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G. Chemical Hygiene Plan

1. Purpose

The LSU University Environmental Health and Safety Policy requires that University activities be conducted in accordance with OSHA standards. The Occupational Safety and Health Administration (OSHA) promulgated a final rule entitled Occupational Exposures to Hazardous Chemicals in Laboratories (commonly known as "The Laboratory Standard"). The purpose of the standard is to minimize the exposure of laboratory personnel to chemicals in the laboratory, avoid underestimation of risk, and provide adequate ventilation.

2. <u>Scope</u>

The laboratory safety requirements applies to all faculty, staff, and students engaged in the laboratory use of hazardous chemicals. Laboratory use of hazardous chemicals is defined as the use or handling of chemicals in which all of the following conditions are met:

a. Chemical manipulations are carried out on a "laboratory scale." Laboratory scale is defined as work with substances in which the containers used for reactions, transfer, and other handling of substances are designed to be easily and safely manipulated by one person.

- b. Multiple chemical procedure or chemicals are used.
- c. The procedures involved are not part of a production process.
- 3. General Principles

The Chemical Hygiene Plan is the written program that contains policies and procedures for the safe use of hazardous chemicals. Major objectives of the plan as described in "Prudent Practices in the Laboratory" are to:

- a. Minimize all chemical exposure Because few laboratory chemicals are without hazards, general precautions for handling all laboratory chemicals should be adopted, rather than specific guidelines for particular chemicals. Skin contact with chemicals should be avoided as a cardinal rule.
- b. Avoid underestimation of risk Even for substances of no known significant hazard, exposure should be minimized; for work with substances which present special hazards, special precautions should be taken. One should assume that any mixture will be more toxic than its most toxic component and that all substances of unknown toxicity are toxic.

- c. Provide adequate ventilation The best way to prevent exposure to airborne substances is to prevent their escape into the working atmosphere by use of hoods and other ventilation devices.
- d. Institute a chemical hygiene program A mandatory chemical hygiene program designed to minimize exposures is needed; it should be a regular, continuing effort, not merely a standby or short term activity. Its recommendations should be followed in academic teaching laboratories as well as by full-time laboratory workers.
- e. Observe the PELs, TLVs The Permissible Exposure Limits of OSHA and the Threshold Limit Values of the American Conference of Governmental Industrial Hygienists should not be exceeded.
- 4. General Program Management
 - a. Deans, Directors, Department Chairs, Principal Investigators, Managers and Supervisors are responsible for maintaining safe operations in their labs on a daily basis. Specific responsibilities included:
 - i. Ensure that the requirements of the Chemical Hygiene Plan are followed in their areas.
 - ii. Attend a laboratory safety meeting in their responsible area at least once each year.
 - iii. Assure that adequate safety resources are available to laboratory personnel.
 - b. Environmental health and Safety (EHS) is responsible for providing overall coordination for the Chemical Hygiene Plan (CHP). Specific responsibilities of EHS include:
 - i. Provide initial training for managers, supervisors, and safety coordinators concerning requirements of the program and their responsibilities.
 - ii. Provide guidance for the preparation of procedures, chemical inventories, and training programs required by the CHP.
 - iii. Chemical Hygiene Officer

The Chemical Hygiene Officer (CHO) is an employee who is qualified by training or experience, to provide technical guidance for the continuing implementation of the CHP. Specific responsibilities of the CHO include:

- 1) Work with administrators and other employees to develop and implement appropriate chemical hygiene policies and practices.
- 2) Monitor procurement, use, and disposal of chemicals used in the lab.
- 3) Maintain current knowledge concerning the legal requirements of regulated substances in the laboratory.
- 4) Seek ways to improve the CHP.
- 5) Help project directors develop precautions and adequate facilities.
- c. Faculty and Principle Investigators are responsible for maintaining safe operations in their labs on a daily basis. Specific responsibilities included:
 - i. Attend initial training provided by EHS concerning the requirements of this program and their responsibilities, or send their representative who shall be the safety coordinator (SC) for the work area.

