Hazard Communication Program

Update 2018
Prepared by: EHS&S

Purpose

Federal Occupational Safety and Health Regulations require employers to provide information regarding hazardous chemicals to employees who may be exposed to such chemicals in their workplace, laboratories, classrooms, etc. In addition, New York State has enacted Right-To-Know legislation to protect employees from potential hazards associated with chemicals in the workplace. This procedure is intended to provide the Le Moyne College community with the guidance necessary to comply with these requirements.

Authority

These procedures are based upon requirements of federal law, generally recognized best Environmental Health & Safety management practices, and/or criteria established by the National Institute of Occupational Safety and Health (NIOSH).

Objectives

- To protect the health and welfare of Le Moyne College employees, and the greater Le Moyne College community;
- To provide employees (and students) with the necessary information concerning their health and safety during both routine and non-routine activities; and
- To comply with Title 29, Part 1910.1200 of the Code of Federal Regulations (CFR), otherwise known as the Hazard Communication Standard (HCS)—click HERE to go directly to the standard.

Exemptions

1. As per the HCS, the following are exempt from labeling in this program:

- *Foods, beverages, drugs and cosmetics*, which are typically regulated by the Food and Drug Administration (FDA) or Consumer Product Safety Commission (CPSC);
- *Pesticides, radioactive material, hazardous waste and biohazardous material*, which are typically regulated by the Environmental Protection Agency (EPA);
- *Manufactured articles* (i.e. anything from clothing to furniture to chairs), which although may be made up of various chemical components, they are not "chemical" in nature under normal conditions of use;
- *Consumer products* regulated by the Consumer Product Safety Act (like sharpie markers, white out, elmer's glue) used in the workplace in similar quantities and duration as would be used in one's home; and
- *Wood or wood products* that have not been otherwise treated (like with a pesticide).

2. Chemical Usage in a Laboratory Setting

While many elements of this written program are useful and/or required for minimizing unwanted occupational exposure to hazardous chemicals regardless of the work setting, the use of chemicals in a laboratory setting is principally regulated by OSHA's Lab Safety Standard, and the Le Moyne College Chemical Hygiene Plan (CHP) which implements this standard. So, it is the CHP which is the principal management program regarding chemical usage in a laboratory setting, and should be referenced accordingly.

3. Chemical Usage by Students

While students working with chemicals in an academic setting are not technically considered employees (unless they are compensated in some capacity, like a work-study student), the rules/requirements/procedures outlined herein shall be an integral part of the academic learning and research environment at Le Moyne to provide for the protection of all college personnel and students.

Responsibilities

The functional implementation of this Hazard Communication Program at Le Moyne College mandates the following procedural responsibilities:

- Primary responsibility for implementing this plan will rest with the various Le Moyne College departments, supervisors and instructors who are in the best position to know the daily tasks of those under their direction, and the chemicals with which they would actually or potentially have to work with;
- Program coordination, initial and department/supervisor training, and auditing functions shall be provided by the Office of Environmental Health, Safety & Sustainability (EHS&S); and
- Funds and other resources necessary for the implementation and administration of this plan, including departmental chemical inventorying, new employee training, container labeling and other related activities, shall be the responsibility of each department in cooperation with EHS&S.

Scope

This written compliance plan, in accordance with the aforementioned purpose, authority, objectives, exemptions, and responsibilities, will be made available upon request to employees, their designated representatives, and to all local, state, and federal officials, and will be accomplished by outlining the following:

- A system for maintaining a comprehensive chemical product inventory;
- A system for properly labeling chemical containers;
- A system for maintaining Safety Data Sheets (SDS's) for all chemical materials;
- The implementation of a training program to educate College employees (and students, where applicable) on how they can protect themselves from potential chemical health or physical hazards during both routine and non-routine activities;
- A system for maintaining the required documentation; and
- Providing access to this written program for all Le Moyne employees (and students), as well as other authorities like regulators and emergency responders.

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SECTION 1 CHEMICAL PRODUCT INVENTORIES

General Requirements
Each Le Moyne College department that uses hazardous chemicals shall compile and maintain a chemical product inventory exclusive to its department, which shall be updated every time a new chemical product is put into use by the department, as per the below.

All Departments
Chemical product inventories should be in the form of a spreadsheet, and include the following information:

- The chemical name, trade name or the common name used on the SDS and/or container label;
- The chemical manufacturer or distributor; and
- Product Code when applicable.

