



Department of  
Environmental  
Health & Radiation  
Safety



# Hazardous Materials Emergency Response Plan

**“Safety is a Personal Decision that Impacts other on a Daily Basis”**

## 1.0 Introduction

The Hazardous Materials Emergency Response Plan is designed to minimize hazards to human health and the resulting environment from any unplanned release of hazardous materials. This plan outlines the emergency procedures that shall be followed by personnel if hazardous materials are released. The Department of Environmental Health and Radiation Safety has designed the Hazardous Materials Emergency Response Plan in compliance with all Local, State, and Federal Regulations.

## 2.0 Training

The Department of Environmental Health and Radiation Safety will provide training to all University employees who handle hazardous materials in laboratories. Each employee shall receive training on proper handling of chemicals and emergency response procedures through [BioRAFT](#)..

Initial training must be completed during the first month of employment (refresher training is provided annually thereafter). Emergency procedure training will be conducted as part of the annual laboratory safety training. Additional training sessions can be arranged by calling the Department of Environmental Health and Radiation Safety at (215) 895 – 5919, [ehrs@drexel.edu](mailto:ehrs@drexel.edu) or by visiting the [Drexel EHS website](#).

The Department of Environmental Health and Radiation Safety personnel and/or contractors who remove hazardous materials from laboratories shall have the OSHA 40 Hour HAZWOPER certification.

Emergency Response Contractor shall comply with the regulations in the HAZWOPER Standard (29 CFR 1910.120). Contractor employees shall be thoroughly informed in our Emergency Response Procedures. Contractor shall submit to the Department of Environmental Health and Radiation Safety training documentation to be kept on file.

The Department of Environmental Health and Radiation Safety shall document all emergency response training. Training records will be kept for at least three years from the date the employee last worked at the university.

## 3.0 Hazardous Material Spill Identification

The Department of Environmental Health and Radiation Safety shall separate hazardous material spills into two main categories:

- **Major Spills**

- Chemical Spills Greater than 500 ml/gm –

The Department of Environmental Health and Radiation Safety defines major spill as a large spill that is greater than 500gm or 500 ml or any amount of an [acutely hazardous](#)

[material](#). An acutely hazardous material is any material that is imminently dangerous to life and health.

➤ Select Agent Spills

The Department of Environmental Health and Radiation Safety defines select agent spill as any amount of regulated select agent released into the environment that could threaten the safety and health of the building occupants. Select agent spills are considered major spill events. Upon identifying a release laboratory occupant must immediately implement the major spill procedures.

➤ Hazardous Gas Release

The Department of Environmental Health and Radiation Safety defines hazardous gas releases as any amount of hazardous gas released into the environment that could threaten the safety and health of the building occupants. Hazardous gas releases are considered major spills. Upon identifying a release laboratory occupant must immediately implement the major spill procedures.

➤ Mercury Releases

The Department of Environmental Health and Radiation Safety considers mercury an extremely toxic and dangerous material. In effort to reduce possible exposure risks to personnel and students all mercury spills are regarded as major spills. Upon identifying a release immediately implement the major spill procedures.

• **Minor Spills**

The Department of Environmental Health and Radiation Safety defines minor spill as a small spill that is less than 500 gm or 500 ml of non-acutely hazardous materials.

The Department of Environmental Health and Radiation Safety shall provide a list of [acutely hazardous chemicals](#). This list shall be referenced prior to any clean up.

All spills that occur in educational and/or vacant laboratories shall initially be identified as a major spill. The Department of Environmental Health and Radiation Safety shall assess the situation and determine the appropriate course of action.

**4.0 Hazardous Material Spill Procedures for Minor Spills**

In the event of a minor spill the following emergency procedures shall be implemented:

1. If injured or contaminated with a hazardous substance immediately implement personal decontamination procedures prior to reporting spill.
2. Laboratory personnel will be responsible for the containment and clean up of all **minor** spills.

3. Proper personal protection equipment shall be donned during the clean up of all **minor** spills. If laboratory personnel do not have the proper personal protective equipment, then contact the Department of Environmental Health and Radiation Safety for assistance (refer to **Appendix I** for the contact number for the University Department of Health and Radiation Safety).
4. All non-disposable personal protective equipment shall be decontaminated and stored.
5. All disposable personal protective equipment and clean up materials shall be disposed of as hazardous waste.
6. If the material spilled is not covered under the **minor** spill definition (< 500 ml or 500 gm of non-acutely hazardous material) then laboratory personnel shall implement the **major spill procedures**.

#### Education and Vacant Laboratories:

All minor spills occurring in vacant laboratories, education/prep laboratories, or any other university area shall be considered a major spill. Therefore, anyone observing a minor spill in these areas shall implement the major spill procedures.

### **5.0 Hazardous Material Spill Procedures for Major Spills**

The following procedure applies to:

- Laboratory personnel
- Education personnel
- Facilities Personnel
- Maintenance personnel
- Outside Contractor Personnel
- Environmental Services personnel
- Administrative personnel

In the event of a major spill in a university area, all laboratory, education, facilities, maintenance, outside contractor, administrative, and/or environmental services personnel will implement the following plan:

1. Notify persons in the immediate area that a spill has occurred.
2. Avoid breathing vapors, mists, or dust of the spilled material.
3. Turn off all ignition sources, if possible.
4. If injured or contaminated with a hazardous substance immediately implement personal decontamination procedures (i.e., eyewash, safety shower, etc.) prior to reporting spill.
5. Evacuate room and close the door.
6. Contact the following using any in house telephone:

<b>Campus</b>	<b>Public Safety Dispatcher</b>	<b>On-Site Public Safety</b>
Center City	215-895-2222	267-359-2380
Queen Lane	215-895-2222	215-991-8102
University City	215-895-2222	NA
West Reading	215-895-2222	484-659-8100
Camden Plasma	215-895-2222	NA
Academy of Natural Science	215-895-2222	215-299-1019

7. In order to assess the situation be prepared to provide the following information:
  - Name and call back number.
  - The location of the spill (building and room number).
  - Type of material spilled.
  - The amount of material spilled.
8. Remain on or near the telephone until you have received instructions from the emergency operator or the Public Safety Dispatcher or the Department of Environmental Health and Radiation Safety.

