CHEMICAL HYGIENE PLAN
(2016)

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INTRODUCTION

This document describes the John Jay College of Criminal Justice (JJC) Chemical Hygiene Plan (CHP) as required by NY Department of Labor Public Employee Safety and Health program, which is identical to the OSHA Occupational Exposure to Hazardous Chemicals in Laboratories Standard. 29CFR1910.1450. which is commonly referred to as the “Laboratory Standard.”

The Laboratory Standard requires the development of a Chemical Hygiene Plan (CHP) for each laboratory workplace which is capable of protecting employees from health hazards associated with hazardous chemicals in the laboratory and capable of keeping exposures below OSHA Permissible Exposure Limits. The New York State Plan for Public Employee Safety and Health (PESH), by authority under Section 27(a) of the New York Labor Law, is responsible for promoting the health and safety for State and Local government employees. The PESH Program has adopted all Federal OSHA standards and regulations in regards to laboratory safety with the exception of the Recordkeeping Rule, 29 CFR 1904.1. The New York Department of Labor has been designated as the agency responsible for administering the plan throughout the State. The Commissioner of Labor has full authority to enforce and administer all laws and rules adopted by the PESH Program. This plan is made readily available to JJC employees, employee representatives, and upon request by NY PESH.

Throughout this document, areas where regulatory requirements exist will be clearly identified using words such as “must”, “required”, “shall”, and “it is the responsibility”, etc. All other information provided within this document are recommendations that the CUNY Environmental, Health and Safety Officer (EHSO) Council encourages laboratories to follow as best management practices. Colleges, departments, other units, and individual laboratories are free to establish the recommended guidelines found within this document as required for their units or laboratories.

Questions regarding this plan should be directed to Lindsey Kayman, Director of Environmental Health and Safety, lkayman@jjay.cuny.edu, 212-621-411y and /or Natalya Timmer, ntimmer@jjay.cuny.edu, 212-237-8893, Science Department, Laboratory Director

The Plan is reviewed on an annual basis and updated as necessary.

RESPONSIBILITIES

Environmental Health and Safety (EHS) EHS Director, Lindsey Kayman, serves as EHS Director for the college. The EHS Director reports to the Director of Public Safety and Risk Management, and has the authority to shut down or suspend operations that
do not conform to health and safety practices required by this Chemical Hygiene Plan. The Environmental Health and Safety Director will exercise his authority in order to minimize the short and long term dangers to laboratory employees, other workers, the community, and to the environment. The major duties of the EHS Director are to:

- Evaluate, implement, and update the Chemical Hygiene Plan
- Provide technical expertise and administrative support to the laboratory community in the area of laboratory safety and health, and direct inquiries to appropriate resources.
- Ensure that extremely hazardous substances are appropriately labeled, handled, and stored and that specific standard operating procedures exist which instruct all personnel in the safe use of these substances
- Review specific operating procedures developed by principal investigators and Science Department personnel for the use, disposal, spill cleanup, and decontamination of extremely hazardous chemicals and substances are developed and followed.
- Conduct annual inspections of laboratories and storage areas with other members of the Chemical Hygiene Committee and provide inspection forms to departmental personnel and principal investigators to conduct their own routine inspections.
- Write inspection reports and recommend follow up activities (with input from other members of the inspection team).
- Conduct (or coordinate) laboratory health and safety and hazardous waste training sessions. Also conduct or coordinate training in specialized topics upon request.
- Assist laboratory supervisors in developing and conducting hands on sessions with employees upon request.
- Investigate all reports of laboratory hazards incidents, chemical spills, and near misses to prevent repeat occurrences
- Bring unresolved and potentially serious health and safety problems to the attention of the Science Department Chair or his/her designee.
- Maintain records and make them available to employees and administrative personnel.
- Oversee the chemical waste program to ensure it complies with CUNY and EPA requirements.
- Remain aware of campus wide safety and health related activities.

Science Department Chairperson

The Science Department Chairperson has overall responsibility for laboratory safety and environmental compliance is expected to know and understand the goals of the Chemical Hygiene Program. The Chairperson or his/her designee will be notified to help resolve repeated non-compliance as necessary. Ensure that keys are only provided to faculty once they have obtained their FDNY Certificate of Fitness for Supervising Non-production Chemical Laboratories.