Annual Review
On a regular or at least annual basis, all departments should submit revised chemical product inventories to the Office of Environmental Health, Safety & Sustainability, which will maintain such documents as a part of the College's permanent recordkeeping.

SECTION 2 CONTAINER LABELING

General Requirements
All Le Moyne College departments that use hazardous chemicals shall maintain a chemical product labeling system in accordance with the HCS, and in conformance with the provisions of the Globally Harmonized System of Classification and Labeling (GHS), as follows.

Requirements for Chemicals in their Original Manufacturer's Containers
The new GHS provisions of the HCS require chemical manufacturers or distributors to ship chemical containers labeled in conformance with GHS effective December 1, 2015. When hazardous chemicals are received by departments, responsible personnel shall examine the containers to verify that the 6-part, GHS compliant labels are indeed present, and provide all necessary information as depicted in the image below:

In the event manufacturers/distributors ship non-compliant chemicals to Le Moyne College, appropriate corrective action steps should be taken to remedy the situation. This could include, but is not limited to:

- Contacting manufacturers/distributors directly to remind them of their obligation;
- Refusing receipt of such chemical deliveries;
- Terminating business relationships with manufacturers/distributors who elect not to provide GHScompliant chemical containers.

Existing Chemical Inventories Predating GHS

Current OSHA regulations and interpretations do not require employers to relabel existing inventories of chemical materials with GHS-compliant labels. However, in instances where 1—the existing inventory of pre-GHS labeled chemical containers is large by volume, or 2—the hazards posed by individual chemical containers is substantial, it is wise for departments to consider migrating toward GHS-compliant labeling strategies as a best management strategy through any of the following:

- Departments may elect to contact manufactures/suppliers directly to obtain new GHS-compliant labels, which can then be placed on/over the older pre-GHS labels.
- Departments may elect to implement certain GHS elements on older pre-GHS labels, like pictograms
- Departments may elect to dispose of older pre-GHS labeled chemical containers altogether. This last strategy is especially important in instances where the original manufacturers or suppliers are no longer in existence, and it is impossible to determine certain GHS label criteria.

GHS Pictograms

The new GHS provisions of the HCS require the utilization of nine pictograms on both chemical labels and Safety Data Sheets, as depicted and described below.

Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	**Flame**  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	**Exclamation Mark**  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (Harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  • Gases Under Pressure	**Corrosive**  • Skin Corrosion/Burns • Eye Damage • Corrosive to Metals	**Exploding Bomb**  • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  • Oxidizers	**Environment** (Non-Mandatory)  • Aquatic Toxicity	**Skull and Crossbones**  • Acute Toxicity (Fatal or Toxic)

Regarding the "non-mandatory" notation assigned (in instances of ozone layer impacts) to the *exclamation point* pictogram and (in instances of aquatic toxicity) to the *environment* pictogram, this has to do with OSHA not having regulatory jurisdiction over environmental protection. Therefore, it is important that departments not assume the "non-mandatory" terminology means that environmental compliance obligations are also non-mandatory or optional.