#### Public Safety Dispatcher

In event of a report of a major spill in a university area, the Public Safety Dispatcher will be responsible for implementing the following plan:

1. The following spill related information will be noted when any spill is reported (Refer to Appendix II for the Spill Reporting Worksheet):
  - Date and Time
  - Name of caller
  - Call back number
  - Location of the spill (building and room number)?
  - Type of spill
  - Amount of spill
  - Any injuries related to spill?
  - Has the spill been contained?
2. Once the information has been gathered, the Dispatcher is responsible for directing a public safety officer and a building engineer to the location of the spill and notifying emergency rescue if there are any injuries. EHRS will work with building security for Center City, ANS, West Reading and the Plasma Institute.
3. The Dispatcher is responsible for contacting all individuals on the emergency contact list for the impacted campus and informing them of the situation.
4. The Dispatcher is responsible for contacting an individual on the Public Safety Emergency Contact List and informing them of the situation.

5. Once the severity of the spill has been determined, the EHRS representative will provide further instructions.
6. If deemed necessary, the Department of Environmental Health and Radiation Safety will advise the dispatcher to notify the Fire Department of the situation by calling 911. The Dispatcher must be prepared to provide the exact location of the spill (building name and street address), the dispatcher's name, and any additionally requested information.

#### Public Safety Officer/ Campus Security

In the event of a major spill the security or Public Safety supervisor will be responsible for implementing the following plan in this exact order:

1. Evacuate the affected area or areas.
2. Block off and secure the area or areas.
3. Remain outside area of spill at a **safe distance**.
4. Wait for instructions from the Department of Environmental Health and Radiation Safety.
5. Depending on the severity of the spill, additional Public Safety or security officers may be directed to the scene to assist in crowd control and/or building evacuation.
6. Once the emergency is deemed under control, the Public Safety or security officer must contact the Dispatch Center and provide an update on the emergency.
7. The Public Safety or Security Supervisor is responsible for filing a complete and accurate incident report.

#### Custodial Supervisor

In the event of a major spill the Custodial supervisor will be responsible for implementing the following plan:

1. Notify all key personnel of the hazardous situation.
2. Keep all personnel from entering the hazardous area.
3. Wait for instructions from the Department of Environmental Health and Radiation Safety.

#### Facilities Personnel

In the event of a major spill the facilities management supervisor will be responsible for implementing the following plan:

1. Notify all key personnel of the hazardous situation.
2. Keep all personnel from entering the hazardous area.
3. Wait for instructions from the Department of Environmental Health and Radiation Safety

#### Building Engineer

In the event of a major spill the Building Engineer will be responsible for implementing the following plan:

1. The building engineer will contact the Department of Environmental Health and Radiation Safety to discuss the situation in detail and determine the severity of the spill.
2. Notify all key personnel of the situation.
3. Keep all personnel from entering the hazardous area.
4. Remain outside area of spill at a **safe distance**.
5. Wait for instructions from the Department of Environmental Health and Radiation Safety.

#### The Department of Environmental Health and Radiation Safety

In the event of a major spill the Department of Environmental Health and Radiation Safety will be responsible for implementing the following plan:

1. Contact Public Safety Dispatcher immediately upon receiving notification of spill.
2. Contact person-reporting spill.
3. The Department of Environmental Health and Radiation Safety will contact the Public Safety Supervisor, campus security and/or Building Engineer on the scene to discuss the situation in detail and determine the severity of the spill.
4. Identify the character, exact source, and amount of released material. Identification can be performed by observation, chemical analysis, SDS review, and/or chemical inventory.
5. Evaluate the situation. Use spill decision tree (Appendix IV) to assess the emergency.
6. If spill needs immediate response direct the Public Safety Dispatcher to immediately contact the Fire Department. However, if spill does not need immediate response, then contact emergency response contractor. Refer to Appendix V for emergency numbers.
7. Evacuation of areas potentially affected by the spill (e.g., adjacent room or the rooms below or above) will be at the discretion of the Department of Environmental Health and Radiation Safety. During evacuation of these areas, be sure that laboratory personnel shut down all experiments and ignition sources.
8. Notify local authorities if other areas outside the building need to be evacuated or if spilled material has the potential to migrate off site into the public storm/wastewater system or surface water. Refer to Appendix V for outside emergency response contact numbers.
9. Obtain chemical inventory for area in question.
10. Obtain safety data sheets on spilled material.
11. Move all information related to the spill to the established incident command center. Refer to Section, "Incident Command Center".
12. If Fire Department is called, the Department of Environmental Health and Radiation Safety shall contact Community Relations.

If it is determined that a minor spill has occurred in a vacant laboratory or educational laboratory or any other area, then steps 1 through 6 of the major spill plan shall be implemented.

If a minor spill occurs in a laboratory during normal hours of operation (9:00 am to 5:00 pm) then laboratory personnel or moderator will be responsible for containment and clean up of the spilled material(s).

If minor spill occurs any time before 9:00 am or after 5:00 pm then the Department of Environmental Health and Radiation Safety will respond for containment and clean up of the spilled material(s).

If spilled material is radioactive then the Department of Environmental Health and Radiation Safety will respond for containment and clean-up of the spilled material(s).

## **6.0 Spill Clean up Procedures**

In the event of a spill, the Department of Environmental Health and Radiation Safety, laboratory personnel and hazardous material clean up contractors will implement the following clean up procedures:

1. Proper personnel protection equipment will be donned during clean up of all hazardous materials. Personnel protection equipment compatibility charts will be referenced prior to cleaning up any spilled material(s). If the laboratory personnel do not have the proper personal protective equipment, then contact the Department of Environmental Health and Radiation Safety for assistance (refer to **Appendix I** for the contact number for EHRS)
2. Contain spilled material(s) using absorbent pads and/or socks. Paper Towels will not be used for containment of spill, nor will they be used for the clean-up.
3. Neutralize spilled material(s) using the appropriate neutralizing agent.
4. Clean up neutralized material using dustpan and/or plastic scoop.
5. Place neutralized material in hazardous waste bags. Dispose as hazardous waste.
6. Wash area where spill has occurred with water several times making sure no residue was left behind. Dispose of any towels used as hazardous waste.
7. All emergency equipment shall be decontaminated and stored.
8. All non-disposable personal protective equipment shall be decontaminated and stored.
9. All disposable personal protective equipment and clean up materials shall be disposed of as hazardous waste.
10. Always use extreme caution when cleaning up hazardous substances.
11. A chronological report of the spill event must be drafted to document all event activities.

## **7.0 Incident Command Center**

The Department of Environmental Health and Radiation Safety will establish an incident command center. The location will be in area outside the hot zone. The incident command center will be equipped with telecommunication equipment.

