

"Secrecy." The subject matter of a trade secret must be secret. Matters of public knowledge or of general knowledge in an industry cannot be appropriated by one as his secret. Matters which are completely disclosed by the goods which one markets cannot be his secret. Substantially, a trade secret is known only in the particular business in which it is used. It is not requisite that only the proprietor of the business know it. He may, without losing his protection, communicate it to employees involved in its use. He may likewise communicate it to others pledged to secrecy. Others may also know of it independently, as, for example, when they have discovered the process or formula by independent invention and are keeping it secret. Nevertheless, a substantial element of secrecy must exist, so that, except by the use of improper means, there would be difficulty in acquiring the information. An exact definition of a trade secret is not possible. Some factors to be considered in determining whether given information is one's trade secret are: (1) The extent to which the information is known outside of his business; (2) the extent to which it is known by employees and others involved in his business; (3) the extent of measures taken by him to guard the secrecy of the information; (4) the value of the information to him and his competitors; (5) the amount of effort or money expended by him in developing the information; (6) the ease or difficulty with which the information could be properly acquired or duplicated by others.

"Novelty and prior art." A trade secret may be a device or process which is patentable; but it need not be that. It may be a device or process which is clearly anticipated in the prior art or one which is merely a mechanical improvement that a good mechanic can make. Novelty and invention are not requisite for a trade secret as they are for patentability. These requirements are essential to patentability because a patent protects against unlicensed use of the patented device or process even by one who discovers it properly through independent research. The patent monopoly is a reward to the inventor. But such is not the case with a trade secret. Its protection is not based on a policy of rewarding or otherwise encouraging the development of secret processes or devices. The protection is merely

against breach of faith and reprehensible means of learning another's secret. For this limited protection it is not appropriate to require also the kind of novelty and invention which is a requisite of patentability. The nature of the secret is, however, an important factor in determining the kind of relief that is appropriate against one who is subject to liability under the rule stated in this Section. Thus, if the secret consists of a device or process which is a novel invention, one who acquires the secret wrongfully is ordinarily enjoined from further use of it and is required to account for the profits derived from his past use. If, on the other hand, the secret consists of mechanical improvements that a good mechanic can make without resort to the secret, the wrongdoer's liability may be limited to damages, and an injunction against future use of the improvements made with the aid of the secret may be inappropriate.