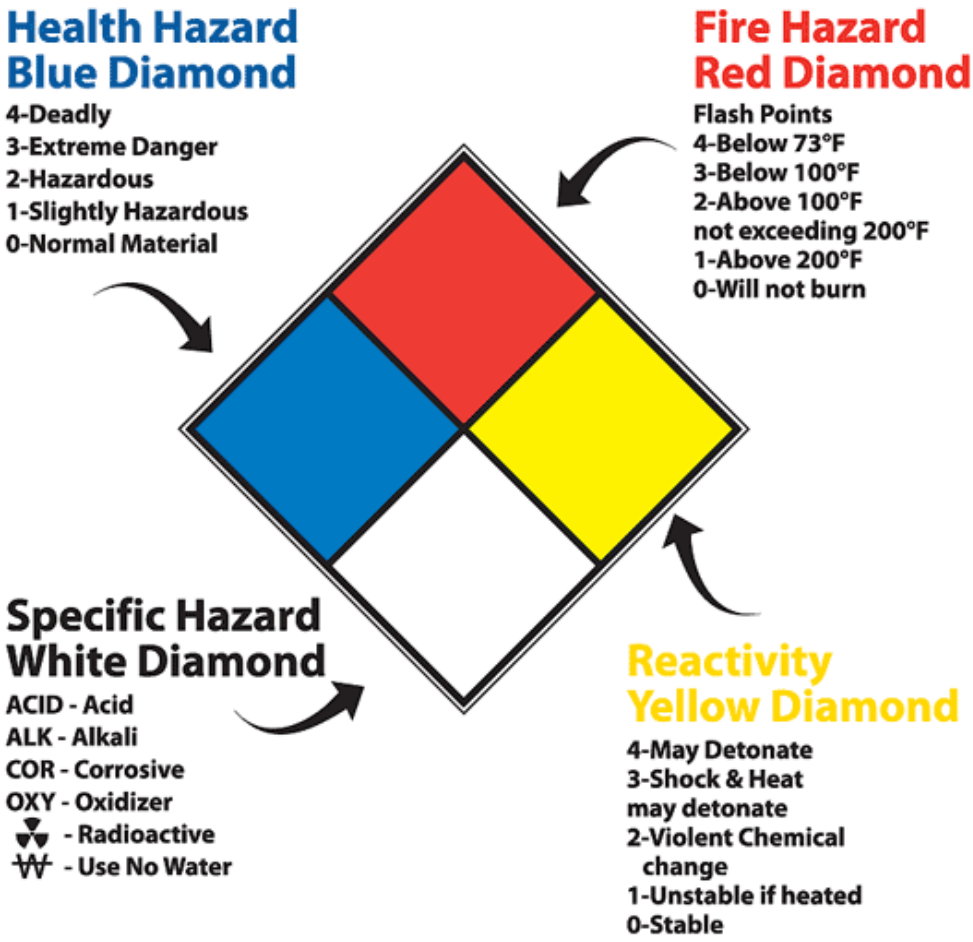
Workplace Labeling of Secondary Chemical Containers

In certain instances, the information contained on original chemical container labels must be conveyed upon secondary containers. This "workplace labeling" of secondary chemical containers is **NOT** required in the following instances:

- When chemical materials are dispensed into secondary containers, and the chemicals will be used "immediately" (i.e. within 1 day of the dispensing activity);
- When chemical materials are dispensed into containers or vessels associated with doing "work" as opposed to storage. An example of this kind of chemical material use is when chemicals are dispensed into beakers or similar container types in a lab setting to facilitate chemical reactions; and
- When chemical materials are dispensed into very small containers in lab settings, where the size of the container is so small that the application of workplace labeling is difficult to perform. This

scenario is only applicable to small chemical container use in lab settings, and must also conform to the provisions of the College's Chemical Hygiene Plan (CHP).

When none of the exceptions to the workplace labeling of secondary chemical container provisions noted above apply, departments shall utilize NFPA 704 based "Hazcom" labels to convey safety information to others, in accordance with the below.



NFPA 704 based Hazcom labels are "graphic hazard statements" that use two essential hazard communication strategies, as follows:

- First, they use the numbers 0 through 4 to convey risk information, with lower number communicating lower risk.
- Second, they use certain symbols that are unique to this NFPA standard, and are unaffiliated with GHS pictograms.

Accordingly, it is vital to those employing NFPA 704 based Hazcom labels for workplace labeling of secondary chemical containers to understand the differences between this system and the provisions of GHS. The table below is further illustration of such differences.

NFPA Rating Explanation Guide

RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD
4	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures
3	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperature or shock
2	Can cause temporary incapacitation or residual injury	Must be heated or high ambient temperature to burn	Violent chemical change at high temperatures or pressures
1	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable
0	No hazard	Will not burn	Stable

RATING SYMBOL	SPECIAL HAZARD
ALK	Alkaline
ACID	Acidic
COR	Corrosive
OX	Oxidizing
☢	Radioactive
W	Reacts violently or explosively with water
W OX	Reacts violently or explosively with water and oxidizing

SECTION 3 SAFETY DATA SHEETS (SDS's)

Safety Data Sheets (SDS's) are documents that supply information about a particular hazardous substance, chemical or mixture. Prior to GHS, SDS were referred to as MSDS (or Material Safety Data Sheets). While original MSDS under the old OSHA HCS (pre-GHS) were only required to be eight sections in length, SDS today provide much more information, as depicted below.

Safety Data Sheets (Sections)

1. Identification
2. Hazard(s) identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

There are several critical SDS elements of Le Moyne's Hazard Communication Program, as detailed and discussed below.

