



**Duke University - Facilities Management Department
Environmental Safety and Health Program**

DRAFT -- HAZARD COMMUNICATION PROGRAM -- DRAFT

Area: All FMD Organizations	Date Effective: July 1, 2017
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A. Purpose

The purpose of this program is to ensure that the hazards of all chemicals used in FMD are evaluated; and that the details regarding their hazards are transmitted to employees. The requirements of this written program are intended to be consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Revision 3.

B. Scope

This program applies to all FMD employees and supplemental labor working for FMD who work with and around hazardous chemicals. Turnkey contractors are required to have their own Hazardous Communication (HazCom) Program for chemicals that they work with; however, it is incumbent upon FMD to communicate all chemical information to contractors who will be working with and around our chemicals.

C. Policy

1. FMD will take all reasonable measures to provide a safe workplace. All FMD operations must be performed in a manner, which will prevent any undesirable effects to FMD and/or Duke employees, assets, the local community, and the environment.
2. The provisions of this program and all applicable standards will be followed to ensure the safety of personnel performing service or maintenance activities to equipment, machines, or systems.

D. Definitions

1. **Absorption**- Absorbing hazardous chemicals through skin contact
2. **Chemical**- any element, chemical compound, or mixture of elements and/or compounds
3. **Chemical Name**- the scientific designation of a chemical in accordance with the nomenclature system developed by International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS) rules of nomenclature, or a name which will clearly identify the chemical for the purpose of conducting hazard evaluation
4. **Common Name**- any designation or identification such as a code name, code number, trade name, brand name, or generic name used to identify a chemical other than by its chemical name
5. **Container**- any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical
6. **Foreseeable Emergency**- any potential occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace
7. **Globally Harmonized System**- an internationally agreed-upon system, created by the United Nations beginning in 1992. It was designed to replace the various classification and labelling standards used in different countries by using consistent criteria on a global level. It supersedes the relevant European Union system and the United States Occupational Safety and Health Administration standards.
8. **Hazard Class**- the nature of the physical or health hazards; i.e. flammable, carcinogen, etc.
9. **Hazard not otherwise classified (HNOC)**- an adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes addressed in this section. This does not extend coverage to adverse physical and health effects for which there is a hazard class addressed, but

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the effect either falls below the cut-off value/concentration limit of the hazard class or is under a GHS hazard category that has not been adopted by OSHA (e.g., acute toxicity Category 5).

10. **Hazard Warning**- any words, pictures, symbols, or combination thereof appearing on a label or other appropriate form of warning which convey the specific physical and health hazard(s), including target organ effects, of the chemical(s) in the container(s)
11. **Health Hazard**- a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees
12. **Identity**- any chemical or common name which is indicated on the safety data sheet (SDS) for the chemical; the identity used shall permit cross-references to be made among the required list of hazardous chemicals, the label, and the SDS
13. **Immediate Use**- the hazardous chemical will be under the control of and used by the person who transfers it from a labeled container and only within the work shift in which it is transferred.
14. **Ingestion**- Digesting hazardous chemicals through eating or smoking with contaminated hands or in a contaminated work area
15. **Inhalation**- Breathing hazardous chemicals into the lungs
16. **Injection**- Introducing hazardous materials directly into the bloodstream through mechanical injury from sharp objects (needles, knives, etc.).
17. **Label**- any written, printed, or graphic material displayed on or affixed to containers of hazardous chemicals.
18. **Pictogram**- a composition that may include a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazards of a chemical. Eight pictograms are designated under this standard for application to a hazard category. See Appendix A.
19. **Physical Hazard**- chemical for which there is scientifically valid evidence that it is a combustible liquid, a compressed gas, explosive, flammable, an organic peroxide, and oxidizer, pyrophoric, unstable (reactive) or water-reactive
20. **Responsible Party**- someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary
21. **Safety Data Sheet (SDS)**-is written or printed material (formally referred to as a Material Safety Data Sheet (MSDS)) concerning a hazardous chemical that is prepared in accordance with the OSHA Hazard Communication Standard
22. **Secondary Container**: An FMD approved container that is not the original container that the product was shipped or delivered in.
23. **Specific Chemical Identity**-the chemical name, Chemical Abstracts Service (CAS) Registry Number, or any other information that reveals the precise chemical designation of the substance
24. **Unstable (reactive)**- a chemical which in the pure state, or as produced or transported, will vigorously polymerize, decompose, condense, or will become self-reactive under conditions of shocks, pressure, or temperature

E. Acronyms

1. BBP- Bloodborne Pathogens
2. CFR- Code of Federal Regulations
3. DOT- Department of Transportation

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4. EPA- Environmental Protection Agency
5. ERP- Emergency Response Plan
6. GHS- Globally Harmonized System
7. HAZCOM- Hazardous Communication
8. HAZMAT- Hazardous Materials
9. HAZWOPER- Hazardous Waste Operations
10. HNOC- Hazard Not Otherwise Classified
11. IDLH- Immediately Dangerous to Life and Health
12. OSHA- Occupational Safety and Health Administration
13. PEL- Permissible Exposure Limit
14. PPE- Personal Protective Equipment
15. SCBA- Self-Contained Breathing Apparatus
16. SDS- Safety Data Sheets