Science Department Laboratory Director

The Laboratory Director has responsibility for ensuring the day to day operations in the laboratories, including the following.

- Supervise CLTs and CHOAs and other support staff.
• Maintain an ongoing inventory of all chemicals in storage rooms and laboratories using Chemtracker.
• Conduct periodic inspections of laboratories in conjunction with EHS and ensure that identified deficiencies are corrected in a timely manner. Conduct weekly inspections of the Main Accumulation Area, Satellite Accumulation Areas and eyewshes as well as 6 month inspections of the Safety Showers as per ANSI requirements.
• Encourage staff to set high standards of health and safety by personal example, in order to instill in our students an attitude of mind which accepts good health and safety practice as normal.
• Implement hazardous waste, regulated medical waste and radionuclide requirements for the department.
• Provide job-specific safety and environmental compliance training for Science Department staff.
• Ensure eye washes are inspected weekly and safety showers are activated every 6 months per ANSI guidelines.
• Ensure container labeling and availability of Safety Data Sheets as per the OSHA HazCOM and NYC RTK law.

Laboratory Supervisor: Faculty Members with Assigned Laboratory Research and/or Teaching Space

Laboratory Supervisors are responsible for ensuring safety and compliance with regulations in the laboratories under their control, including:

• Know and implement the guidelines and procedures of this Chemical Hygiene Plan, and the CUNY Laboratory Safety Manual
• Ensure that employees and students working in the laboratory have a good understanding of the hazards and safe operation of equipment and materials they use, particularly if they will work alone.
• Notify Natalya Timmer and before ordering or bringing new extremely hazardous chemicals, select agents, BL2 or higher biological materials, potentially hazardous equipment, or equipment that must be vented onsite.
• Write specific Standard Operating Procedures for handling, storage and disposal of chemicals with a GHS acute toxicity, health hazard and/or reactivity category of 1, and submit these procedures to the EHS Director for review. Information about how to look up the GHS category number are included in Appendix II.
• Train laboratory personnel in these operating procedures and ensure the use of proper control measures. Designate the names of specific laboratory personnel who have the training and knowledge to use these materials.
• Routinely inspect laboratory areas, under their charge, for unsafe conditions. It is recommended that inspections be performed monthly, but shall not be performed less frequently than every 60 days. A laboratory inspections form is available in Appendix VII, and may be copied as needed. Space is provided on the form for additional items specific to your laboratory. Laboratory Supervisors may delegate responsibility for inspection to a senior laboratory worker, but the Supervisor upon completion must sign the form. A file of completed inspection forms should be kept, and stored in an accessible
place in the laboratory.

- Ensure that all appropriate controls, including chemical fume hoods and other safety equipment are available and in good working order. Take the appropriate steps to have equipment not in working order addressed. For hoods and other built-in equipment this will often involve filling out a Facilities work order, available in “Inside John Jay.” Request help from the Laboratory Director or EHS as needed.
- Inform Public Safety promptly of incidents involving exposures, spills, explosions, damage to equipment, fires or other hazardous situations.
- Obtain a NYC Fire Department Certificate of Fitness for Supervising Non-production Chemical Laboratories. Do not allow anyone to work unsupervised who does not have the Certificate of Fitness.
- Ensure that appropriate spill clean-up materials are available for the type of material used in the laboratories and that staff are aware of emergency procedures.
- Ensure that Public Safety is informed of operations that will run unattended that could trigger an alarm or hazardous situation.

**Laboratory Personnel**

Laboratory personnel are those who people who in the course of their work, are present in the laboratory on a regular or periodic basis. This may include laboratory technicians, instructors, researchers, graduate assistants, PRISM students, and part-time and temporary employees. All laboratory personnel must:

- Follow procedures and guidelines outlined in the Chemical Hygiene Plan.
- Be up to date on annual laboratory safety and hazardous waste training.
- Report any unsafe working conditions, faulty chemical fume hoods, or emergency safety equipment to the laboratory supervisor and the EHS Director.
- Do not use any materials or equipment that you have not been authorized to use by the Laboratory Supervisor.
- Inspect your work area for safety and health hazards on a continuous basis. Conditions to look for include (but are not limited to) slip and fall hazards, blocked exits and safety equipment, expended fire extinguishers, inoperable fume hoods, and improper storage of incompatible chemicals.
- Report all unsafe conditions that are not immediately correctable to the Certificate of Fitness holder, the Laboratory Supervisor, the Laboratory Director or Environmental Health and Safety Director.