- ii. Provide written standard operating procedures for specific laboratory procedures.
- iii. Ensure employee training at the time of initial assignment to the area, whenever a new hazard is introduced to the area or when the employee is reassigned to an area using new or different materials and/or processes.
- iv. Provide appropriate personal protective equipment and require its proper use and maintenance.
- v. Ensure an inventory is completed for all chemicals used in their work areas.
- vi. Review and understand Safety Data Sheets (SDSs) on materials used by employees under their direct supervision and inform employees as new SDSs become available.
- vii. Ensure SDS files are available in the work area and are readily accessible to employees.
- viii. Ensure that employees requests for SDSs and other materials are promptly handled, requesting any necessary information or help from EHS.
- ix. Ensure that all containers of hazardous materials are labeled with chemical name or trade name.
- x. Prepare a hazard analysis to identify each hazard, and to assure that protective equipment, procedures and emergency response plans are adequate for each hazard, and for the maximum credible emergency event.
- d. A Laboratory Safety Coordinator (LSC) will be designated for each school, department, or other subdivision by the dean, chairman, or director ro serve as liaison to EHS and the CHO. Responsibilities of the LSC include:
 - i. Ensure that training is documented using the an attendance record. Send a copy of the record to EHS.
 - ii. Provide information about chemical hazards to contract employees or LSU maintenance employees working in the areas.
 - iii. Serve as a conduit for information between laboratories in their area and EHS and the CHO.
 - iv. Assist the CHO in inspections and other duties as available and as assigned.
- e. Laboratory Workers responsibilities include the following:
 - i. Follow LSU's chemical hygiene procedures and all safety and health standards and rules.
 - ii. Develop good personal hygiene habits.
 - iii. Report all hazardous conditions to the supervisor.
 - iv. Wear or use prescribed protective equipment.
 - v. Refrain from operating equipment without proper training or equipment that has safety defects.
 - vi. Attended training sessions on the Chemical Hygiene Program.
- vii. Keep informed about chemicals used in the lab.
- 5. <u>Basic Rules and Procedures for Working with Chemicals</u>
 - a. General Rules are fundamental safety precautions which should be familiar to all lab users. These practice should be followed at all times.

- i. Accidents and spills.
 - 1) All personnel should know the emergency procedures, "Response to Chemical Spills and Accidents," from the "Emergency Procedures" section on the EHS web page.
 - 2) Eye contact: promptly flush eyes with water for a prolonged period (15 minutes) and seek medical attention.
 - 3) Ingestion: Consult SDS.
 - 4) Skin contact: Consult SDS.
 - 5) Clean-up: Promptly clean up spills using appropriate protective apparel and equipment and proper disposal. See LSU Safety Manual section on spills and cleanup for guidance and requirements on notifying EHS.
 - 6) All significant accidents should be carefully analyzed with the assistance of EHS and the results distributed to those who might benefit.
- ii. Avoidance of routine exposure. Each laboratory employee with the training, education and resources provided by supervision, shall develop and implement work habits consistent with this CHP to minimize personal and co-worker exposure to the chemicals in the laboratory. Based on the realization that all chemicals inherently present hazards in certain conditions, exposure to all chemicals shall be minimized. General precautions which shall be followed for the handling and use of all chemicals include:
 - 1) Skin contact with all chemicals shall be avoided.
 - 2) All employees shall wash all areas of exposed skin prior to leaving the laboratory.
 - 3) Mouth suction for pipetting or starting a siphon is prohibited.
 - 4) Eating, drinking, smoking, gum chewing, or application of cosmetics in areas where laboratory chemicals are present shall be prohibited.
 - 5) Storage, handling and consumption of food or beverages shall not occur in chemical storage areas or refrigerators. Glassware and utensils used for laboratory operations shall not be used for food or drink consumption or preparation.
- iii. Laboratory Equipment and Glassware. Each employee shall keep the work area clean and uncluttered. At the completion of each work day or operation, the work area shall be thoroughly cleaned and all equipment properly cleaned and stored. In addition, the following procedures shall apply to the use of laboratory equipment:
 - 1) All laboratory equipment shall be used only for its intended purpose.
 - 2) All glassware will be handled and stored will be handled and stored with care to minimize breakage; all broken glassware will be immediately disposed of in an appropriately labeled broken glass container constructed with corrugated cardboard or other puncture-resistant material.
 - 3) All evacuated glass apparatus shall be shielded to contain chemicals and glass fragment