## **8.0 Command Structure**

The Department of Environmental Health and Radiation Safety will designate an Emergency Coordinator as incident commander. This person will be responsible for coordinating all emergency response measures. The emergency coordinator will be thoroughly familiar with all aspects of the University's contingency plan and the facility layout. In addition, this person will be authorized to commit the resources needed to carry out the contingency plan. The designated



emergency coordinator will be on call at all times. Refer to Appendix VI for the designated Emergency Coordinators.

## **9.0 Emergency Contact Numbers**

The Principal Investigator will be responsible for posting emergency contact information on the laboratory entrance door and in BioRAFT. Contact information should include office phone, home phone and/or pager of emergency contact.

The Principal Investigator/Chemical Hygiene Officer shall post the University emergency phone numbers in the laboratory. Contact EHRS for emergency phone number list (Refer to Appendix I). In addition to the laboratory posting, emergency phone numbers will be listed on all hallway and laboratory phones.

## **10.0 Emergency Alerting**

The Department of Environmental Health and Radiation Safety will activate the fire alarm system to alert all building occupants that the building is being evacuated. Public Safety Officer or campus security will call an “All Clear” notification to the Dispatch Center.

## **11.0 Evacuation Plan**

The Department of Environmental Health and Radiation Safety will use the Fire Department fire evacuation plan. Refer to Appendix VII for the evacuation procedures.

## **12.0 Communication**

Communication between the emergency coordinator and all parties involved will be by telephone or cell phone.

Community Relations will handle any communication with the news media, after meeting with emergency coordinator.

## **13.0 Emergency Medical Treatment**

Anyone who may be injured or had an exposure to the hazardous material will receive medical treatment at the nearest emergency room or student health or occupational health office. Refer to Appendix I for contact numbers.

## **14.0 Emergency Response Equipment**

The Department of Environmental Health and Radiation Safety personnel have minor spill emergency response bags containing PPE. In addition, spill clean-up materials (i.e., absorbent pads, neutralizing agents, broom, shovel, and disposal bags) are located in each building in an area only accessible to EHRS personnel. The Department of Environmental Health and

Radiation Safety will be responsible for maintaining all PPE and clean up materials. Refer to Appendix VIII for equipment inventory and locations.

## **15.0 Emergency Response Arrangements**

The Department of Environmental Health and Safety has arrangements with the following organizations:

- Philadelphia Police Department
- Philadelphia Fire Department
- Philadelphia Hazard Response Team
- PADEP (Norristown)
- Clean Earth
- Associated Specialty Contracting
- Air Management Chemicals
- Air Management Asbestos

If it is determined that outside assistance is needed, the request will be coordinated through the Emergency Coordinator. Refer to Appendix V for the phone numbers.

## **16.0 Emergency Response Contractor**

The Department of Environmental Health and Radiation Safety shall require emergency response contractors to comply with the HAZWOPER Standard 29 CFR 1910.120. In addition, the contractor shall comply with any local or state regulations on hazard response.

The Department of Environmental Health and Radiation Safety shall require emergency response contractors to provide copies of the following for the department's records:

- Names of all members of emergency response team
- Training certification of all members of the emergency response team
- Emergency Response equipment list
- Health and Safety Plan (HASP)

The Department of Environmental Health and Radiation Safety shall require all emergency response contractor personnel to sign-in prior to performing clean up. In addition, contractor shall provide a list of equipment that will be used during a clean up prior to performing the clean up.

## **17.0 Reporting Requirements**

The Department of Environmental Health and Radiation Safety shall comply with all reporting requirements set forth by local, state, and federal agencies. The EPA's "Title III List of Lists" shall be referenced to determine reportable quantities of the released hazardous material(s) (Refer to Appendix XIII for the List of Lists).

If it is determined that the University has had a release which could threaten human health or environment, outside the University then the National Response Center will be notified (Appendix V). In addition, a written report on the incident shall be submitted to the regional administrator within 15 days after the incident. The report shall include the following:

- Name, address and phone number of operating officer.
- Name, address and phone number of University.
- Date, time and description of incident.
- Number of injuries.
- Assessment of actual or potential hazards to human health or environment (if applicable).
- Estimated quantity and disposition of recovered materials that resulted from incident.

## **18.0 Practice Drills**

The Department of Environmental Health and Radiation Safety shall perform practice drills to determine the effectiveness of the Hazardous Material Emergency Response Plan. These drills will enable the department personnel to become familiar with the plan's procedures.

Practice drills may include key staff from other departments, outside emergency response contractors, or may be the Department of Environmental Health and Radiation Safety staff only. The drills will be conducted semi-annually or after any major revision or changes to the plan.

**Appendix I**  
**Campus Emergency Contact Information**

## Contact Information

<b>Department</b>	<b>Center City Campus</b>	<b>University Campus</b>	<b>Queen Lane Campus</b>	<b>ANS</b>	<b>West Reading</b>
Public Safety Call Center	215-895-2222	215-895-2222	215-895-2222	215-895-2222	215-895-2222
Campus Security	267-359-2390	215-895-2222	215-991-8102	215-299-1019	484-659-8100
EHRIS	215-895-5919	215-895-5919	215-895-5919	215-895-5919	215-895-5919
Facilities Management	215-895-1700	215-895-1700	215-991-8484	215-299-1030	484-955-2954
Employee Health	215-762-8525	215-762-8525	215-762-8525	215-762-8525	215-762-8525
Student Health	215-895-5800	215-895-5800	215-895-5800	215-895-5800	215-895-5800
Radiation Safety	215-895-5919	215-895-5919	215-895-5919	215-895-5919	215-895-5919
University Biosafety Officer	215-895-5891	215-895-5891	215-895-5891	215-895-5891	215-895-5891
University Chemical Hygiene Officer	215-895-5913	215-895-5913	215-895-5913	215-895-5913	215-895-5913
Recombinant DNA Officer	215-762-7398	215-762-7398	215-762-7398	215-762-7398	215-762-7398
Laser Safety Officer	215-895-5913	215-895-5913	215-895-5913	215-895-5913	215-895-5913

**Appendix II**  
**Spill Reporting Worksheet**

# Spill Reporting Worksheet

1. Date of Incident \_\_\_\_\_
2. Time of Incident \_\_\_\_\_
3. Name of person reporting incident: \_\_\_\_\_
4. Callback number of person reporting incident: \_\_\_\_\_
5. Location of Spilled material (building/room #): \_\_\_\_\_  
\_\_\_\_\_
6. Material spilled: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. Amount Spilled: \_\_\_\_\_
8. Any Injuries related to the spill \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
9. Has the spill been contained \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
10. Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Appendix III**  
**Emergency Contact List**



## Public Safety Dispatcher – 24 Hour Call Center

Listed below are the emergency contact numbers to be used by the Public Safety Dispatcher. Individuals with cell phones are to be contacted simultaneously via text message. Public Safety dispatcher must contact all the individuals on this list.