**Laboratory Safety Committee**

JJC has established a Laboratory Safety Committee comprised of the following personnel:

- Lindsey Kayman, EHS Director
- Natalya Timmer, Science Department Laboratory Director
- Francis Sheehan, Science Department Faculty
- David Warunek, Science Department Chief Laboratory Technician

The Chemical Hygiene Committee oversees and monitors the effectiveness of the
Chemical Hygiene Plan, and revises and updates the plan annually, or as needed. The committee will function in an advisory role; and, its authority will not conflict with or supersede current institutional policies.

The Committee meets biannually at a minimum. The duties of the Chemical Hygiene Committee members are to:

- Attend committee meetings.
- Periodically review and update the Chemical Hygiene Plan.
- Review especially hazardous academic and research protocols to ensure that proper controls are available to protect faculty members, staff and students.
- Assist the EHS Director and Laboratory Director with addressing non-compliance by faculty, staff and students.
- Address issues raised during the annual CUNY environmental health and safety audit.

Hazard Communication: Signs, Labels, and Safety Data Sheets

OSHA Hazard Communication Standard Requirements
The OSHA Hazard Communication Standard mandates that chemical manufactures provide Safety Data Sheets and properly labeled containers for each chemical. These provide basic information about the safety and health hazards posed by a chemical, and precautions to take when using it.

Signage

The NY State Right to Know Sign is posted in the Public Safety Office entrance.

If a hazardous material spill occurs or there is any other safety hazard in a room the laboratory personnel discovering the spill must post a sign on the door that says “Do Not Enter” with a description of the hazard.

The following is a list of signs that must be posted in the laboratory at all times:

Laboratory: Potentially Hazardous Substances
A sign with the above words in red on a white background must be posted on the door outside of each laboratory at the midpoint of the height of the door. It must be made of durable material and posted at eye level. The height of the letters in the word “laboratory” must be at least 1 inches high; the words “potentially hazardous substances” must be at least 7/16 inches high.

No Smoking
A “No Smoking” sign is required to be posted both inside and at the entrance to chemical storage areas and laboratories. This is in addition to the campus-wide “No Smoking” policy.
Emergency Equipment and Exit Identification
Large and conspicuous signs that indicate the location of each safety shower, eyewash station, fire extinguisher, and exit must be posted.

Emergency Telephone Numbers
Telephone numbers of emergency personnel, facilities, supervisors, and the EHS Director must be posted next to the phone in each laboratory, storeroom/stockroom, and storage area. If there is no phone in the room, a sign should be posted indicating the location of the nearest phone (which should have pertinent telephone numbers posted next to it).

Special Hazards
All laboratories in which the following materials are used or stored must post signs in where the following hazardous materials are used or stored:

Water reactive chemicals
Carcinogens
Flammable gases
Explosives
Reproductive hazards
Toxic gases (e.g. hydrogen cyanide)
Radioactive materials
Biohazardous materials
Lasers

Flammable Liquid Storage Cabinets and Refrigerators
Signage
All refrigerators must be posted with the legend “Store No Flammables Flashing Below 100°F”, in accordance with FDNY regulation, unless the refrigerator is manufactured as an “explosion-proof” or “non-sparking interior” device. Flammable liquid storage cabinets must be used to isolate flammable liquids; do not store other incompatible chemicals in the same cabinet (e.g. any oxidizer). Under no circumstances will a flammable liquid storage cabinet be used to store more than 60 gallons of flammable liquids.

Labels
Chemical Container Labels
Labels on chemical containers are mandatory. All chemical manufacturers and distributors are required under Federal statute to provide chemicals in properly labeled containers.

The OSHA Laboratory Standard requires that labels on all incoming containers be maintained and not defaced. The label on the container must not be defaced or removed until it is empty and rinsed. Portable containers filled from an original container must be labeled and if used by more than one person, or used for more than one workday must contain the following information:

• Chemical name
• Hazard warning, indicating the most serious health and safety hazard(s) the chemical poses (e.g. corrosive, carcinogen, water reactive, flammable). The information should be enough to allow a hazardous waste determination to be used. The Globally Harmonized System pictogram should also be included. See Appendix II for more information about the Globally Harmonized System.