MSDS to SDS Transition
Under GHS, chemical manufacturers and suppliers have been transitioning from the older MSDS format to the new SDS format for several years now, and there are two noteworthy points.

- First, it is the obligation of chemical manufacturers and suppliers to make this MSDS to SDS documentation transition, rather than the College's obligation.
- Second, just as older chemical containers in departmental inventories might contain pre-GHS label elements, those same older chemical inventories may not have GHS-compliant SDS.

Based upon the above, especially in instances where chemical manufacturers or suppliers have gone out of business and no comparable SDS are producible, these are additional scenarios where the College may elect to discontinue use of the chemical material for best management practice reasons.

New SDS's & Their Review
New chemical materials introduced into the workplace at a departmental level must be accompanied by new GHS-compliant SDS. Such SDS, either in hard copy or electronic format, must be provided to the Office of EHS&S upon procurement, simultaneous to the update of a department's chemical product inventory.

There is perhaps no more important element of this hazard communication program that the review of SDS by those in positions of authority. As all chemical materials are toxic given the right exposure dose, persons requesting and/or using chemical materials in work settings at the College must be sure that 1 - sufficient protective equipment, control measures and practices are in place to ensure chemicals may be used safely, and 2 - any wastes generated from such use can be managed correctly. The SDS is the key tool to facilitate this process, and EHS&S always ready to assist.

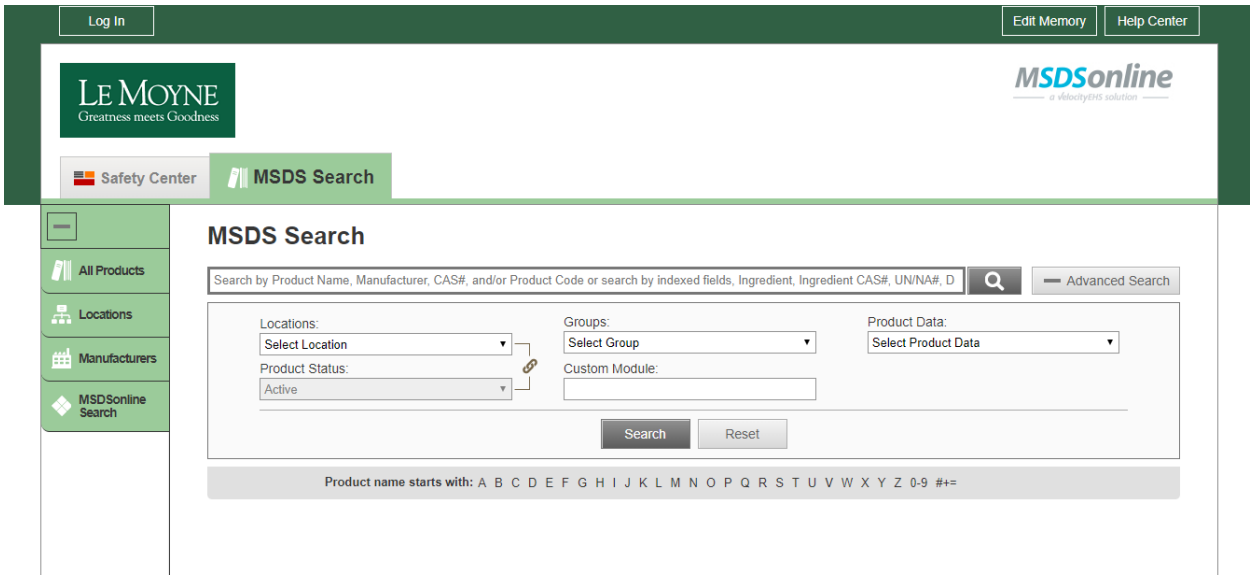
Access to SDS Information
Just as reviewing SDS information is important, so too is access to SDS by personnel who use chemical materials at the College. Such access is provided for and facilitated as follows.

<u>SDS's in Hard Copy</u>
In some instances, departments may elect to provide SDS in hard copy to its personnel, and/or maintain hard copies at the departmental level. Examples of such instances include:

- Teaching labs where a certain number of chemical materials change on a weekly basis, such that all SDS's for a given weeks' worth of lab work are posted for quick access;
- Intermittent or higher risk situations where for reasons of practicality, hard copies of SDS are posted or provided directly to personnel to (again) facilitate quick access.
- Certain departments/function, like the Physical Plant maintain hard copies of SDS to either:
    - Provide such documents to those who do not have regular access to a computer, or
    - Enable ready access to such information in the event of a loss of network capabilities.