Representatives should only be called if an emergency arises. When calling individuals on the list, follow established procedures outlined in the Emergency Response Section of this manual.

<b>Department</b>	<b>Name</b>	<b>Cell Number</b>	<b>Office Number</b>
EHRS	Jon Chase	215-669-6122	215-895-5891
EHRS	Martin Bell	215-778-4278	215-895-5892
EHRS	Jeff Nemetz	215-778-3039	215-895-5913
EHRS	Nico Scavetta	267-250-4778	215-895-5907
EHRS	Michaela Sullivan	267-324-1411	215-895-5909
EHRS	Joseph Nihill	215-249-0348	215-895-1624
EHRS	Brian Spicer	215-815-9449	215-895-5905
EHRS	Chris Alston	215-203-6733	215-762-1248

## **Appendix IV**

# **Emergency Response Decision Worksheet**

# Emergency Response Decision Worksheet

1. Name of person reporting incident: \_\_\_\_\_
2. Callback number of person reporting incident: \_\_\_\_\_
3. Location of Spilled material (building/room #): \_\_\_\_\_

**(If spill occurs within or adjacent to Hospital Operations, notify the on-call administrator via security).**

4. Material spilled: \_\_\_\_\_  
\_\_\_\_\_

5. Amount Spilled: \_\_\_\_\_  
\_\_\_\_\_

6. Time and Date of incident: \_\_\_\_\_

7. Is this a major or minor spill? \_\_\_\_\_

8. Is the material acutely hazardous? \_\_\_\_\_

**(If yes and spill is too large to handle contact the contracted emergency response vendor).**

9. State of spilled material (solid, liquid, or gas): \_\_\_\_\_

10. Is the spilled material radioactive? \_\_\_\_\_

**(If yes, immediately contact radiation safety).**

11. Has the spill entered the drainage system? \_\_\_\_\_

**(If yes, immediately contact the POTW, National Response Center, Philadelphia Hazmat and PADEP).**

12. Has the spill entered the outside environment? \_\_\_\_\_

**(If yes, contact the National Response Center, Philadelphia Hazmat and any other agency that would respond to media (soil, air, water) affected).**

13. Does spill need immediate response? \_\_\_\_\_

**(If yes, contact Philadelphia Hazmat).**

14. Has anyone been injured? \_\_\_\_\_

15. Has anyone been exposed to the material? \_\_\_\_\_

## **Appendix V**

### **Outside Emergency Response Contact Numbers**

## Outside Emergency Response Contact Numbers

<b>Company/Agency</b>	<b>Telephone Number</b>
Clean Earth	877-577-2669
Associated Specialty Contracting	1-610-637-0084
Philadelphia Fire/Police/Hazmat	911
PADEP Norristown	1-484-250-5900
EPA Region Administrator	215-814-5000
National Emergency Response Center	1-800-424-8802
Philadelphia Water Department	215-685-6300
Air Management Chemical	215-685-7572
Air Management Asbestos	215-685-7576 (Normal hours of operation)
Air Management Asbestos	215-686-4514 (Holidays/Nights/Weekends)

## **Appendix VI**

### **Emergency Coordinator List**

## Emergency Coordinator (EC)

<b>EC Priority</b>	<b>Name</b>	<b>Office Number</b>	<b>Nextel Number</b>	<b>Private ID</b>
Primary	Jon Chase	215-895-5891	215-669-6122	-----
Secondary	Martin Bell	215-895-5892	215-778-4278	-----

**Appendix VII**  
**Evacuation Plan**



## Evacuation Plan

The fire alarms will be activated by the Department of Environmental Health and Radiation Safety if it is determined that the building needs to be evacuated. All personnel shall follow the Philadelphia Fire Department fire evacuation plan when alarms are activated.

1. When the fire alarms sounds, LEAVE AT ONCE. Close doors behind you. Proceed into the fire exit and remain there until you are given instructions either by the Fire Department or the EHRS. Fire exits are safe areas of refuge since they are enclosed, and the doors and walls are fire-rated to keep smoke and heat from entering the stairway.
2. DO NOT USE ELEVATORS. They will stop if power fails, causing occupants to become trapped.
3. Feel the door that leads from your office to the corridor before opening it. If it is hot or smoke is seeping in, do not open. If you become trapped in your office or laboratory and cannot reach the fire exit, keep the door closed and seal off any cracks. Use the telephone in your office to call the Public Safety Dispatch (215-895-2222) or the Fire Department (911), and give the name and location of the building, the floor you are on, and the office number.
4. If the door feels cool, open it cautiously. Be braced to slam it shut if the corridor is full of smoke or fumes or if you feel heat pressure against the door. If the corridor is clear, proceed to the fire exits.
5. DISABLED PERSON (S): A responsible person or persons who work in the same area, as the disabled should be assigned to assist them in the event of fire. These person(s) should be taken into the fire exit and remain on the landing in the fire exit until assisted by the Fire Department.
6. If caught in smoke or heat, stay low where the air is better. Take short breaths through you nose until you reach the fire exit.
7. AFTER NORMAL WORKING HOURS, WEEKENDS OR HOLIDAYS: All occupants should immediately exit through the fire doors and proceed directly down and out to the street level. Do not use the elevators!