Inadequate Labeling
Any laboratory worker, finding inadequately labeled containers, must report them to the Laboratory Supervisor. Laboratory Supervisors will provide for correct labeling. Notify EHS of any unlabeled, unidentifiable containers so these can be addressed. Purchased chemical should be inspected upon arrival for proper labeling; improperly labeled material must be refused or returned to the manufacturer. Contact the EHS Director with problems of incoming product labeling.

Damaged Containers
Workers charged with the receiving of chemical deliveries must examine them for possible breakage. Leaky or physically damaged cartons, or cartons that “rattle” (unless labeled “rattle o.k.”), or emit an odor must be refused at the receiving point. If the breakage is noted after delivery, contact the emergency phone number for the college, 212-237-8888 to notify Environmental Health and Safety immediately. Do not attempt to move or disturb leaky or damaged chemical containers.

Newly Synthesized Chemicals
Laboratory Supervisors are responsible for ensuring that all newly synthesized materials are used exclusively within their laboratory and are properly labeled. Researchers should ask Environmental Health and Safety for assistance in developing a preliminary Material Safety Data Sheet at the earliest opportunity, and add to it, as the properties of the product become known.

Safety Data Sheets
The OSHA/PESH Laboratory Standard requires that Safety Data Sheets (SDS’s) be made available upon request for all chemical used and stored in the laboratory. Safety Data Sheets are kept in the Chemical Storage Room and are available online or from the EHS office.

STANDARD OPERATING PROCEDURES

For laboratory work at JJC which involves the use of Hazardous Chemicals the following standard operating procedures (SOP) will be implemented:

The specific procedures implemented by JJC are listed below:

Emergency Procedures

For all emergencies, provide immediate assistance to the person involved – e.g. help the person use the eye was, safety shower and then pick up the phone in the lab that connects directly to the Public Safety emergency number or call 212-237-888 from your cell phone. Provide details of the incident and follow the instructions of Public Safety. Public Safety will arrange for medical evaluation and transportation to the hospital as
necessary.

Additional instructions:

- Hazardous material spills – Use the appropriate spill clean-up powder if it is safe to do so, then activate the purge button on the hood monitor or the red purge button in the lab to prevent accumulation of hazardous vapors in the air. Notify the Certificate of Fitness Holder or Lab Supervisor and call the Public Safety Emergency Number from a safe location.
- Clothing Fire – Help the person involved get under the safety shower.
- Chemical or hazardous material in the eye – Help the person involved flush their eyes using the eyewash for at least 20 minutes.
- Burn – Help the person get under the safety shower
- Inhalation of chemical or hazardous material: Bring the person to an area where there is no air contaminants.

Routine Procedures

- Avoidance of routine exposure – All volatile, smelly, or hazardous chemicals must be used with local exhaust ventilation
- Choice of chemicals – Use safer substitutes when available. The EHS office will help identify safer substitutes upon request. Written safety procedures are required for work with GHS category 1 acutely toxic chemicals and Category 1 reactive chemicals and are recommended for use of Category 2 acutely toxic and reactive chemicals.
- Eating, drinking, smoking, application of lipstick is not allowed in John Jay laboratories.
- Equipment and glassware – Employees using autoclaves, centrifuges or other potentially hazardous equipment must be trained by the faculty supervisor or laboratory director or his or her designee.
- Exiting – When the fire alarm activates, exit through the stairwells rather than the elevators
- Horseplay is not allowed.
- Good housekeeping must be maintained, with no build-up of clutter. The aisle space in the labs must be kept clear of furniture or items which can block egress.
- Personal protection – Safety glasses, gloves and a lab coat must be worn when hazardous chemicals or biologicals are being used. Eye protection must be used when chemicals are being used in the room. Goggles must be worn when pouring corrosives, filling liquid nitrogen dewars or
- Planning – Experiments must be planned in advance. Hazardous waste containers must have appropriate labels for the solutions that will be generated.
- Unattended operations – If there is any potential for any safety issues to result from unattended operations, notify Environmental Health and Safety in advance so arrangements can be made with Public Safety about monitoring the room during patrols.
- Use of chemical fume hoods – Check the chemical fume hood monitor before use. It should have a green light and read 90-100 when the hood is operating properly. When the glass sash is closed the monitor reads "Flo" which indicates it is in reduced exhaust mode for energy conservation.
• Waste disposal and storage – Refer to the John Jay Hazardous Waste Management Plan for more information.

