

UT Martin Environmental Health & Safety – Safety Procedure

LABORATORY SAFETY

EFFECTIVE DATE: 03/15/86, REVISED: 09/14

1. LABORATORY INSPECTION

The campus Safety Officer shall inspect laboratories for safety and health hazards, to evaluate protective devices, and to review safety policies and procedures and each department's Chemical Hygiene/Hazardous Materials Plan.

2. EVALUATION

Evaluation of protective devices by the Safety Officer shall include the following:

- A. The annual inspection of fume hoods shall be conducted for flow and discharge by either the Safety Officer or a designated contractor. (More frequent inspections of laboratory fume hoods may be necessitated by a change in occupancy or use of the laboratory.)
- B. The Safety Officer shall inspect, or cause to be inspected, eye wash facilities, safety showers, and other safety or protective devices.

3. WORKING ALONE

No one shall be permitted to work alone in a laboratory, especially after normal work hours, on weekends, or on holidays. Students shall be accompanied by someone who is classified as a graduate assistant, or above, unless the student has the specific approval of the department head to work with an undergraduate student.

4. PROPER HANDLING OF GLASSWARE

- A. Glass breakage is a common cause of injury-producing accidents in laboratories. Only glass in good condition should be used. Pieces with chips and cracks should be discarded.
- B. When using glass tubing all ends should be fire polished.
- C. Tubing should be lubricated with glycerin or water before inserting into rubber stoppers or rubber tubing.
- D. Hands should be protected with gloves or a towel when inserting the glass tubing. Elbows should be close to the body to limit movement when handling tubing.
- E. Glass tubing should not be placed in the mouth.

5. CONTROL OF SOURCES OF IGNITION

- A. Laboratories greatly enhance their safety posture when sources of ignition are controlled.
- B. Explosion-proof electrical equipment shall be provided in all areas where flammable vapors are present or could be produced.
- C. Non-explosive proof plugs, switches, motors and electrical contacts shall be removed from areas which are subject to flammable vapors.

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6. VENTILATION

- A. Proper ventilation is most important in controlling and dissipating concentrates of flammable liquid vapors.
- B. Laboratory ventilating hoods shall be of adequate size and in proper operating conditions.

7. SAFETY APPAREL

Laboratory operations which introduce potential hazards to the well-being of personnel shall not begin until all personnel concerned are wearing the appropriate safety apparel. Safety gloves, shoes, glasses, eye shields, aprons and respirators are examples of safety apparel which may be required.

8. SAFETY SHOWERS & EYE WASHES

Where the eyes or body of any person may be exposed to any injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided close to the work area for immediate emergency use.

9. LABORATORY ANIMALS

Animal bites are a source of laboratory accidents which require medical attention. Gloves should be worn when handling laboratory animals (such as dogs, cats, mice, or rats). Bites shall be reported to the supervisor immediately.

10. LABORATORY SAFETY INSTRUCTION

At the beginning of each course of instruction the instructor shall advise his/her students of the requirements for safety apparel and accessories, the particular hazards that may be encountered, and rules and procedures to prevent or minimize the hazards. Fire and accident first-aid procedures, to include location and use of fire extinguishers, safety showers, and eye wash stations, shall be reviewed.

11. HOOD SAFETY

It will be the responsibility of the campus Safety Officer to inspect each fume hood in the laboratory annually to ensure that the proper air flow is maintained. The inspection should be conducted with the front of the hood raised approximately 18 inches. The inspection should be done in the front of the hooded area on the left and right sides and in the middle. A card will be placed on the front of the hood stating the air velocity in fpm (feet per minute), height, and date of inspection.

12. CHEMICAL INVENTORIES

In order to control inventories and to minimize the accumulation of unneeded hazardous materials which requires expensive disposal, the minimum amount of chemicals, as determined by the department, will be ordered. Purchasing practices should decrease standing inventories as supplies are used. The annual inventory should include a physical check of the chemical inventory.