## **Appendix VIII**

### **Emergency Response Equipment Inventory List**

# Emergency Response Equipment Inventory

Part	Quantity
Mercury Spill Clean-Up Kit	2
Acid Neutralizer - 6 Shakers	2
Caustic Neutralizer - 6 Shakers	2
Solvent Absorbent - 6 Shakers	2
Formalin Neutralizer - 6 Shakers	2
Shovel	2
Broom	2
Squeegee	2
Absorbant Socks approx. 20-40'	2
Absorbant towels/pads (box of 25)	2
Caution tape	2
Free Standing Caution Sign	2
Ph paper Large (range from 0-13)	2
Goggles	4
Face shield	2
Bib Apron (Package of 25)	1
Saranex Shoe Covers (25 pairs)	2
Tyvech Saronex Suits	12
Nitrile Gloves (1 box of 100 Size Large)	2
Heavy Duty Nitrile Gloves (2 pair Size 10)	2
Latex Gloves (1 box of 100 Size Large)	2
Full Face Respirators	2
Organic Vapors/Acid Gases Cartridge with HEPA filter (2 packages)	4
Formaldehyde/Organic Vapor Cartidge with HEPA filter (2 packages)	4
Hazardous Material Poly Bags- Large (2 boxes of 24)	2
Hazardous Material Poly Bags- Small (2 boxes of 24)	2
Drager Soft-Sided accuro Pump Kit	1
Mercury Drager Detector Tube (1 package)	1
Acid Compounds in Air Drager Detector Tube (1 package)	1
Natural Gas Drager Detector Tube (1 package)	1
Carbon Monoxide Drager Detector Tube (1 package)	1
Basic Compounds in Air Drager Detector Tube (1 package)	1
Hydrocarbons Drager Detector Tube (1 package)	1
Formaldehyde Drager Detector Tube (1 package)	1
PID Four Gas Monitor (H2S, O2, LEL, Organics)	1
Flash Light	4
Tools	
Note: The Safety Office is located 400 N. 31st Street.	
Note: Each person in safety department will have a PPE bag.	

## **University City Campus – Stratton Hall – Temporary Accumulation Area**

### Fire Protection Equipment

1. Fire Alarm – located throughout the entire building – notifies and evacuates building occupants – notifies the Fire Department.
2. Fire Extinguisher – located in room 145 and throughout the building – ABC rating – extinguishes small fires.
3. Automatic Halon System – located in the temporary accumulation area – fire suppression system.

### Communication

1. Cell Phones – all EHRS personnel involved in hazardous waste operations carries a cell phone – contact fire department and police.
2. Land Line Telephone – Located in room 145 directly adjacent to the storage facility – contact EHRS, fire department and police.
3. Fire Alarm – located throughout the entire building – notifies and evacuates building occupants – notifies the Fire Department.

### Spill Control Equipment

1. Shovel – located in room 145 directly adjacent to the storage facility and in the emergency response vehicles.
2. Broom – located in room 145 directly adjacent to the storage facility and the emergency response vehicles.
3. Squeegee – located in room 145 directly adjacent to the storage facility and the emergency response vehicles.
4. Absorbent pads – located in room 145 directly adjacent to the storage facility and the emergency response vehicles. – size is 1x1.5 feet – 30 pads for containment.
5. Absorbent booms – located in room 145 directly adjacent to the storage facility and the emergency response vehicles. – four feet in length – 15 booms for containment.
6. Oil Absorbent – located in room 145 directly adjacent to the storage facility and the emergency response vehicles. – 5 gallons.
7. Neutralizing agents – located in room 145 directly adjacent to the storage area and the emergency response vehicles – powder neutralizes solvents, acids, and bases – over 30 gallons.
8. Personal Protection Equipment – located in the emergency response vehicles – respirator, gloves, goggles, and saranex suites with booties and hood.

### Decontamination Equipment

1. Deluge Shower – located in room 145 directly adjacent to the storage facility – decontaminates entire body of hazardous waste operation personnel.
2. Emergency Eyewash – located in room 145 directly adjacent to the storage facility – decontaminates eyes of hazardous waste operation personnel.

3. Water Supply – located in the building – utilized with buckets to decontaminate equipment.

### **Center City Campus – Bobst Building – Temporary Accumulation Area**

#### Fire Protection Equipment

1. Fire Alarm – located throughout the entire building – notifies and evacuates building occupants – notifies the Fire Department.
2. Fire Extinguisher – located in storage area and throughout the building – ABC rating – extinguishes small fires.
3. Automatic Sprinkler System – located in the temporary accumulation area – fire suppression system.

#### Communication

1. Cell Phones – all EHRS personnel involved in hazardous waste operations carries a cell phone – contact fire department and police.
2. Land Line Telephone – located in room directly adjacent to the storage facility – contact EHRS personnel, fire department and police.
3. Fire Alarm – located throughout the entire building – notifies and evacuates building occupants – notifies the Fire Department.

#### Spill Control Equipment

1. Shovel – located in the storage room and the emergency response vehicles.
2. Broom – located in the storage room and the emergency response vehicles.
3. Squeegee – located in the storage room and the emergency response vehicles.
4. Absorbent pads – located in the storage room and the emergency response vehicles. – size is 1x1.5 feet – 30 pads for containment.
5. Absorbent booms – located in the storage room and the emergency response vehicles. – four feet in length – 15 booms for containment.
6. Oil Absorbent – located in the storage room the emergency response vehicles. – 5 gallons.
7. Neutralizing agents – located in the storage room and the emergency response vehicles – powder neutralizes solvents, acids, and bases – over 30 gallons.
8. Personal Protection Equipment – located in the emergency response vehicles – respirator, gloves, goggles, and saranex suites with booties and hood.

#### Decontamination Equipment

1. No decontamination equipment present.

## **East Falls Campus – Queen Lane – Temporary Accumulation Area**

### Fire Protection Equipment

1. Fire Alarm – located throughout the entire building – notifies and evacuates building occupants – notifies the Fire Department.
2. Fire Extinguisher – located outside G92 and throughout the building – ABC rating – extinguishes small fires.
3. Automatic Sprinkler System – located in the temporary accumulation area – fire suppression system.

### Communication

1. Cell Phones – all EHRS personnel involved in hazardous waste operations carries a cell phone – contact fire department and police.
2. Land Line Telephone – located directly adjacent to the storage facility – contact EHRS personnel, fire department and police.
3. Fire Alarm – located throughout the entire building – notifies and evacuates building occupants – notifies the Fire Department.

### Spill Control Equipment

1. Shovel – located in room G92 directly adjacent to the storage facility and in the emergency response vehicles.
2. Broom – located in room G92 directly adjacent to the storage facility and the emergency response vehicles.
3. Squeegee – located in room G92 directly adjacent to the storage facility and the emergency response vehicles.
4. Absorbent pads – located in room G92 directly adjacent to the storage facility and the emergency response vehicles. – size is 1x1.5 feet – 30 pads for containment.
5. Absorbent booms – located in room G92 directly adjacent to the storage facility and the emergency response vehicles. – four feet in length – 15 booms for containment.
6. Oil Absorbent – located in room G92 directly adjacent to the storage facility and the emergency response vehicles. – 5 gallons.
7. Neutralizing agents – located in room G92 directly adjacent to the storage area and the emergency response vehicles – powder neutralizes solvents, acids, and bases – over 30 gallons.
8. Personal Protection Equipment – located in the emergency response vehicles – respirator, gloves, goggles, and saranex suites with booties and hood.

