THE NEW SCHOOL
ENVIRONMENTAL HEALTH & SAFETY POLICY

Effective Date: April 2011

CHEMICAL HYGIENE PLAN

1. Purpose

The purpose of this policy is:
• To establish procedures to protect laboratory employees from hazardous chemical exposures,
• To comply with the requirements of the Occupational Safety and Health Administration's (OSHA) Occupational Exposure to Hazardous Chemicals in Laboratories Standard (29 CFR 1910.1450).

2. Scope

Laboratory employees work with relatively small quantities of chemicals on a non-production basis. The Chemical Hygiene Plan (CHP) applies to all employees of the University who work in laboratories, including but not limited to full-time and part-time faculty, staff, assistants, technicians, and student employees.

3. Definitions

3.1 Extremely hazardous substance: select carcinogens, reproductive toxins, and substances with a high degree of acute toxicity (Permissible Exposure Limit of <2 mg/m³ or 2 parts per million).
3.2 Hazardous chemical: a chemical that poses a physical or health hazard.
3.3 Physical hazard: hazardous materials that threaten your physical safety. Physical hazards include materials that are flammable, combustible, reactive, explosive, oxidizing, water or chemical sensitive, and compressed gases.
3.4 Health hazard: chemicals from which exposure can lead to adverse health effects. Examples of health hazards include irritants, toxic substances, corrosives, carcinogens, sensitizers, and chemicals that target specific body organs or systems.
3.5 New processes or equipment: any new equipment or process used in the laboratory that could possibly expose employees to a hazardous material.

4. Responsibilities

4.1 Chemical Hygiene Officer (CHO)

The University designates the Assistant Director for Environmental Health & Safety, Facilities Management, as the Chemical Hygiene Officer responsible for:
• Implementing the CHP, conducting an annual review, and updating the CHP as needed.
• Providing information and training for the CHP.
• Monitoring employee exposure to hazardous chemicals as needed.
• Monitoring the procurement, use, and disposal of chemicals.
• Reviewing the use of extremely hazardous substances and recommending guidelines based on a review of the chemical hazards.
• Assisting with development of chemical hygiene policies and Standard Operating Procedures as needed.
• Assisting Project Managers in Design & Construction in the review of plans for new or renovated laboratories where chemicals are used.

4.2 Assistant Chemical Hygiene Officer (ACHO)
The University designates the laboratory Supervisor or his/her designee as the ACHO responsible for:
• Monitoring compliance with the CHP including, but not limited to: chemical hygiene rules, functioning of engineering controls, availability and use of appropriate personal protective equipment, and availability/testing of emergency equipment (e.g., eyewash testing, emergency shower, first aid kit & fire extinguisher).
• Maintaining required signage for the lab.
• Ensuring required certifications are maintained by designated lab staff.
• Ensuring all employees attend mandatory training.
• Maintaining a current chemical inventory of hazardous chemicals and submittal to the CHO by January 31st annually.
• Ensuring Material Safety Data Sheets (MSDS) are accessible to employees during their work shift.
• Ensuring chemical containers are properly labeled.
• Informing the CHO of changes that may affect employee exposures to hazardous chemicals including new hazardous chemicals (particularly of extremely hazardous substances), procedures, or equipment, and participating in their review and approval prior to use.
• Notifying employees of results of any exposure monitoring results provided by the CHO.
• Developing lab-specific Standard Operating Procedures (SOPs) with the CHO.

4.3 Laboratory Supervisor is responsible for:
• Ensuring full development/implementaton and compliance with the lab-specific Chemical Hygiene Plan.
• Communicating the CHP to all affected employees.

4.4 All Employees are responsible for:
• Complying with the CHP: attending training, practicing good chemical hygiene, and following all applicable standard operating procedures.
• Notifying their Supervisor of health and/or safety hazards.
• Notifying their Supervisor of injuries or illnesses associated with chemical exposure.
4.5 The Human Resources Department is responsible for:
- Reviewing any correspondence with or issues raised by labor unions regarding this policy; and
- Communicating with employees and/or their healthcare providers regarding any medical concerns or issues that arise from or relate to hazardous chemicals used by employees, including but not limited to a request for an accommodation relating to this policy.

5. **Standard Operating Procedures**

5.1 The laboratory shall develop, implement, and adhere to lab-specific Standard Operating Procedures (SOPs) where deemed necessary by the CHO and ACHO to protect lab workers.

6. **Safe Handling Procedures and Implementation of Exposure Controls**

6.1 Each laboratory must compile and maintain a current hazardous chemical inventory and submit a copy to the CHO before January 31st of each year. The inventory includes the name of the chemical, the manufacturer, storage locations, container type, and quantity stored. Appendix A may be used to submit the annual inventory.

6.2 Material Safety Data Sheets (MSDSs) must be readily available for review by employees (and students) in areas where hazardous chemicals are used. Hard copies of MSDSs are located in the laboratory and the CHO’s office. Electronic copies of the MSDSs may also be available on the internet or from the product’s manufacturer and/or distributor.

6.3 Copies of MSDS must be submitted to the CHO when the hazardous chemical inventory is due.

6.4 Copies of revised MSDS must be forwarded to the CHO and included in the lab’s MSDS binder.

6.5 The lab must confirm the order’s accuracy before accepting a chemical delivery. Procured chemicals must not be accepted if they are incorrect, unlabeled, or expired.

6.6 All containers must be labeled legibly with the name of the chemicals, appropriate hazard warning, and the manufacturer’s contact information including their name and address.

6.7 Chemicals must be stored in chemically compatible, non-leaking containers and must remain closed when not in use.

6.8 Chemicals must be segregated and stored based on compatibility. Chemicals shall not be stored on the laboratory floor.

6.9 Secondary containers must be used for storing highly toxic and/or opened chemical stocks.

6.10 The smallest practical quantities of chemical quantities should be maintained in the lab.

6.11 The quantities of flammables stored in the lab shall not exceed the New York City Fire Department’s allowable limit.
7. Waste Management

Hazardous chemicals must never be disposed of in sinks, drains, or trash cans. Hazardous wastes are to be managed in accordance with the Environmental Protection Agency’s (EPA) Resource Conservation and Recovery Act (RCRA).

7.1 Determine if the waste is hazardous by reading the MSDS and/or label. Hazardous wastes possess one of more characteristics including toxicity, ignitability, reactivity, or corrosivity. Waste is also considered hazardous if it is listed under RCRA. Consult with the CHO to confirm which chemicals must be managed as hazardous waste.

7.2 Unlabeled, expired, or chemical stock that will no longer be used should be disposed of promptly.

7.3 Evaporating volatile chemicals in the fume hood shall not be used as a means of disposal.

7.4 Collect hazardous waste in containers labeled as "Hazardous Waste" with the contents listed. Segregate hazardous wastes based on compatibility and store the waste containers in a designated location in the lab.

7.5 Notify the CHO of hazardous waste for disposal. The CHO will arrange for a pickup by the University’s hazardous waste contractor.

8. Measures to Minimize Exposure

8.1 Engineering Controls

• Whenever feasible, hazardous chemicals will be substituted with alternatives that are non-toxic and/or have lower hazard ratings (e.g., less flammable, reactive, explosive).

• Exposure to hazardous chemicals shall be minimized through the use of engineering controls including chemical fume hoods and other forms of appropriate ventilation.

• Chemical fume hoods must be tested by the CHO annually to ensure adequate face velocity (average of 80-120 feet per minute).

• The sash height of the fume hood must be maintained to ensure the face velocity is within the acceptable range.

• The CHO must be notified and a Work Order submitted to Facilities Management to repair the fume hood or the general ventilation system when not functioning properly. The fume hood should not be used until the repair is complete and the CHO has confirmed the average face velocity is acceptable.

8.2 Administrative Controls

• Emergency equipment and supplies must be maintained and stored in a location known to the lab staff.

• Designated areas must be used to perform procedures with hazardous chemicals.

• SOPs and other chemical hygiene rules and guidelines must be adhered to at all times. Any additional protective measures when working with extremely hazardous substances will be recommended by the CHO based on a review of the chemical hazards.
• Certain procedures or activities require prior approval by the ACHO before being carried out by lab staff. It is at the ACHO’s discretion to identify such procedures or activities.
• All lab employees must attend mandatory training.
• The CHO will conduct quarterly lab audits and report the results to the ACHO and Laboratory Departmental Chairperson. All identified deficiencies must be corrected promptly.
• The ACHO will conduct ongoing compliance inspections of the laboratory to ensure compliance with the CHP.

8.3 Personal Protective Equipment
• The need for Personal Protective Equipment (PPE), including respirators, shall be determined based on an exposure assessment by the ACHO in accordance with the University’s PPE Policy.
• PPE shall be used and maintained in accordance with the University’s PPE Policy.

9. Reporting injuries/illnesses
Injuries and illnesses associated with chemical exposure must be reported promptly by completing the Incident Log through the Security Department and notifying EHS. The log is available from the Security officers in each building.

10. Information and Training

10.1 All employees must be informed of chemical hazards in their work areas.
10.2 Employees will receive initial training on the chemical hazards at the time of the employee’s initial assignment to the work area and prior to assignments involving new exposure situations.
10.3 Supervisors must coordinate with the CHO to arrange for the training and inform the CHO of changes to procedures or chemicals that may result in new exposure situations.
10.4 Training includes the following information:
• An overview of the OSHA Hazardous Chemicals in Laboratories Standard
• The hazardous chemicals present in work area
• The physical and health risks of the hazardous chemicals
• How to determine the presence or release of hazardous chemicals in the work area
• How to reduce or prevent exposure to hazardous chemicals through use of control procedures, work practices and personal protective equipment
• Steps the University has taken to reduce or prevent exposure to hazardous chemicals
• Procedures to follow if employees are overexposed to hazardous chemicals
• How to read labels and MSDSs to obtain hazard information
• Location of the MSDS files and written CHP
10.5 A copy of the CHP is available in the Human Resources Policies Manual or upon request from the CHO.

11. Medical Consultations and Examinations

11.1 Lab employees shall be provided the opportunity to receive medical attention without any cost to the employee, without any loss of pay, and at a reasonable time and place under the following conditions:

- Medical consultation in the event of an emergency that results in the likelihood of a hazardous chemical exposure.
- Medical examination if signs or symptoms develop due to a potential hazardous chemical exposure.
- Medical surveillance if results of exposure monitoring by the CHO indicate an exposure level routinely above the action level for any substance as prescribed by a particular OSHA Standard.

11.2 The ACHO will coordinate the medical evaluation or examination through EHS.

11.3 A licensed physician will perform the medical consultation or examination and provide a written opinion in accordance with the OSHA Occupational Exposure to Hazardous Chemicals in Laboratories Standard.

11.4 The CHO will provide a copy of the Standard to the physician.

12. Hazard Identification and Exposure Monitoring

12.1 The CHO will rely primarily on the chemical labels and Material Safety Data Sheets (MSDS) to determine hazards associated with a chemical.

12.2 The CHO shall conduct initial exposure monitoring for any substance regulated by an OSHA Standard if there is reason to believe exposure levels for the substance routinely exceed the action level (or the Permissible Exposure Limit in the absence of an action level).

12.3 The CHO shall conduct periodic exposure monitoring in accordance with the relevant Standard if the initial monitoring results indicate employee exposure is above the action level (or the Permissible Exposure Limit, where applicable).

12.4 Exposure monitoring shall be terminated in accordance with the relevant OSHA Standard.

12.5 Employees shall be notified in writing within 15 days after the receipt of the monitoring results.

13. Record Keeping

13.1 The CHO will maintain records of industrial hygiene exposure monitoring records, training, audits, and process/equipment reviews.
14. Program Evaluation

14.1 The Chemical Hygiene Officer will evaluate the Chemical Hygiene Plan annually and make changes as necessary.

Appendices

Appendix A - Hazardous Chemical Inventory Form

References

OSHA Occupational Exposure to Hazardous Chemicals in Laboratories Standard (29 CFR 1910.1450)

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