- 4) All laboratory equipment shall be inspected by the user on a periodic basis for safety defects, and replaced or repaired as necessary.
- iv. Personal Protection Apparel
 - 1) Safety glasses meeting ANSI Z87.1 are required for employees and visitors in laboratories so designated, and will be worn at all time when in the laboratory. Glasses do not provide protection from chemical splashes.
 - 2) Chemical goggles and a full face shield (if necessary) shall be worn during chemical transfer and handling operations as procedures dictate.
 - 3) Sandals, open toed shoes, and bare feet should be prohibited.
 - 4) Lab coats provide adequate body protection for most operations in the laboratory. Laboratory coats will be laundered on a periodic basis (at least monthly). Laboratory coats shall be removed immediately upon discovery of significant contamination.
 - 5) Appropriate chemical-resistant gloves shall be worn at all times when there may be skin contact with chemicals. The degradation and permeation characteristics of the glove material selected must be appropriate for protection from the hazardous chemical being handled. Glove selection information is available from the EHS web site. Gloves shall be inspected and washed prior to reuse. Damaged or deteriorated gloves will be immediately replaced. If a chemical permeates the glove, it shall be immediately replaced, as prolonged contact with the hand may cause more serious damage than in the absence of a proper glove. Gloves shall be washed prior to removal from the hands.
 - 6) Thermal-resistant gloves shall be worn for operations involving the handling of heated materials and cryogenic fluids. Thermal-resistant gloves shall be non-asbestos and shall be replaced when damaged or deteriorated.
 - 7) Respirator usage shall comply with LSU's Respiratory Protection Program. If the faculty or principle investigator feels that respirators are needed, the Chemical Hygiene Officer should be contacted for an exposure assessment. Voluntary use of respirators is encouraged where relief from nuisance odors or dust is desirable. A copy of OSHA's statement, "Information for Employees Using Respirators When Not Required Under the Standard," must be given to those individuals using respirators voluntarily. This statement is an attachment to LSU's program and may be found on EHS's web site.
- v. Personal Protection Equipment.
 - 1) Spill control kits should be on hand to clean up small spills. See section on "Spills and Accidents" for further guidance.
 - 2) Safety shields should be used where applicable for protection against explosion and splash hazards. Line of sight protection is desirable.
 - 3) Fire extinguishers must be available in all laboratories and all personnel shall be trained in their use annually.

- 4) Safety showers are to be available in all laboratories where chemicals are handled. Every laboratory worker should know where the showers are and be trained in its use.
- 5) Eyewash fountains must be available in the laboratories to provide a continuous soft stream of water for 15 minutes. The fountains should be located close to the safety showers so that the eyes can be washed while the body is showered if necessary.
- vi. Personal Work Practices
 - 1) All employees shall be alert for unsafe practice and conditions in the laboratory and shall immediately report such practices and/or conditions to the laboratory supervisor. The supervisor must correct unsafe practices and/or conditions promptly.
 - 2) Long hair and loose-fitting clothing shall be confined close to the body to avoid being caught in moving machine/equipment parts.
 - 3) Use only those chemicals appropriate for the ventilation system.
 - 4) Avoid unnecessary exposure to all chemicals by any route.
 - 5) Do not smell or taste any chemicals
 - 6) Avoid working alone in the laboratory. When working alone in the laboratory arrange for periodic checks by personnel in adjacent laboratories.
 - 7) Avoid practical jokes or other behavior which might confuse, startle or distract another worker.
 - 8) Wash areas of exposed skin well before leaving the laboratory.
 - 9) Keep work area clean and uncluttered, with chemicals and equipment being properly stored. Clean up the work area on completion of an operation or at the end of each day.
 - 10) Planning: Seek information and advice about hazards, plan appropriate protective procedures, and plan positioning of equipment before beginning any new operation.
 - 11) Use of hood: Use the hood for operations which might result in the release of toxic chemical vapors or dust. See section on engineering controls.
- b. Working with Allergens and Embryotoxins.
 - i. Wear suitable gloves to prevent hand contact with allergens or substances of unknown allergenic activity. Latex gloves are to be avoided due to allergenic properties and are generally not recommended for any chemical exposure unless manufacturer's data is available to show that their product is protective for a particular chemical.
 - ii. If you are a woman of childbearing age, be particularly cautious when handling substances known to be embryotoxins (examples: organomercurials, lead compounds, formamide). Contact the research supervisor or EHS to verify adequacy of controls.
- c. Special Procedures for Highly Hazardous Substances. Special precautions shall be taken when performing laboratory work with any of the following chemical categories:

carcinogens, reproductive toxins, substances that have a high degree of acute toxicity, or chemicals who toxic properties are unknown.

i. Chemical Categories

Carcinogens – Both known and suspect cancer – causing chemicals reported in the latest edition of the National Toxicology Program's "Carcinogens Summary".

Reproductive Toxins – Chemicals including mutagens and teratogens identified as such by the manufacturer Safety Data Sheet (SDS).

Acute Toxicity Chemicals – Any substance for which the LSD50 data described in the applicable SDS (or other literature source) cause the substance to be classified as a level 3 or 4 health hazard according to the HMIS system.

Chemicals Whose Toxic Properties are Unknown – Chemicals for which there is no known statistically significant study conducted in accordance with established scientific principles that establishes its toxicity.

- ii. Precautions for Use
 - 1) Allow only those persons specifically trained to work with highly hazardous chemicals to work with those chemicals.
 - 2) Designated Area A hood, glove box, portion of a laboratory, or an entire laboratory must be designated for high hazard use.
 - 3) Designated areas shall be posted and their boundaries clearly marked. Posting shall include the identification of the highly hazardous chemicals used in the area.
 - 4) Access to the laboratory should be restricted during high hazard chemical use by the laboratory supervisor.
 - 5) Suitable gloves and long sleeves shall be worn during use of high hazardous chemicals.
 - 6) Use the smallest amount of chemical that is consistent with the requirements of the work to be done.
 - 7) Use high-efficiency particulate air (HEPA) filters or high-efficiency scrubber systems to protect vacuum lines and pumps.
 - 8) Decontaminate a designated area when work is completed.
- d. Animal Work with Chemicals of High Chronic Toxicity
 - i. Access: For large scale studies, special facilities with restricted access are preferable.
 - ii. Administration of the toxic substance: When possible, administer the substance by injection or gavage instead of in the diet. If administration is in the diet, use a caging system under negative pressure or under laminar air flow directed toward HEPA filters.

- iii. Aerosol suppression: Devise procedures which minimize formation and dispersal of contaminated aerosols, including those from food, urine, and feces (e.g. use HEPA filtered vacuum equipment for cleaning, moisten contaminated bedding before removal from the cage, mix diets in closed containers in a hood).
- iv. Personal protection: when working in the animal room, wear plastic or rubber gloves, fully buttoned laboratory coat or jumpsuit and, if needed because of incomplete suppression of aerosols, other apparel and equipment (shoe and head coverings, respirator).
- v. Waste disposal: Dispose of contaminated animal tissues and excreta by incineration if the available incinerator can convert the contaminant to non-toxic products; otherwise, package the waste appropriately for burial in an EPA-approved site.
- e. Prior Approval for Laboratory Activities. Certain activities that present specific, foreseeable hazards for laboratories and their users may require prior approval from their department and/or the CHO. These activities include work with recombinant DNA and infectious agents, sole occupancy of building, hazardous operations, use of new procedures or chemicals, and unattended operations.
 - i. Sole Occupancy of Building. Under normal circumstances, work should not be done in the laboratory when the only person in the building is the laboratory person performing the work. If this is necessary, periodic checks on that person should be made by personnel in adjacent buildings.
 - ii. Hazardous Operations. All hazardous operations are to be performed during a time when at least two people are present a the laboratory. At no time shall a laboratory person, while working alone in the laboratory, perform work which is considered hazardous. The determination of hazardous operations shall be made by the laboratory supervisor and/or CHO.
 - iii. New Procedures or Chemicals. Prior to the use of new procedures or chemicals, a review of potential hazards created must be undertaken within the department. The review should also be completed when there is a substantial change in the amount of chemicals used or a change in the equipment used in the procedure.
 - iv. Unattended Operations. When laboratory operations are performed which will be unattended by laboratory personnel (continuous operations, overnight reactions, etc.), the following procedures will be employed:
 - 1) The laboratory supervisor will review work procedures to ensure the safe completion of the operation.
 - 2) An appropriate sign will be posted at all entrances to the laboratory.
 - 3) The overhead lights in the laboratory will be left on.
 - 4) Precautions shall be made for the interruption of utility services during the unattended operation (loss of water pressure, electricity, etc.).
 - 5) Containment will be provided in the event of unexpected hazardous material releases.

- 6) Tubing for running water must be in good condition and secured at connections by clamps or wire.
- 6. <u>Chemical Procurement, Distribution, And Storage</u>
 - a. Procurement.
 - i. Before a substance is received, information on proper handling, storage, and disposal should be known to those who will be involved.
 - ii. No container should be accepted without an adequate identifying label.

iii.All substances should be received in a central location.

- iv. EHS is implementing an internet based chemical inventory systems. This will enable EHS to provide support to the organization and emergency workers in the event of an emergency. The system will also promote waste reduction by identifying excess chemicals for other departments prior to purchase.
- b. Stockrooms/storerooms.
 - i. Toxic substances should be segregated in a well-defined area with local exhaust ventilation.
 - ii. Chemicals which are highly toxic or other chemicals whose containers have been opened should be in unbreakable secondary containers.
 - iii. Stored chemicals should be examined periodically (at least annually) for replacement, deterioration, and container integrity.
 - iv. Stockrooms/storerooms should not be used as preparation or repackaging areas, should be open during normal working hours, and should be controlled by one person.
- c. Distribution.
 - i. When chemicals are hand carried, the container should be placed in an outside container or bucket.
 - ii. Freight-only elevators should be used if possible.
- d. Laboratory storage.
 - i. Amounts permitted should be as small as practical.
 - ii. Storage on bench tops and hoods is inadvisable. If hoods are used for storage, they must be labeled as such and not used for experiments.
 - iii. Exposure to heat or direct sunlight should be avoided.
 - iv. Periodic inventories should be conducted, with the items being discarded or returned to the storeroom/stockroom.
 - v. All labels shall face front.
- 7. Environmental Monitoring.

In the event of concern about the performance of a hood, when a new hood is put into service, or there is reason to suspect exposure to laboratory personnel, contact EHS to arrange for monitoring and sampling. This may be desirable when highly toxic or very volatile toxic chemicals are used or stored regularly.

8. Housekeeping, Maintenance, And Inspections.

Each laboratory worker is directly responsible for the cleanliness of his or her work space, and jointly responsible for common areas of the laboratory. Laboratory management shall insist on the maintenance of housekeeping standards. The following procedures apply to housekeeping standards of the laboratory:

- a. Cleaning.
 - i. Floors should be cleaned regularly.
 - ii. The work area shall be cleaned at the end of each operation or each day.
 - iii. All apparatus shall be thoroughly cleaned and returned to storage upon completion of usage.
 - iv. Chemical containers shall be clean, properly labeled and returned to storage upon completion of usage.
 - v. All chemical waste will be disposed of promptly as described in the LSU Hazardous Waste Program.
- b. Inspections.
 - i. Formal housekeeping and chemical hygiene inspections should be made by the responsible party on a semi-annual basis.
 - ii. Faculty and principle investigators should informally conduct housekeeping and chemical hygiene inspections continually.
- c. Maintenance.
 - i. Eye washes shall be inspected and flushed for 5 minutes weekly by laboratory employees.
 - ii. Showers shall be inspected by EHS at least annually.
 - iii. Records shall be maintained for eye wash and shower inspections.
- d. Passageways.
 - i. The lab benches shall be kept clear of equipment and chemicals except those necessary for the work currently being performed.
 - ii. All floors, aisles, exits, fire extinguishing equipment, eye washes, electrical disconnects and other emergency equipment shall remain unobstructed.
- 9. <u>Records</u>

Accident reports for any safety related incident are to be submitted to Risk Management and Environmental Health and Safety (EHS).

10. Signs and Labels

Prominent signs and labels of the following types should be posted:

a. Emergency telephone numbers of emergency personnel/facilities, supervisors, and laboratory workers.

- b. Identity labels showing the contents of containers (including waste receptacles) and associated hazards.
- c. Locations signs for safety showers, eyewash stations, other safety and first aid equipment, exits and areas where food and beverage consumption and storage are permitted.
- d. Warning at areas or equipment where special or unusual hazards exist.

11. Information and Training Program

- a. Training Organization. In order to provide specific and effective information to all laboratory users in a timely manner, training for the CHP will employ the "train the trainer" system. EHS will provide information and training for managers, supervisors, and safety coordinators for each area. The safety coordinator and lab supervisor of each area will then be responsible for implementing and customizing training for their laboratory users.
- b. Training Timing and Frequency. Information and training shall be provided to laboratory employees on the following basis:
 - i. Initially, all laboratory employees shall complete a training program.
 - ii. Individuals who are assigned to use new hazardous chemicals and/or new laboratory work procedures must have their training upgraded.

iii.New employees shall complete a training program.

- iv. All employees shall be provided with updated information on an annual basis.
- c. Training Components. This training shall include methods of detecting the presence of hazardous chemicals, physical and health hazards of chemicals in the lab, and measure employees can take to protect themselves from these hazards. The training shall present the details of the Chemical Hygiene Plan and shall include:
 - i. The contents of the Chemical Hygiene Plan.
 - ii. The location and availability of the Chemical Hygiene Plan.
 - iii. The permissible exposure limits for OSHA regulated substances or recommended exposure values for other hazardous chemicals not regulated by OSHA which are present in the laboratory.
 - iv. The physical and health hazards of chemicals in the work area.
 - v. Signs and symptoms associated with exposure to the chemicals present in the laboratory.
 - vi. Location, availability, and how to use reference material on chemical hygiene including Material Safety Data Sheets.
 - vii. The criteria for selection and use of personal protective equipment and the limits of its protection.

viii. Emergency procedures and the location of emergency equipment

- d. Training Documentation. The supervisor is responsible for documenting employee training. The original record shall be maintained by the safety coordinator or department and a copy forwarded to the Chemical Hygiene Officer.
- 12. Waste Disposal Program

All chemicals shall be disposed of in accordance with the LSU Hazardous Waste Disposal Program, the details of which can be found on the EHS web site.

- 13. Engineering Controls
 - a. Intent. The engineering controls installed in the laboratory are intended to minimize employee exposure to chemical and physical hazards in the workplace. These controls must be maintained in proper working order for this goal to be realized.
 - b. Modification. No modification of engineering controls will occur unless testing indicates that worker protection will continue to be adequate.
 - c. Improper Function. Improper function of engineering controls must be reported to Facility Services or EHS immediately. The system shall be taken out of service until proper repairs have been executed.
 - d. Usage
 - i. Laboratory Fume Hoods. The laboratory hoods shall be utilized for all chemical procedures which might result in release of hazardous chemical vapors or dust. As a general rule, the hood shall be used for all chemical procedures involving substances which are appreciably volatile and have a permissible exposure limit (PEL) less than 100ppm or are flammable materials. The following work practices shall apply to the use of hoods:
 - 1) Confirm adequate hood ventilation performance prior to opening chemical containers inside the hood. An inward flow of air can be confirmed by holding a thin strip of tissue at the face of the hood and observing the movement of the paper.
 - 2) Keep the sash of the hood at or below the indicated maximum operating height except when adjustments within the hood are being made. At these time, maintain the sash height as low as possible.
 - 3) Storage of chemicals and equipment inside the hood shall be kept to a minimum.
 - 4) Minimize interference with the inward flow of air into the hood.
 - 5) Locate apparatus toward the rear of the hood to prevent vapors from escaping.
 - 6) Leave the hood operating when it is not in active use if hazardous chemicals are contained inside the hood or if it is uncertain whether adequate general laboratory ventilation will be maintained when the hood is non-operational.
 - 7) The hood shall not be used as a means of disposal for volatile chemicals.
 - 8) The ventilation system shall be inspected annually by EHS. The hood face velocity shall be at least 80-85 feet per minute. A record of each inspection shall be maintained by the Chemical Hygiene Officer.
 - ii. Gloves Boxes and Isolation Rooms. The exhaust air from a glove box or isolation room will pass through scrubbers or other treatment before release into the regular exhaust system.
 - iii. Flammable Storage Cabinets. Cabinets designed for the safe storage of flammable chemicals can only do so if used and maintained properly. Cabinets

are generally made of double-walled construction and are made of 18 gage steel. The doors are two inches above the base of the cabinet is liquid proof to that point. Two vents are provided on opposite side of the cabinet and are equipped with flame-arrester screens. Always read the manufacturer's information and follow prudent safety practices such as:

- 1) Store only compatible materials inside the cabinet.
- 2) Store chemicals of similar vapor density together when using mechanical ventilation (e.g., heavier than air vapors are vented through the bottom vent and lighter than air vapors through the top vent).
- 3) Do not store paper or cardboard inside cabinets with the chemicals.
- 4) Do not overload the cabinet.