### Decontamination Equipment

1. No decontamination equipment present.

**Appendix IX**  
**Quick Reference Guides**

# Hazardous Material Spill Identification

The Department of Environmental Health and Radiation Safety separates hazardous material spills into two main categories:

- **Major Spills**

- Chemical Spills Greater than 500 ml/gm –

The Department of Environmental Health and Radiation Safety defines major spill as a large spill that is greater than 500 gm or 500 ml or any amount of an acutely hazardous material. An acutely hazardous material is any material that is imminently dangerous to life and health.

- Select Agent Release

The Department of Environmental Health and Radiation Safety defines select agent releases as any amount of regulated select agent released into the environment that could threaten the safety and health of the building occupants. Select agent releases are considered major spill events. Upon identifying a release laboratory occupants must immediately implement the major spill procedures.

- Hazardous Gas Release

The Department of Environmental Health and Radiation Safety defines hazardous gas releases as any amount of hazardous gas released into the environment that could threaten the safety and health of the building occupants. Hazardous gas releases are considered major spill events. Upon identifying a release laboratory occupants must immediately implement the major spill procedures.

- Mercury Releases

The Department of Environmental Health and Radiation Safety considers mercury an extremely toxic and dangerous material. In effort to reduce possible exposure risks to personnel and students all mercury spills are regarded as major spills.

- **Minor Spills**

The Department of Environmental Health and Radiation Safety defines minor spill as a small spill that is less than 500 gm or 500 ml of non-acutely hazardous materials.

The Department of Environmental Health and Radiation Safety shall provide a list of some acutely hazardous chemicals. This list shall be referenced prior to any clean up.



All spills that occur in educational and vacant laboratories shall initially be identified as a major spill. The Department of Environmental Health and Radiation Safety shall assess the situation and determine the appropriate course of action.

# Hazardous Material Spill Procedures for Minor Spills

In the event of a minor spill the following emergency procedures shall be implemented:

1. If injured or contaminated with hazardous substances immediately proceed with personal decontamination procedures.
2. Laboratory personnel will be responsible for the containment and clean up of all **minor** spills.
3. Proper personal protection equipment shall be donned during the clean up of all **minor** spills. If the laboratory occupants do not have the proper personal protective equipment, then contact the EHRS for assistance at 215-895-5892 or 215-778-4278 or 215-895-5919 or Public Safety at 215-895-2822 to contact a representative from the EHRS
4. All non-disposable personal protective equipment shall be decontaminated and stored.
5. All disposable personal protective equipment and clean up materials shall be disposed of as hazardous waste.
6. If the material spilled is not covered under the **minor** spill definition (< 500 ml or 500 gm of non-acutely hazardous material) then laboratory personnel shall implement the **major spill procedures**.

## Education and Vacant Laboratories:

All **minor** spills occurring in vacant laboratories, education/prep laboratories, or any other university area shall be considered a major spill. Therefore, anyone observing a minor spill in these areas shall implement the major spill procedures.

# Hazardous Material Spill Procedures for Major Spills

The following procedure applies to:

- Laboratory personnel
- Education personnel
- Maintenance personnel
- Outside Contractor Personnel
- Environmental Services personnel
- Administrative personnel

In the event of a major spill in a university area, all laboratory, education, maintenance, outside contractor, administrative, and/or environmental services personnel will implement the following plan:

1. Notify persons in the immediate area that a spill has occurred.
2. Avoid breathing vapors, mists or dust of the spilled material.
3. Turn off all ignition sources, if possible.
4. If injured or contaminated with hazardous chemicals immediately proceed with personal decontamination procedures.
5. Evacuate room and close the door.
6. Contact the following using any in house telephone:

Campus	Public Safety Dispatcher	Campus Security
Center City	215-895-2222	267-359-2380
Queen Lane	215-895-2222	215-991-8102
University City	215-895-2222	215-895-2222
West Reading	215-895-2222	484-659-8100
Camden Plasma	215-895-2222	NA
Academy of Natural Science	215-895-2222	215-299-1019

7. In order to assess the situation be prepared to provide the following information:
  - Name and call back number.
  - The location of the spill (building and room number)
  - Type of material spilled.
  - The amount of material that spilled.
8. Remain on or near the telephone until you have received instructions from the emergency operator or Public Safety or Security or EHRS.

## Personal Decontamination Procedures

Please be advised that these procedures are general decontamination procedures. These procedures might not be appropriate for certain types of hazardous materials. In effort to ensure proper decontamination consult the Material Safety Data Sheet prior to conducting any experiments.

If injured or contaminated with a hazardous substance these procedures will be implemented **immediately** prior to cleaning up or reporting spill.

- For spills contacting the of skin, follow these procedures:
  1. Immediately flush with flowing water for no less than 15 minutes (i.e., sink or safety shower).
  2. If there is no visible burn, wash with warm water and soap, removing any jewelry to facilitate clearing of any residual material.
  3. Check the material safety data sheet to see if any delayed effects should be expected. If the SDS is not available, contact the EHRs immediately at 215-895-5892 or 215-778-4278 or 215-895-5919 or BioRAFT to download the SDS.
  4. Seek medical attention for even minor chemical burns.
  5. Do not use creams, lotions, or salves.
  
- For spills on clothing, follow these procedures:
  1. Do not attempt to wipe the clothes.
  2. Quickly remove all contaminated clothing, shoes, and jewelry while using the safety shower.
  3. Seconds count so do not waste time because of modesty.
  4. Take care not to spread the chemical on the skin or, especially, in the eyes.
  5. Use caution when removing pullover shirts or sweaters to prevent contamination of the eyes; it may be better to cut the garments off.
  6. Immediately flood the affected body area with warm water for no less than 15 minutes. Resume if pain returns.
  7. Get medical attention as soon as possible.
  8. Discard contaminated clothes as hazardous waste or have them laundered separately from other clothing.
  
- For splashes into the eye, take these steps:
  1. Using the eyewash immediately flush for at least 15 minutes.
  2. Hold the eyelids away from the eyeball and move the eye up and down and sideways to wash thoroughly behind the eyelids.
  3. Get medical attention immediately. Follow first aid by prompt treatment by a member of a medical staff or an ophthalmologist who is acquainted with chemical injuries.