• Working alone – A C14 Certificate of Fitness holder must be present at all times to supervise laboratory work. Persons using extremely hazardous materials must have the permission of the faculty member assigned to the room, and must follow written standard operating procedures.

CRITERIA FOR USE OF CONTROL MEASURES TO REDUCE EMPLOYEE EXPOSURE TO HAZARDOUS CHEMICALS

Control Measures

Chemical Fume Hoods: All hazardous chemicals must be used in a chemical fume hood. If a circumstance arises where a hazardous chemical must be used outside of the chemical fume hood notify EHS. OSHA Standard (29CFR1910.1001) through 29CFR1910.1050) requires monitoring if there is reason to believe that exposure levels could exceed the Action Level or in the absence of an Action Level, the Permissible Exposure Limit (PEL). If initial monitoring discloses employee exposure over the Action Level and/or Permissible Exposure Limit, exposure monitoring and cessation of monitoring shall be in accordance with the relevant OSHA Standard.

When air monitoring is performed, EHS will notify employees of exposure monitoring results in writing within fifteen (15) working days after receipt of monitoring results.

Biological Safety Cabinets: Operations that involve Biosafety Level 2 materials that generate aerosols will be performed in a biological safety cabinet that is up-to-date in its annual certification.

Respirators: Respirators are not allowed in JJC laboratories and will not be allowed unless specific permission has been obtained by EHS and there is a logistical reason why use of a chemical fume hood is not possible or is not adequate for safe use of a material being used or procedure being performed.

If the use of respirators is determined to be necessary to maintain exposure below permissible limits, appropriate respiratory protection shall be provided at NO COST to employees. Respirators shall be selected and used in accordance with 29CFR1910.134. A respiratory protection policy will be developed which meets the requirements of 29CFR1910.134. See Appendix

Minimum Personal Protective Equipment: When hazardous chemicals or biological agents are being used, the minimum personal protective equipment which will be used are vinyl or nitrile gloves, lab coat and safety glasses. Eye goggles shall be used for pouring large amounts of corrosive chemicals or if the sash of the chemical fume hood cannot be lowered to provide eye and face protection from splashes. Eye goggles shall be used for transferring liquid nitrogen into dewers. Gloves which are more chemical-resistant that usual may be necessary when handling highly toxic chemicals. Consult a safety data sheet or contact EHS for assistance.
Eye wash stations and safety showers are available in each laboratory. Instructions on how to use these are included in Laboratory Safety training.

Fire Extinguishers: Employees will receive classroom style training about how to use a fire extinguisher during Laboratory Safety training.

MAINTENANCE OF FUME HOODS AND OTHER PROTECTIVE EQUIPMENT

Chemical Fume Hoods:
Laboratory personnel should check the hood monitor each time before the chemical fume hood is used. The indicator should be in the green and the face velocity should read about 100 fpm or about the same as it was during the last inspection. When the glass sash is closed the controller should indicate, “FLO” to indicate that the hood is in the reduced flow rate mode for energy conservation.

If the hood is alarming or the face velocity is different than it was during the last inspection or there is any reason to suspect that it is not containing chemicals properly, do not use the hood. Place a sign on it indicating the problem and notify Facilities Management at x 8541 as well as the Laboratory Director.

EHS inspects the Chemical Fume Hoods annually and checks the face velocity and hood controller readings. In addition the Facilities Operating Engineers can determine how each hood is functioning from the Operating Engineer’s office. A “Do Not Use” sign is placed on hoods that do not pass the inspection, indicating what the problem is and is left on until the problem is resolved. A Facilities Work Order, available on the Resources Page of Inside John Jay must be completed to have the hood fixed.

Biological Safety Cabinets: EHS is responsible for annual inspection of biological safety cabinets that are used for BL2 materials. A sign will be placed on biological safety cabinets that are not up-to-date indicating that the cabinet is not authorized for use with hazardous materials.

Eyewashes – The Science Department, under the direction of the Laboratory Director activates and inspects eyewashes weekly. An inspection log is kept in the Laboratory Director’s office.

Safety Showers - The Science Department, under the direction of the Laboratory Director activates and inspects safety showers every 6 months. An inspection log is kept in the Laboratory Director’s office.

EMPLOYEE INFORMATION & TRAINING REQUIREMENTS

EHS provides employees with general laboratory safety, GHS and hazardous waste training at the time of initial assignment and then annually.

The faculty member with assigned laboratory space provides instruction and training pertaining to specific materials and equipment being used in the lab prior to assignments involving new equipment or exposure situations to ensure employees understand the specific hazards related to work being done. EHS assists with the laboratory –specific training upon request.
The Laboratory Director has oversight for and provides lab specific training for teaching lab personnel.

The following information is covered during Laboratory Safety Training:

- The location and availability of the Chemical Hygiene Plan;
- The signs and symptoms associated with exposures to hazardous chemicals used in the laboratory;
- Information on OSHA permissible exposure limits (PELs) where they exist, and other recommended exposure limits; and
- Location and availability of known reference material on the hazards, safe handling, storage and disposal of hazardous chemicals found in the laboratory including, but not limited to, Safety Data Sheets (SDS) received from chemical suppliers
- Methods & observations which may be used to detect the presence or release of a hazardous chemical in the work area (monitoring methods and devices, visual appearance and/or odor, etc.);
- Globally Harmonized System pictograms, signal words, categories, classifications and labeling.
- The physical and health hazards of chemicals in laboratory work areas; and
- Recognition of safety deficiencies in labs
- The measures to protect employees from chemical hazards, including:
  Requirements for use of a chemical fume hood
  How to use a chemical fume hood
  Work practices
  Emergency procedures
  Personal protective equipment

Initial Laboratory Safety training is presented by EHS staff or the Laboratory Director. A pdf of the presentation is emailed to attendees who request a copy on the sign-in sheet. Information is incorporated into initial training. Information about how to access online refresher training modules is provided at:  http://www.jjay.cuny.edu/training.

Training records are kept in the EHS office for at least 3 years from the training date.

PRIOR APPROVAL FOR SPECIFIC LABORATORY OPERATIONS
Prior approval from the Laboratory Director is required before the following materials are ordered or brought onsite:
New equipment such as lasers, centrifuges, equipment needing local exhaust or special electrical requirements, etc.

Prior Approval must be obtained from the EHS Director for purchase of toxic, reactive or pyrophoric chemicals with a GHS category rating of 1 or procedures that can lead to an exothermic reaction or highly toxic reaction product. A written SOP must be submitted with the request.

Prior approval from the EHS Director is required before purchasing or bringing on-site or using biohazardous materials, biosafety level 2 or higher.

Prior approval from the EHS Director is required before purchasing or bringing on-site or using biohazardous materials, biosafety level 2 or higher) Radionuclides

Prior approval is required for work that is covered under the NIH Recombinant DNA Guidelines, including constructing and handling of the following:
(i) recombinant nucleic acid molecules,
(ii) synthetic nucleic acid molecules, including those that are chemically or otherwise modified but can base pair with naturally occurring nucleic acid molecules, and
(iii) cells, organisms, and viruses containing such molecules

**ADDITIONAL PROTECTION FOR WORK WITH PARTICULARLY HAZARDOUS CHEMICALS INCLUDING SELECT CARCINOGENS, REPRODUCTIVE TOXINS, CHEMICALS WITH HIGH ACUTE TOXICITY**

The OSHA Lab Safety Standard specifically mandates that labs develop SOPs for handling “Particularly Hazardous Substances”, which they define as Select Carcinogens, Reproductive Toxins and Acute Toxins. If you are unsure if a chemical falls into one of these categories, check the MSDS and the container label. Contact EHS at x4117 or safety@jjay.cuny.edu if you have questions about the chemicals you intend use. The following are requirements:

- Establishment of a designated area which has a warning sign;
- Use of a chemical fume hood or local exhaust ventilation;
- Procedures for safe removal of contaminated waste; and
- Users must have reviewed the safety data sheet and been informed of any special safety precautions.
- Prior approval by the faculty member who the space is assigned to.
- Use of gloves, lab coat and eye protection
- Decontamination Procedures

[Note that according to the standard, a **SELECT CARCINOGEN** means any substance which meets one of the following criteria: (i) it is regulated by OSHA as a carcinogen; or (ii) it is listed under the category, “known to be carcinogens”, in the Annual Report on Carcinogens published by the National Toxicology Program (NTP) (latest edition); or (iii) it is listed under Group 1 (“carcinogenic to humans”) by the International Agency for Research on Cancer Monographs (IARC) (latest editions); or (iv) it is listed in either Group 2A or 2B by IARC or under the category, “reasonably anticipated to be carcinogens” by NTP, ...]
MEDICAL PROGRAM

John Jay College provides all employees who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations which the examining physician determines to be necessary, for the following circumstances:

• Whenever an employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory, the employee is provided an opportunity to receive an appropriate medical examination. The employee shall contact the EHS Director to initiate the medical program.

• Where exposure monitoring reveals an exposure routinely above the action level, or in the absence of an action level above the Permissible Exposure Limit (PEL), for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements. Medical Surveillance shall be established for the affected employee as prescribed by the particular OSHA Standard. (Medical Surveillance & Exposure requirements as per 29CFR1910.1001 through 29CFR1910.1052)

• Whenever an event takes place in the work area such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous chemical exposure, the effected employee(s) is provided an opportunity for a medical consultation. This consultation is for the purpose of determining the need for a medical examination. An appropriate medical examination is provided as necessary.

Currently all chemicals are used in a chemical fume hood and no exposures require medical surveillance. When necessary, all medical examinations and consultations are performed by or under direct supervision of a licensed physician, are provided at NO COST to employees without LOSS OF PAY and at a reasonable time and place.

Information Provided to Healthcare Professional in the Event of an Exposure

John Jay College will provide the physician the following information:

• The identity of hazardous chemical(s) to which the employee or student may have been exposed to;

• A description of the conditions under which the exposure occurred including quantitative exposure data, if available; and

• A description of the signs and symptoms of exposure the student or employee is experiencing, if any.

Healthcare Professional’s Written Opinion

A written opinion from the examining physician for a medical examination or consultation which is required by the Standard is obtained. This opinion shall include:
• Any recommendation for further medical follow-up;

• The results of the medical examination and any associated tests;

• Any medical condition that may be revealed in the course of the examination which may place the employee at increased risk as a result of exposure to a hazardous chemical found in the workplace; and

• A statement that the employee has been informed by the physician of the results of the consultation or medical examination and any medical condition that may require further examination or treatment.

The written opinion shall not include any findings/diagnoses which is not related to an occupational exposure.

HAZARD IDENTIFICATION

John Jay College assures labels on incoming containers of hazardous chemicals are not removed or defaced and Safety Data Sheets that are received with incoming shipments of hazardous chemicals are maintained and readily accessible to laboratory employees. EHS Website has links to chemical manufacturer safety information. Most laboratories have one or more computer that can be used to access safety data sheets and other information.

RECORDKEEPING

John Jay College establishes and maintains for each employee an accurate record of any measurements taken to monitor employee exposure and any medical consultation and examinations including tests or written opinions as required by the Standard. These records are kept, transferred, and made available in accordance with 29CFR1910.20, Access to Employee Exposure and Medical Records. When applicable medical records are kept for the duration of an employee’s job plus 30 years.
Appendix I
Occupational Exposure to Hazardous Substances in Laboratories
Appendix II
Chemical Specific Training using Globally Harmonized System
Appendix III
Voluntary Respiratory Use Policy

General Policy

Under some circumstances, employees may wish to use respiratory protection equipment for their own comfort or sense of well-being, even when there is no recognized hazard or over exposure. When only a filtering facepiece, like an N95 or P100 will be used, not all of OSHA's respiratory protection requirements apply. In order to voluntarily use respiratory protective equipment in this way, the following criteria must be met:

- There is no recognized hazard or potential for over exposure.
- The respirator must be NIOSH certified.
- The respirator must be cleaned, stored, and maintained as specified in Care of Respiratory Protective Equipment (below).
- The respiratory protective equipment does not itself present a hazard to the user.
- The employee is medically cleared to use a respirator (Exception: filtering facepieces, i.e., dust masks, N95, P100 respirators, etc., do not require a medical clearance for voluntary use).
- The employee is given a copy of the appendix Information for Employees using Respirators when not required under the Standard, attached.

Employees who would like to voluntarily wear a respirator may purchase and wear their own respirator or may ask their department to supply one for them.

Medical Clearance

OSHA's revised respiratory protection program does not require voluntary respirator users to undergo medical clearances. However, it does require the employer to determine that the respirator itself is not a hazard to the employee. To this end, EHS strongly recommends that voluntary respirator users seek medical clearance from their personal physician before using a respirator. Medical clearances should be repeated periodically according to the physician's recommendation.

Cleaning and Disinfecting

The Occupational Health and Safety Administration/NY Public Employees Health and Safety have set guidelines for the cleaning of respiratory protective equipment. These are listed below. Alternatively, respiratory protective equipment can be cleaned according to the manufacturer's recommendations so long as the equipment is cleaned and disinfected in a way that does not damage it, and does not harm the user.

1. Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
2. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
4. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
   a. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,
   b. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
   c. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
5. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.

6. Components should be hand-dried with a clean lint-free cloth or air-dried.

7. Reassemble face piece, replacing filters, cartridges, and canisters where necessary.

8. Test the respirator to ensure that all components work properly.

Storage

Respiratory protection equipment must be stored in a way that protects them from damage, dust, contamination, sunlight, chemicals, excessive moisture, and extreme temperatures. They must also be stored in such a way that it is unlikely that the face piece or valves will be damaged or deformed.

Inspection

The following checks are required as part of the respirator inspection procedure:

- Respirator function
- Tightness of connections
- Condition of the face piece, head straps, valves, connecting tubes, and cartridges, canisters, or other filters
- Pliability of any elastomeric parts
- Signs of cracking, discoloration, or other symptoms of aging
- Tank pressure (SCBAs)
- Regulator and pressure alarm bell function (SCBAs)
- Tank condition (SCBAs)

When using respirators routinely, these inspections must be performed before each use and during each cleaning. SCBAs must be checked at least monthly. Inspection records must be kept until the time of the next inspection.

Repairs

Respirators found to be defective or in need of repairs must be removed from service. When repairing a respirator or replacing cartridges, valves or other components, only approved parts shall be used to keep the NIOSH approval valid. No attempts, under any circumstances, should be made to change, modify, or improve any respiratory protection device.

Training and Assistance

EHS will provide training or other assistance to voluntary respirator users upon request.
Mandatory Information Which Must Be Provided for Employees Voluntarily Using Respirators

Copied from Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.
[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]
Appendix IV
Standard Operating Procedure for Regulated Medical Waste

A host of regulations govern the handling of wastes originating in biological and clinical laboratories. It is the policy of the College to abide by the letter and spirit of these regulations to assure the safety and health of members of the College and local communities. Laboratory supervisors and workers are responsible for seeing that wastes originating in their laboratories are properly identified and disposed of legally. Under these regulations, the following are considered to be “Regulated Medical Waste”:

- Cultures and stocks of infectious agents
- Human pathological wastes
- Waste human blood
- Animal parts and carcasses
- Used and unused laboratory sharps, including hypodermic needles, syringes, Pasteur pipettes, broken glassware, scalpels blades, blood vials, test tubes
- Dialysis wastes
- Laboratory wastes which may have been in contact with infectious agents

If you are a generator of material that may be characterized as Regulated Medical Waste, or if you have any question as to whether a material is considered Regulated Medical Waste, contact the EHS Director (x4117) or Laboratory Director for assistance. Under no circumstances are Regulated Medical Wastes to be included with ordinary trash or left in unsupervised storage rooms, public areas, loading docks, etc.

Handling Methods / Packaging Requirements for Biological Waste

Regulated Medical Waste (Biological waste) is to be segregated from other waste streams at its point or origin. Malodorous or putrescible waste must be refrigerated until arrangements for removal are made. Uncontaminated gloves, diapers, ordinary trash should not be disposed of as regulated medical waste. Chemicals should not be disposed of as regulated medical waste.

All Regulated Medical Waste, except sharps, must be placed in a minimum of one 3 mil thick red polyethylene bag, sealed by tying or taping, and placed upright in a red plastic bag-lined carton or drum, labeled for the purpose. Containers must not have full vials or free liquids. The carton or drum must be sealed securely to avoid spillage or leaking of vapors.

Discard all syringes, needles, scalpels blades, razor blades, vacutainers containing blood, blood tubes, disposable glass serological pipettes, disposable glass Pasteur pipettes, microscope slides and coverslip in a puncture-proof sharps container. These are available in the Prep room.