F. Responsibilities

1. FMD employees who work with and around chemicals are responsible for the following:
 - a. Understanding the hazards of chemical substances used in their work areas and the appropriate procedures and PPE to protect themselves from exposure.
 - b. Understanding how to read chemical labels.
 - c. Limit use of secondary containers.
 - d. Label, using indelible ink or FMD approved pre-printed labels, any secondary containers that are/may be used with:
 - a. The required information from the label on the original container (product name, name of the hazardous chemical(s) the product contains, date, type of hazard(s) or,
 - b. The product identifier and words, pictures, symbols, or a combination thereof, which provide at least general information regarding the hazards of the chemicals.
 - c. Labels are not required on secondary containers when the chemical is intended for immediate use by the employee performing the transfer and the container does not leave the possession of that employee.
 - d. Spray Tanks in Landscape Services must be labelled by using pre-printed cards inserted into sleeves on the side of the tank.
 - e. Defacing Labels
 - i. FMD employees shall not remove or deface labels on incoming hazardous containers, unless the container is immediately marked with the required label information.
 - ii. Any defacement of labels, by FMD employees or otherwise, shall be immediately reported to your supervisor.
 - e. Knowing where to locate SDS's for chemicals in their work area.
 - f. Knowing how to use the information found in the SDS's for chemicals in their work area.
 - g. Reporting, verbally or in writing, any mislabeled or unlabeled containers to their supervisor or FMD Safety.
 - a. If unlabeled container is in your work area, label it. If you do not know, then report.
2. FMD managers are responsible for the following:
 - a. Notifying their employees of the existence and purpose of the Hazardous Communication (HazCom) Program.

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- b. Ensuring their employees are properly trained in the chemicals and associated hazards in their work areas.
 - c. Maintaining inventory for all required PPE for the chemicals being used in their work area.
 - d. Ensuring SDS's are readily accessible to their employees during all hours that employees work in the area, either hardcopy or online.
 - e. Ensuring that all containers of hazardous materials, both primary and secondary, are properly labeled.
 - f. Reviewing the hazard information of all new chemical products brought into the shop/ work area with their employees.
 - g. If new chemicals are ordered, alert FMD Safety so they can be added to the Chemical Inventory.
 - h. Request additional information from FMD Safety if necessary.
 - i. When working with supplemental labor employees, specifically discuss the following:
 - i. The hazards of the chemical(s) present in the work area.
 - ii. How to read and understand product labels.
 - iii. How to obtain copies of SDS's.
 - j. If shop is transporting DOT regulated chemicals outside of Duke's campus, on public roads, in excess of 1001 lbs.:
 - i. Ensuring proper placards be placed on the transporting vehicle.
 - ii. Maintaining a spill kit on the transporting vehicle which is able to stop the spill and start initial clean up.
3. FMD Safety, is responsible for the following:
- a. Developing and maintaining a 'Chemical Inventory', of all chemicals used within FMD.
 - b. Regularly scheduled review of said inventory.
 - c. Develop HazCom training for functional areas.
 - d. Assist in HazCom training.
4. OESO is responsible for the following:
- a. Providing hazard communication on-line training for employees who work with or around hazardous containers.
 - b. Maintaining online access to SDS's for FMD chemical users.
 - c. Assisting FMD with workplace labeling requirements if necessary.
 - d. Evaluating hazards of chemical products in the FMD workplace, if necessary.

G. Chemical Inventory List. See database link on FMD website (also linked to iPad SDS icon).

H. Combining of Chemical Products

- 1. Chemicals combined or mixed by FMD employees for distribution to other groups must be appropriately labeled per the guidelines found in this program.

I. Multi-Employer Workplace

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1. If chemicals are used by FMD employees in the same work area that turn-key contracted employees are assigned, the supervisor of that area has the responsibility of informing the contractor of potential hazards.
2. The area supervisor must specifically discuss the following:
 - a. The hazards of the chemical(s) present in the work area.
 - b. How to read and understand product labels.
 - c. How to obtain copies of SDS's from FMD management personnel.

J. Third Party Chemical Use

1. Contractors who bring hazardous chemicals onto Duke University property shall:
 - a. Make the Hazard Communication Program available for review at the work site.
 - b. Maintain an up-to-date hazardous chemical inventory, and all corresponding SDS's.

K. Medical Treatment

1. If exposed to, and injured by a chemical, seek medical treatment immediately.

L. Training

1. Employees shall be made aware of this Program's contents and specific requirements by either an FMD safety representative or their manager.
2. Chemical Safety Training will be conducted upon hire, via the OESO online module, and every 3 years after.
3. New hires should be properly trained by their supervisor on all the hazards of any chemical in their work areas.
4. Employees should be properly trained by their supervisors on all the hazards of any new chemical introduced into the workplace.

M. References

1. OSHA 1910.1200 "Hazard Communication"- https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10099
2. Duke OESO Hazard Communication: Frequently Asked Questions- <http://www.safety.duke.edu/occupational-hygiene-safety/hazard-communication/hazard-communication-faq>
3. Duke Safety Manual: Hazard Communication Program- http://www.safety.duke.edu/sites/default/files/V_2HazardCommunication.pdf

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Appendix A: GHS/HazCom Pictograms

<u>GHS/HazCom Pictograms</u>		
<u>Physical Hazards</u>		
 <p>Explosives</p>	 <p>Flammable Liquids</p>	 <p>Oxidizing Liquids</p>
 <p>Compressed Gases</p>		 <p>Corrosive to Metals</p>

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Health Hazards



Acute Toxicity



Skin Corrosion



Skin Irritation



Aspiration Hazard

Environmental Hazards



Hazardous to the Aquatic Environment

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