# **Public Safety Dispatcher Hazardous Material Emergency Response Procedures**

## **Drexel Public Safety Dispatcher**

In event of a report of a major spill in a university area, the Public Safety Dispatcher will be responsible for implementing the following plan:

1. The following spill related information will be noted on the spill reporting worksheet when any spill is reported:
  - Date and time of call
  - Name of caller
  - Call back number
  - Location of the spill (building and room number)?
  - Type of spill
  - Amount of spill
  - Any injuries related to the spill?
  - Has the spill been contained?
2. Once the information has been gathered, the Dispatcher is responsible for directing the Public Safety Supervisor and Engineer to the location of the spill and notifying Emergency Rescue if there are any injuries.
3. The Dispatcher is responsible for contacting all individuals on the EHRS Emergency Contact List informing them of the situation.
4. The Dispatcher is responsible for contacting an individual on the Public Safety Emergency Contact List and informing them of the situation.
5. Once the severity of the spill has been determined, the EHRS Representative will provide further instructions.
6. If deemed necessary, EHRS will advise the dispatcher to notify the Fire Department of the situation by calling 911. The Dispatcher must be prepared to provide the exact location of the spill (building name and street address), the dispatcher's name, and any additionally requested information.

# Public Safety Officer/ Campus Security Hazardous Material Emergency Response Procedures

## Public Safety Officer/ Campus Security

In the event of a major spill the Public Safety officer/security will be responsible for implementing the following plan in this exact order:

1. Evacuate the affected area or areas.
2. Block off and secure the area or areas.
3. Remain outside area of spill at a **safe distance**.
4. Wait for instructions from EHRS.
5. Depending on the severity of the spill, additional Public Safety Officers/ Campus Security Officers may be directed to the scene to assist in crowd control and/or building evacuation.
6. Once the emergency is deemed under control, the Public Safety Officer/Campus Security Officer must contact the Dispatch Center and provide an update on the emergency.
7. The Public Safety or Campus Security Supervisor is responsible for filing a complete and accurate incident report.

# **Custodial Supervisor Hazardous Material Emergency Response Procedures**

In the event of a major spill the Custodial supervisor will be responsible for implementing the following plan:

1. Notify all custodial personnel of the hazardous situation.
2. Keep all personnel from entering the hazardous area.
3. Wait for instruction from the EHRS.

# Facilities Management Personnel

In the event of a major spill the facilities management supervisor will be responsible for implementing the following plan:

1. Notify all personnel of the hazardous situation.
2. Keep all personnel from entering the hazardous area.
3. Wait for instruction from the EHRS.



# Building Engineer Hazardous Material Response Procedures

In the event of a major spill the Building Engineer will be responsible for implementing the following plan:

1. The building engineer will contact the EHRS to discuss the situation in detail and determine the severity of the spill.
2. Notify all key personnel of the situation.
3. Keep all personnel from entering the hazardous area.
4. Remain outside area of spill at a **safe distance**.
5. Wait for instructions from the EHRS.

## **Department of Environmental Health and Safety Hazardous Material Emergency Response Procedures**

In the event of a major spill EHRS will be responsible for implementing the following plan:

1. Contact Public Safety Dispatcher immediately upon receiving notification of spill.
2. Contact person-reporting spill.
3. EHRS will contact the Public Safety supervisor and/or the Building Engineer on the scene to discuss the situation in detail and determine the severity of the spill.
4. Identify the character, source, and amount of released material. Identification can be performed by observation, chemical analysis, MSDS review, and/or chemical inventory.
5. Evaluate the situation. Use spill decision tree to assess the emergency.
6. If spill needs immediate response direct the Public Safety Dispatcher to immediately contact Fire Department. However, if spill does not need immediate response, then contact emergency response contractor or contain and remediate.
7. Evacuation of areas potentially affected by the spill (e.g., adjacent rooms or rooms below or above) will be at the discretion of EHRS. During evacuation of these areas be sure laboratory personnel shuts down all experiments and ignition sources.
8. Notify local authorities if other areas outside the building need to be evacuated or if spilled material has the potential to migrate off site into the public storm/wastewater system or surface water.
9. Obtain chemical inventory for area in question.
10. Obtain safety data sheets on spilled material.
11. Move all information related to the spill to the established incident command center.
12. If Fire Department is called, the Department of Environmental Health and Radiation Safety shall contact Community Relations.

If it is determined that a minor spill has occurred in a vacant laboratory or educational laboratory or any other area, then steps 1 through 6 of the major spill plan shall be implemented.

If minor spill occurs in an occupied laboratory during normal hours of operation (9:00 am to 5:00 pm) then laboratory personnel or moderator will be responsible for containment and clean up of the spilled material(s).

If minor spill occurs any time before 9:00 am or after 5:00 pm then Department of Environmental Health and Safety shall contact the secured hazardous material clean up contractor for containment and clean up of the spilled material(s).

If spilled material is radioactive then EHRS will be responsible for containment and clean-up of the spilled material(s).

## Spill Clean up Procedures

In the event of a spill, the Department of Environmental Health and Radiation. Safety, laboratory personnel and hazardous material remediation contractors will implement the following clean up procedures:

1. Proper personnel protection equipment will be donned during clean up of all hazardous materials. Personnel protection equipment compatibility charts will be referenced prior to cleaning up any spilled material(s). If the laboratory personnel do not have the proper personal protective equipment then contact the Department of Environmental Health and Safety for assistance at 215-895-5892 or 215-778-4278 or Public Safety at 215-895-2822 to contact a representative from EHRS.
2. Contain spilled material(s) using absorbent pads and/or socks. Paper Towels will not be used for containment of spill nor will they be used for clean up.
3. Neutralize spilled material(s) using the appropriate neutralizing agent.
4. Clean up neutralized material using dustpan and/or plastic scoop.
5. Place neutralized material in hazardous waste bags. Dispose of as hazardous waste.
6. Wash area where spill has occurred with distilled water several times making sure no residue was left behind. Dispose of any towels used as hazardous waste.
7. All emergency equipment shall be decontaminated and stored.
8. All non-disposable personal protective equipment shall be decontaminated and stored.
9. All disposable personal protective equipment and clean up materials shall be disposed of as hazardous waste.
10. Always use extreme caution when cleaning up hazardous substances.
11. A chronological report of the spill event must be drafted to document all event actions.