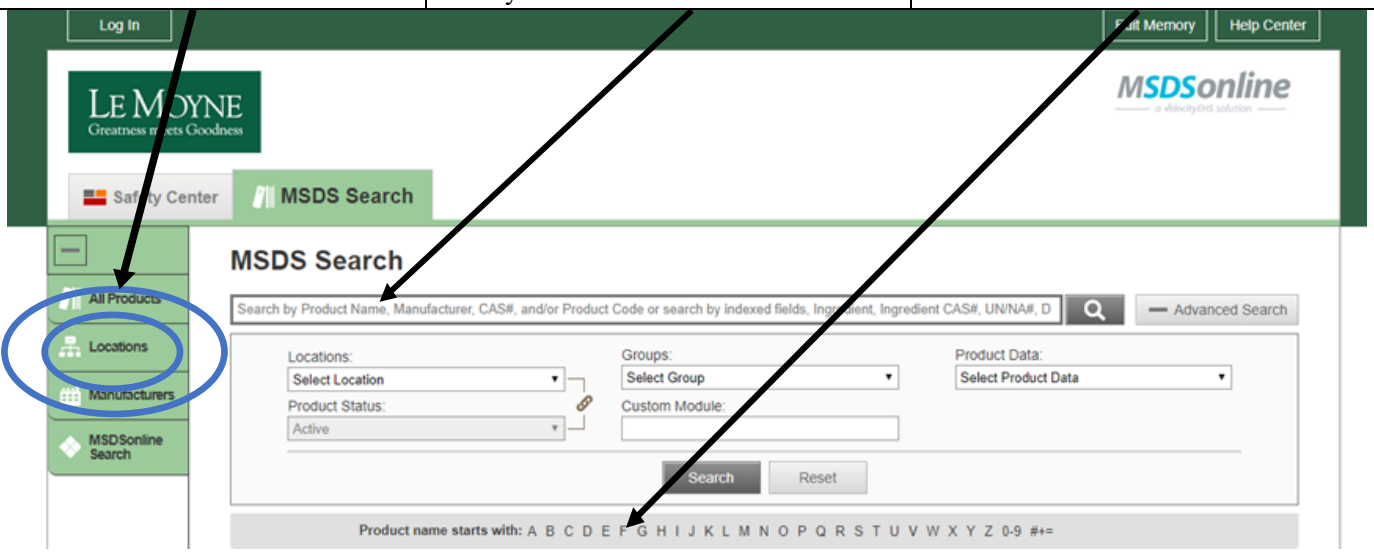
SDS's in Electronic Format

Le Moyne has invested considerable time and contractual effort into an electronic SDS database known as MSDSonline. Not only does the office of EHS&S administer/pay for this program, but it is also oversees uploading SDS information for new products procured by all College departments and functions. SDS's (and older versions of MSDS) uploaded into this database are regularly updated directly by MSDSonline when newer versions of such documents are produced by chemical manufacturers or suppliers. The MSDSonline database is accessible without password protection from all College personnel on Le Moyne's network at this LINK and the homepage looks like this:

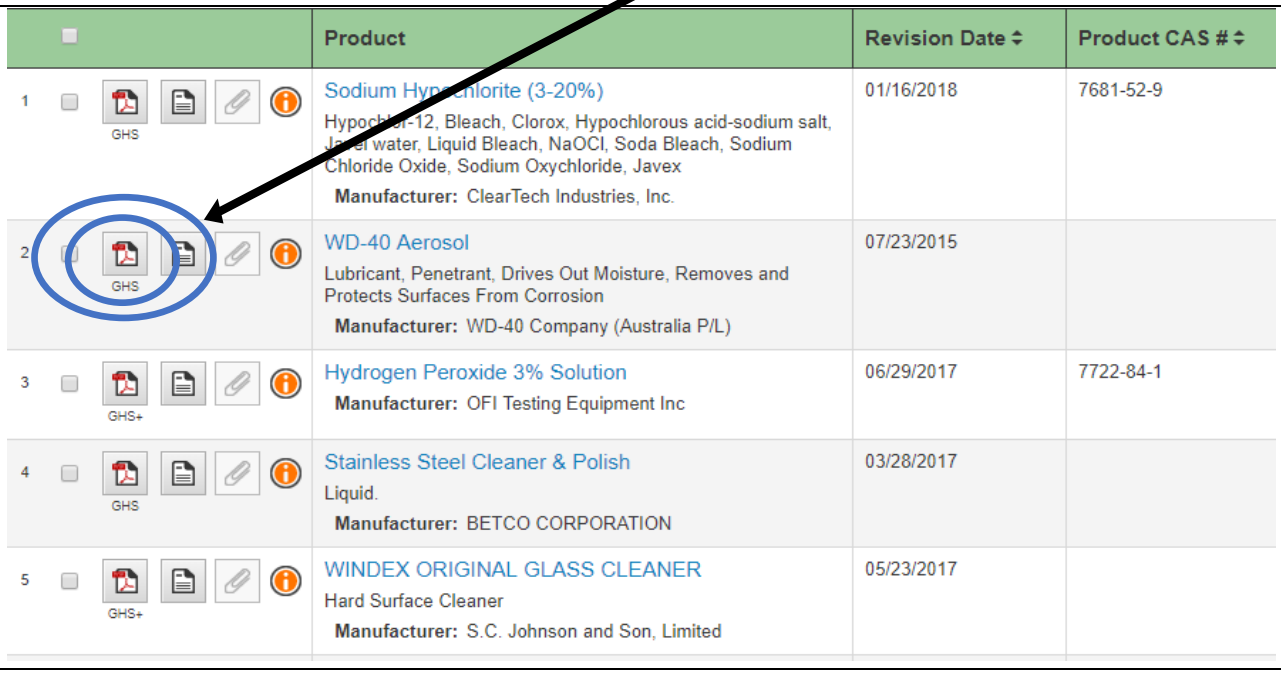


There are a number of ways to navigate the MSDSonline database for SDS/MSDS access, as per the table below.

Click on the “Locations” tab to navigate departmental inventories directly.	Entering and searching for chemicals in this tab will search through the entirety of Le Moyne’s database.	Click on the alpha-numeric symbols here to look for chemicals in alternate ways.



Once your desired chemical product is found, click on the “pdf icon” to display the electronic version of the SDS or MSDS.



	Product	Revision Date	Product CAS #
1 GHS	Sodium Hypochlorite (3-20%) Hypochlor-12, Bleach, Clorox, Hypochlorous acid-sodium salt, Javel water, Liquid Bleach, NaOCl, Soda Bleach, Sodium Chloride Oxide, Sodium Oxychloride, Javex **Manufacturer:** ClearTech Industries, Inc.	01/16/2018	7681-52-9
2 GHS	WD-40 Aerosol Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion **Manufacturer:** WD-40 Company (Australia P/L)	07/23/2015	
3 GHS+	Hydrogen Peroxide 3% Solution **Manufacturer:** OFI Testing Equipment Inc	06/29/2017	7722-84-1
4 GHS	Stainless Steel Cleaner & Polish Liquid. **Manufacturer:** BETCO CORPORATION	03/28/2017	
5 GHS+	WINDEX ORIGINAL GLASS CLEANER Hard Surface Cleaner **Manufacturer:** S.C. Johnson and Son, Limited	05/23/2017	

SECTION 4 EMPLOYEE INFORMATION AND TRAINING

Employee (and student) information and training on the College's Hazard Communication Program is the critical element that implements all aspects of this written plan, and will be managed as per the below.

Initial & Refresher HAZCOM Training

The Office of EHS&S has developed a general employee training program to meet the initial training requirements of the HCS and this plan. When departments have new personnel who will work with hazardous chemicals covered by this plan, appropriate supervisory personnel within those departments (chair, director, and supervisor or lab director) must notify EHS&S that a training class is necessary. HAZCOM training is required for new personnel within a reasonable amount of time of their initial assignment. Topics covered in this initial training include, but are not limited to, the following:

- The basic requirements of the Hazard Communication Standard, and the location and availability of Le Moyne College's written hazard communication program;
- An overview of the physical, chemical, and biological hazards found in the workplace;
- Routes of exposure and general safe work practices;
- Personal protective equipment;
- Principles of toxicology; and
- Information on interpreting labels and SDS.

Refresher HAZCOM training will be required every three years, or more often based upon changes to this written plan. Appendix 1 provides an example of how initial and refresher training may be documented.

