

2.0 CHEMICAL SAFETY

2.1 BACKGROUND

Chemical safety is an integral part of a Laboratory Environmental Health and Safety program. This section will outline regulatory requirements, risk and controls associated with chemical usage and ways to minimize potential chemical risks.

2.2 REGULATIONS

It is the policy of the University to provide a safe and healthy workplace in compliance with the Occupational Safety and Health Act of 1970 and with the following regulations:

- OSHA 29 CFR 1910.1450, *Occupational Exposure to Hazardous Chemicals in Laboratories*
- OSHA 29 CFR 1910.1200, *Hazard Communication*
- OSHA Chemical Specific Policies, 29 CFR 1910 Subpart Z, *Toxic and Hazardous Substances*.
- International Air Transport Association and Dangerous Goods Regulations
- U.S. Environmental Protection Agency (EPA) 40 CFR 260 – 272, *Hazardous Waste Management*
- U.S. Department of Transportation (DOT) 49 CFR 172, Subparts H and I, *Hazardous Materials: Security Requirements for Offerors and Transporters of Hazardous Materials*
- U.S. Department of Homeland Security (DHS) 6 CFR 27, *Chemical Facilities Anti-Terrorism Standards (CFATS)*

The full OSHA standard can be found on the following link:

<http://www.osha.gov/comp-links.html>.

2.3 LABORATORY SAFETY COMMITTEE

Safety Committees are a critical component in creating a healthy and safe work environment at University. There are numerous local, state and federal regulatory issues that must be addressed regularly and the committee structure will allow the University to

distribute changes in regulatory requirements and to obtain compliance with regulatory requirements campus-wide with minimal interruption to ongoing research.

One representative from each Department at the University is required to attend each meeting, unless it is specified as optional. The function of this committee will be to serve as the primary link between the research community and the Howard University facility management group, including the EH&S office.

The safety committee meets on a quarterly basis. The meetings are used to provide updates on health and safety policies/procedures at the University and any facility related changes or concerns. Committee members serve as primary contact for EH&S issue and assist in the completion of corrective actions required as a result of inspections by the University EH&S and outside regulatory agents. Departments are also expected to create their own safety committee that will meet at least six times per year.

2.4 RISK ASSESSMENT

A risk assessment should be performed prior to the start of any new project or prior to beginning work with any new process or material that may pose a risk to the health and safety of the laboratory workers. The risk assessment should include hazard identification and an analysis of the probability that workers are exposed to the hazard(s) identified. Once this is completed, recommendations for work practice, engineering controls and proper training must be evaluated and established.

2.5 CONTROL BANDING

Control banding is a generic technique that determines a control measure (e.g., dilution ventilation, engineering controls, containment) based on a range or “band” of hazards (such as skin/eye irritant, very toxic, carcinogenic) and exposures (small, medium, large). The principle of control banding was first applied to dangerous chemicals, chemical mixtures, and fumes. The control banding process emphasizes the controls needed to prevent hazardous substances from causing harm to people at work. The greater the potential for harm, the greater the degree of control needed to manage the situation and make the risk “acceptable.”

Source: <http://www.cdc.gov/niosh/topics/ctrlbanding/>