

STANDARD OPERATING PROCEDURE

For Chemical Storage Building

Access

Entrance to the Chemical Storage Building is restricted to authorized personnel only. The front and back doors to the building are locked at all times. All authorized personnel must become familiar with the safety features and regulations described as follows before they may enter the building.

Specific Areas

The Chemical Storage Building has six main inside rooms which are protected by a Carbon Dioxide Fire Suppression system:

1. Solvent Dispensing Room will be used for dispensing bulk solvents. Dispensing of small amounts of chemicals will be permitted (5 ml/5 gram or less) which are used for lab unknowns will be allowed. A secondary tray must be used in case of spillage. The exceptions being there will no dispensing of oxidizers or reactive chemicals any where in the building.
2. Inorganic chemicals storage are stored in this area. No flammable, reactive or oxidizers are permitted in this area. Mineral acids such as Hydrochloric, Acetic, Phosphoric, and Sulfuric are also stored in this area, generally in the original carton on the floor. Some flammable solids are permitted such as charcoal.
3. Special purpose storage for individuals All storage requirements in the chemical hygiene plan shall apply to this area.
4. Flammable storage room. Only flammable and organic liquids will be stored in this room.
5. Oxidizer storage area. No other classes of chemical will be stored in this area.
6. Reactive chemical room for storage of air and water reactive chemicals.
7. Electrical Room This room contains the circuit breakers for the various equipment and lighting. If there is any problems call Physical Plant at extension 66680 and request assistance. Do not attempt to “flip” any breakers without permission.
8. Hazardous Waste Storage This room contains the hazardous waste awaiting pickup by a hazardous waste disposal company. This room must be inspected weekly to insure integrity of all the containers. The inspection record is kept in the room and a list of all hazardous waste will be kept in the room for inspection. Since this room contains all the hazardous waste segregation of incompatible chemicals must be done very carefully, it may be necessary to use secondary containment on

some chemicals. A fire extinguisher and spill kit must be maintained in this room.

9. Reactive Hazardous Waste Storage This room is for highly reactive chemicals. This room must be inspected weekly to insure integrity of all the containers. The inspection record is kept in the room and a list of all hazardous waste will be kept in the room for inspection. A fire extinguisher and spill kit must be maintained in this room.

Specific Safety Features

Carbon Dioxide Safety Instructions – In each room there are heat sensors and fire pull stations to activate the Carbon Dioxide Fire Suppression system. When activated by heat sensor or pull station the alarm will sound, **EVACUATE IMMEDIATELY**. The system will have a 20 second delay before releasing the Carbon Dioxide into the room. **Carbon Dioxide exposure in high concentrations may cause an oxygen deficient environment. Individuals breathing such an atmosphere may experience dizziness, drowsiness, unconsciousness, and death. Inhalation of carbon dioxide can affect the central nervous system and blood vessels, as well as change the rate of respiration.**

By each pull station there is a green button to delay the Carbon Dioxide release for 20 seconds in the event additional time is needed for evacuation.

Safety equipment in the Chemical Storage Building – There is a telephone located in the hall way for emergencies and general communication. The lists of emergency numbers are posted beside the telephone. There is a local fire alarm pull station on the south wall beside the main entrance. This is connected to the science building fire alarm system which in turn goes to the Marshall University Police Department.

Eye Wash/Shower Units – The emergency eye wash/shower units is in the hallway to be used in the event of exposure. If there is an exposure flush thoroughly, call MUPD at extension 64357 or Cabell County EMS at 911 for help and evacuate the area.

In each room there is a flashlight which has luminescent tape on it to help locate the flashlight in case of a power failure. The doors are also marked with luminescent tape to assist in locating them. The main hallway has emergency lighting for easy evacuation.

Safety Rules

All rooms in the Chemical Storage Building require proper eye protection and the Laboratory Safety Regulations for, teaching assistants, faculty and staff, apply as indicated.

1. Personal Protection Equipment such as goggles, lab apron, and shoes with solid tops must be worn.

2. No smoking, eating, drinking or storage of food or drink is permitted anywhere in the building.
3. Open flames are not permitted anywhere in the building.
4. Personnel working in these areas must familiarize themselves with the location and proper use of safety equipment as well as fire alarm systems.
6. According to established procedure all accidents or safety incidents must be reported to your supervisor immediately, and the proper forms must be completed.
7. All spills or accidents must be reported immediately to your supervisor.
8. No cell phone, radios, personal entertainment devices allowed in any room. These can be a source of sparks and ignition of flammable materials causing fire or explosion.
9. There shall be no persons working alone in the storage building. A buddy system is required and all persons shall be familiarized with the operation of the building and its safety equipment.
10. There are fire extinguishers located in the main hallway. These are to be used for rescue or escape, **Do not** try to extinguish any fires, evacuate area and call for help

General Operating Procedures

Inspection:

The chemical storage building shall be inspected once every seven calendar days except during Christmas holiday, at this time it will be inspected the last working day and then the first business day after the holiday. There will be an inspection sheet for each room in the building. The person inspecting the room will initial and date inspection sheet. The inspection includes looking for leaking bottles, degrading chemicals, labels falling off, cleanliness, blocked isles and any condition that may or will pose a hazard. Nothing can be stored or placed in the corridors or hallways. Peroxide forming chemicals must be checked to ensure they are not expired.

The inspection will also include all safety equipment such as fire extinguishers, spill kits, alarm panel, and fire suppression system. Flashlights will be inspected once a month to ensure their operation.

The hazardous waste disposal areas must be inspected weekly or on a time frame in accordance with EPA requirements.

The storage building will be cleaned at least once a month; this will include sweeping the floors, emptying the trash receptacles and discarding any empty boxes. It is necessary to clean around the door frames since outside air is drawn in around the door frames.

Important Phone Numbers

Fire & Accident - 64357 or 911

Police Service - 64357 or 911

Environmental Health & Safety - 63432

Physical Plant - 66680

Hazardous Material Release – Evacuate Area – Notify Supervisor!