Chemical-Specific HAZCOM Training

Chemical-specific HAZCOM training is required for all personnel who routinely utilize hazardous chemicals during the course of their work, and for new chemicals introduced into the workplace. Supervisory personnel overseeing the use of such hazardous chemicals by their subordinates typically perform chemical-specific HAZCOM training. The content and detail to which a supervisor provides such training is perhaps the single most important element of this written program. For example, if a new chemical introduced into the workplace is a common latex paint, similar to other latex paints already in use, chemical-specific HAZCOM training including a formal review of the SDS may not be necessary. However, if the new chemical product is determined to be a higher hazard (with new/necessary control measures), chemical-specific HAZCOM training including a formal review of the SDS is vital. Such SDS based HAZCOM training may include, but is not limited, to the following:

- Methods and observations that may be used to detect the presence or release of the hazardous chemical in the work area (such as air monitoring, visual appearance and odor);
- The physical and health hazards of the chemical;
- The measures employees can take to protect themselves from these hazards, including appropriate work practices, emergency procedures and PPE; and
- The details of the hazard communication program developed, including labels and the SDS.

The Appendix 2 "Quick-Reference HAZCOM Training Form" is a tool that can be used to summarize SDS information, which supervisors may then use to facilitate the SDS-based training they provide. This form may also be used to teach others (students in academic environments particularly) how to read, interpret and summarize SDS's on their own. Appendix 1 may also be used to document chemical specific HAZCOM training, to which the SDS or Appendix 2 may be affixed as supporting documentation.

SECTION 5 DOCUMENTATION & ACCESS TO THE HCS PROGAM AND ITS ELEMENTS

SDS's & Chemical Product Inventories

As noted throughout this written program, SDS and departmental chemical product inventories shall be obtained and maintained by the departments principally using and procuring such chemical materials. The Office of EHS&S's principal strategy for maintaining SDS long-term will be through an electronic retention format as facilitated by MSDSonline. If individual chemicals are no longer in use or needed by individual departments, SDS will be archived through MSDSonline to achieve the required 30-year retention requirements. Departmental chemical product inventories shall be retained by the Office of EPS&S electronically, again to achieve the required 30-year retention requirements.

Training Records

Appendix 1 training records for initial and refresher training classes put on by the Office of EHS&S will be permanently retained in a hard copy format. Appendix 1 training records for those supervisors or departments administering chemical-specific HAZCOM training will be retained by the departments themselves in a hard copy format, for a period of no less than five years.

Access to the Written Hazard Communication Program and its Elements

All employees and students have immediate access to this written program via the Office of EHS&S's website, located at this LINK.

APPENDIX 1
HAZARD COMMUNICATION TRAINING DOCUMENTATION

The following individuals have been trained in accordance with both the Federal Hazard Communication Standard and Le Moyne College's written hazard communication program (or as indicated below). The training satisfies:

_____ Initial/ Refresher Hazardous Properties of Chemicals Orientation

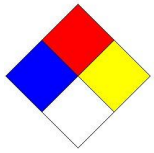
_____ Chemical-Specific HAZCOM Training
Chemical Identity: _____

Training Instructor Name	Signature	Date of Training

Name (Print)	Signature	Dept.

APPENDIX 2
QUICK-REFERENCE HAZCOM TRAINING FORM

Chemical Product Name	Manufacturer

Basic Chemical Product Safety Information		
What does product look/smell like?		
Is product flammable/combustible?		Y N
Is product air or water reactive?		Y N
Are there any chemical incompatibilities?		Y N
Is product corrosive? If so, what is the pH?		Y N pH_____
Is the product or any of its constituents a listed carcinogen?		
	What are the NFPA/HMIS Ratings for this product for the purposes of filling out a HAZCOM label on secondary containers?	Flammability: Reactivity: Health: Special Hazard:

Chemical Product Exposure Considerations **What will happen if the product:**	
Gets on my skin?	
Gets in my eyes?	
Is swallowed?	
Is breathed/inhaled?	

	**First Aid Measures** **First aid measures for each major route of entry:**
Skin Exposure	
Eye Exposure	
Ingestion	
Inhalation	

Personal Protective Equipment (PPE) Controls **Use the following articles of PPE to protect my:**	
Skin	
Eyes	
Respiratory System	
Other	

Other Considerations	
Are any engineering controls required or recommended?	☐ Y ☐ N Explain:
How are small/incidental spills of the product to be handled?	Explain:
Does the use of this product result in the generation of a hazardous waste?	☐ Y ☐ N Explain: