

For specific emergencies that may occur in the laboratory space (i.e., chemical spills, fire, explosion, etc.), refer to the specific procedures established by the laboratory.

2.8.17 Emergency Equipment

In any emergency, it is critical that all staff members are familiar with the use and location of emergency equipment. These include fire extinguishers, fire alarms, safety showers, and eyewash stations.

All emergency equipment is on a preventive maintenance schedule. Fire alarms are tested periodically and extinguishers are inspected monthly by the building management entity. Safety showers on a quarterly basis and eyewash stations on a monthly basis are tested by the University EH&S Office.

2.9 HAZARD COMMUNICATION

2.9.1 General Information

In order to comply with the OSHA Standard 29 CFR 1910.1200, *Hazard Communication*, the following written Hazard Communication (HAZCOM) Program is established for the University. This program applies to all work operations in this facility where employees may be exposed to hazardous substances during normal working conditions or during an emergency situation. This written program may be obtained from the University EH&S Office at [need contact information]. Under this program employees will be informed of the contents of the OSHA Hazard Communication Standard, the hazardous properties of the chemicals and materials with which they work, the safe handling procedures, and measures to take to protect themselves from these chemicals.

The PIs and Laboratory or Department Administrators are ultimately responsible for ensuring that all applicable provisions and components of the HAZCOM Program are implemented as required within their respective departments. To this end, PIs and Laboratory or Department Administrators are encouraged to designate a person or persons to see to it that each of the program elements are being fully addressed (e.g., labeling, SDSs availability to employees, employee training and information, maintaining

a list of hazardous materials in the laboratory, informing employees of hazardous non-routine tasks, etc.).

The provisions of this program will apply in all situations involving the use of hazardous materials which are not otherwise included within the scope and coverage of the Chemical Hygiene Plan discussed in section 2.8. This HAZCOM Program applies to the laboratory areas within University.

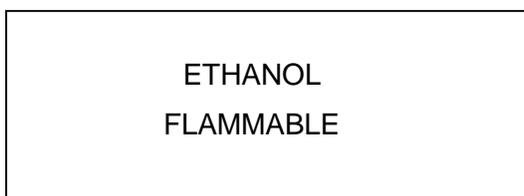
2.9.2 Container Labeling

The laboratory safety contact will verify that all containers of hazardous chemicals received from manufacturers, distributors, or importers are clearly labeled to indicate:

- The identity of the contents. The identity of the contents must match the corresponding SDS.
- Appropriate hazard warnings, including routes of entry into the body and the target organs, if known.
- The name and address of the manufacturers, importer, or responsible party.

The laboratory safety contact will ensure that secondary containers are properly labeled when required. Chemicals that are transferred from a labeled container to a portable container for the immediate use by the person transferring the chemical do not require a label on the portable container. The University policy urges that all containers be labeled in English despite the intended period of use. The person in charge will assure that hazard warning labels on the containers are not removed or defaced unless the hazard is no longer present.

Secondary containers must be labeled with the name of the hazardous chemical (no abbreviations) and the hazard associated with the hazardous chemicals in English. Labels used for secondary containers may be copies of the original manufacturers' labels or a facsimile. The following is an example of a label:



Laboratories with members, who speak other languages, may add the information in the non-English language as long as the information is presented in English as well for Emergency Response purposes.

2.9.3 Safety Data Sheets

The SDS is a detailed information bulletin prepared by the manufacturer or importer of a chemical product or chemical substance. It describes the chemical and physical hazards associated with the product or substance, its physical and chemical characteristics, when and how it may be hazardous, the effects of exposure, precautions for safe handling and use, emergency and first aid procedures, and control measures that are applicable.

Sometimes an SDS contains information that may not apply to your particular operation. In such cases, concentrate essentially on the information that is applicable to your situation. In general, employees should focus on the hazard information and what protective measures to take. Employers are required to maintain or make available to employees a complete and accurate SDS for each hazardous chemical that is used in the workplace.

OSHA has determined that drugs and medications that are not in solid or final form for direct administration to the patient fall within the scope of HAZCOM and, therefore, must be covered by SDSs. Accordingly, SDSs must be available for all drugs and medications that are liquid, gaseous, aerosol, etc., or not otherwise in solid, final form. SDSs for such products will be available from the EH&S office. SDSs for chemical products other than pharmaceuticals are available from the manufacturers or suppliers of the product and employers (users) are automatically entitled to this information upon purchase of the product.

Laboratory or Department Chairs will be responsible for obtaining and maintaining the SDSs for all hazardous materials in their laboratory inventory. When hazardous substances are received without an SDS and one is not available from a previous purchase, a letter with a copy to file should be sent to the supplier requesting the SDS. If the supplier fails to furnish the requested information, notify the University EH&S Office. PIs or Department Chairs will ensure that any and all incoming SDSs are reviewed for new and significant health/safety information and pass any such information on to the

affected employees. This may be done through delegation. Copies of SDSs for all toxic and hazardous substances that any person working at the University may be exposed to must be readily accessible to all areas where the substances are used, handled, or stored. SDSs will be available to all employees for their review during each work shift. An electronic version of the SDS may be used as long as each employee who used the hazardous material has access to electronic version of the SDS. If an SDS is not available for any particular chemical or product, employees should contact their supervisor.

For assistance with interpreting and applying the information contained in the SDS, contact the University EH&S Office. To obtain a SDS:

- Ask your Laboratory Administrator, Department Chair, or Principal Investigator for the location of the SDS file.
- Contact the manufacturer of the product.
- Access information online at <https://msdsmanagement.msdsonline.com/6455dc57-8e3e-4904-bd68-84e978899bf8/ebinder/?nas=True>
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- Contact the EH&S Office.

2.9.4 Safety Data Sheet Checklist

Each SDS will be checked to ensure that the following information is covered:

- Product or chemical identity used on the label.
- Manufacturer's name and address.
- Chemical and common names of each hazardous ingredient.
- Name, address, and phone numbers for hazard and emergency information.
- Preparation or revision date.
- Hazardous substances that comprise the product.
- The physical and chemical characteristics of the hazardous substances, such as vapor pressure and flash point.
- Physical hazards, including the potential for fire, explosion, and reactivity.
- Known health hazards, including signs and symptoms of exposure.

- OSHA PEL, American Conference of Governmental Industrial Hygienists (ACGIH) TLV or other exposure limits.
- Emergency and first aid procedures.
- Whether OSHA, National Toxicology Program (NTP), or International Agency for Research on Cancer (IARC) lists the ingredient as a carcinogen.
- Precautions for safe handling and use.
- Control measures such as engineering controls, work practices, hygienic practices, or personal protective equipment required.
- Primary routes of entry.
- Procedures for spills, leaks, and clean up.

2.9.5 Employee Training and Information

Under the OSHA HAZCOM Standard, employers are required to inform employees where hazardous chemicals and/or products, including pharmaceuticals, are present at the time of their initial assignment to a work area (i.e., the Howard University laboratory) as well as each time a new hazard is introduced into the work area.

PIs, Laboratory Administrators or Department Chairs are responsible for ensuring employees attend a HAZCOM training session, which is part of the initial/annual University EH&S training. Prior to starting work, each new employee will receive information and training on the following as appropriate with their respective jobs. Training will cover the following topics (at a minimum):

- An overview of the requirements contained in the OSHA HAZCOM Standard, 29 CFR1910.1200.
- Operations in their work area where hazardous chemicals, chemical products, or applicable pharmaceuticals are present.
- Location and availability of the written hazard communication program.
- Physical and health effects of the toxic or hazardous substances.
- Methods and observation techniques used to determine the presence or release of toxic and hazardous substances in the work area.
- How to use toxic and hazardous substances in the safest possible manner, including safe work practices and personal protective equipment requirements.

- Steps that University has taken to lessen or prevent exposure to toxic and hazardous substances.
- Emergency procedures to follow, if exposed to these toxic and hazardous substances.
- How to read labels and review SDSs to obtain appropriate hazard information.
- Location of SDS file and location of toxic and hazardous substances list.

For more information regarding the Howard University EH&S training program, please contact the University EH&S Office at [need information from client]

2.9.6 List of Hazardous Chemicals, Chemical Products, Applicable Pharmaceuticals

Each affected department will maintain a list, referred to as the Chemical Inventory, of all known toxic and hazardous substances present or used within their respective work areas. A copy of the Chemical Inventory is to be maintained in the laboratory's files and provided to the University EH&S Office. The inventory may be maintained by common chemical or trade names for each hazardous material. It is recommended to update this chemical inventory on a periodic basis (at a minimum on an annual basis or when significant additions or subtractions are made to the laboratory's inventory).

2.9.7 Hazardous Non-Routine Tasks

If employees are required to perform potentially hazardous non-routine tasks, each affected employee will be given information by the Department Chair or supervisor about any hazardous chemicals that they may be exposed to after consultation with the University EH&S office. This information will be given to the employee prior to starting work on such projects. This information will include:

- Specific hazards.
- Protective/safety measures the employee can take.
- Measures the University has taken to lessen the hazards including ventilation, respirators, presence of another employee, and emergency procedures.

An example of a non-routine task performed by staff at the University is the cleanup of minor hazardous materials spills.

2.9.8 Informing Contractors

Employees of outside contractors performing work at the University will be informed of any hazards that they might encounter from our operations prior to the beginning of the contract work. The PIs, Department Administrators, physical facility management (PFM), and/or the University EH&S office will provide outside contractors with the following information:

- Toxic and hazardous substances to which they may be exposed while on the Howard University job site.
- Precautions the employees may need to take to reduce the possibility of exposure, such as use of appropriate protective equipment.
- The availability and location of appropriate SDSs.

The PIs, Department Administrators, PFM, and/or the University EH&S office will also be responsible for contacting each contractor before work is started within the University's property in order to gather and disseminate any information concerning chemical hazards that the contractor may be bringing into the University. Contractors will be required to provide appropriate SDSs for review and approval as a condition of use on Howard University property.

Contractors will be required to abide by the University safety and health policies or guidelines. Violations of any such agreed upon terms may be cause for termination of the work until the condition is corrected.

2.10 CHEMICAL SPECIFIC PROCEDURES

2.10.1 Highly Hazardous Chemicals

Work with highly hazardous chemicals is often completed in research laboratories and cannot be avoided. When safer alternatives are not available, use and handling procedures can be developed and implemented with these highly hazardous chemicals. The section below defines highly hazardous chemicals based on the unique physical or toxicological properties of these compounds. Additional precautions are necessary when