## **Appendix X**

### **U & P List – Toxic and Acutely Hazardous List**

## P LIST

Hazardous TOXIC CHEMICALS

Waste No. Substance

P023	Acetaldehyde, chloro
P002	Acetamide, N-(aminothioxomethyl)
P057	Acetamide, 2-fluoro
P058	Acetic acid, fluoro-, sodium salt
P002	1-Acetyl-2-thiourea
P003	Acrolein
P070	Aldicarb
P203	Aldicarb sulfone.
P004	Aldrin
P005	Allyl alcohol
P006	Aluminum phosphide (R,T)
P007	5-(Aminomethyl)-3-isoxazolol
P008	4-Aminopyridine
P009	Ammonium picrate (R)
P119	Ammonium vanadate
P099	Argentate(1-), bis(cyano-C)-, potassium
P010	Arsenic acid H3 As04
P012	Arsenic Oxide As2 O3
P011	Arsenic oxide As= OS
P011	Arsenic pentoxide
P012	Arsenic trioxide
P038	Arsine, diethyl
P036	Arsonous dichloride, phenyl
P054	Aziridine
P067	Aziridine, 2-methyl
P013	Barium cyanide
P024	Benzenamine, 4-chloro
P077	Benzenamine, 4-nitro
P028	Benzene, (chloromethyl)-
P042	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)
P046	Benzeneethanamine, alpha,alpha-dimethyl
P014	Benzenethiol
P127	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate
P188	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1,3a,8-tdimethylpyrrolo[2,3
P001	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations

P028	Benzyl chloride
P015	Beryllium powder
P017	Bromoacetone
P018	Brocine
P045	2-Butanone, 3,3-dimethyl-1-(methylthio)-,
P021	Calcium cyanide
P021	Calcium cyanide Ca(CN):
P189	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester
P191	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester.
P192	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.
P190	Carbamic acid, methyl-, 3-methylphenyl ester.
P127	Carbofuran.
P022	Carbon disulfde
P095	Carbonic dichloride
P189	Carbosulfan.
P023	Chloroacetaldehyde
P024	p-Chloroaniline
P026	1-(o-Chlorophenyl)thiourea
P027	3-Chloropropionitrile
P029	Copper cyanide
P029	Copper cyanide Cu(CN)
P202	m-Cumenyl methylcarbamate.
P030	Cyanides (soluble cyanide salts), not otherwise specified
P031	Cyanogen
P033	Cyanogen chloride
P033	Cyanogen chloride (CN)Cl
P034	2-Cyclohexyl-4,6-dinitrophenol
P016	Dichloromethyl ether
P036	Dichlorophenylarsine
P037	Dieldrin
P038	Diethylarsine
P041	Diethyl-p-nitrophenyl phosphate
P040	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	Diisopropylfluorophosphate (DFP)
P004	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a; hexahydro-. (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)
PO60	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa-chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4a]pha,4abeta,5beta,8beta.8abeta)
P037	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,ea,7,7a-octahydro- (1aalpha,2beta,2aalpha.3beta,6beta,6aalpha,7beta, 7aalpha)
P051	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-

	(1alpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalphay, & metabolites
P044	Dimethoate
P046	alpha, alpha-Dimethylphenethylamine
P191	Dimetilan.
P047	4,6-Dinitro-o-cresol, & salts
P048	2,4-Dinitrophenol
P020	Dinoseb
P085	Diphosphoramidate, octamethyl
P711	Diphosphoric acid, tetraethyl ester
P039	Disulfoton
P049	Dithiobiuret
P785	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)- carbonyl]oxime.
P050	Endosulfan
PO88	Endothall
P051	Endrin
P051	Endrin, & metabolites
P042	Epinephrine
P031	Ethanedinitrile
P194	Ethanimidothioc acid, 2-(dimethylamino)-N-[[[(methylamino) carbonyl]oxy]-2-oxo-, methyl ester.
P066	Ethanimidothioic acid,
P701	Ethyl cyanide
P054	Ethyleneimine
P097	Famphur
P056	Fluorine
P057	Fluoroacetamide
P058	Fluoroacetic acid, sodium salt
P798	Formetanate hydrochloride.
P197	Formparanate.
P065	Fulminic acid, mercury(2+) salt (R,T)
P059	Heptachlor
P062	Hexaethyltetraphosphate
P116	Hydrazinecarbothioamide
P068	Hydrazine, methyl
P063	Hydrocyanic acid
P063	Hydrogen cyanide
P096	Hydrogen phosphide
P060	Isodrin
P192	Isolan.
P202	3-Isopropylphenyl N-methylcarbamate.
P007	3(2H)-Isoxazolone, 5-(aminomethyl)
P196	Manganese, bis(dimethylcarbamodithioato-S,S')-,

P196 Manganese dimethyldithiocarbamate.  
 P092 Mercury, (acetato-0)phenyl  
 P065 Mercury fulminate (R,T)  
 P082 Methanamine, N-methyl-N-nitroso  
 P064 Methane, isocyanato  
 P016 Methane, oxybis[chloro  
 P712 Methane, tetranitro- (R)  
 P118 Methanethiol, trichloro  
 P798 Methanimidamide, N,N-dimethyl-N'-[3-[[[(methylamino)-carbonyl]oxy]phenyl]-,  
 monohydrochloride.  
 P197 Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[[(methylamino)carbonyl]oxy]phenyl]  
 P050 6,9-Methano-2.4,3-benzodioxathiepin, 6,7,8,9,10,10  
 P059 4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro  
 P199 Melhiocarb.  
 P066 Methomyl  
 P068 Methyl hydrazine  
 P064 Methyl isocyanate  
 P069 2-Methylactonitrile  
 P071 Methyl parathion  
 P790 Metolcarb.  
 P128 Mexacarbate.  
 P072 alpha-Naphthylthiourea  
 P073 Nickel carbonyl  
 P073 Nickel carbonyl Ni(CO)<sub>4</sub>, (T-4)  
 P074 Nickel cyanide  
 P074 Nickel cynaide Ni(CN):  
 P075 Nicotine, & salts  
 P076 Nitric oxide  
 P077 p-Nitroaniline  
 P078 Nitrogen dioxide  
 P076 Nitrogen oxide NO  
 P078 Nitrogen oxide NO,  
 P081 Nitroglycerine (R)  
 P082 N-Nitrosodimethylamine  
 P084 N-Nitrosomethylvinylamine  
 P085 Octamethylpyrophosphoramide  
 P087 Osmium oxide O\$0,, (T-4)  
 P087 Osmium tetroxide  
 P088 7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid  
 P794 Oxamyl.  
 P089 Parathion



P034 Phenol, 2-cyclohexyl-4,6-dinitro  
 P048 Phenol, 2,4-dinitro  
 P047 Phenol, 2-methyl-4,6-dinitro-, 8 salts  
 P020 Phenol, 2-(1-methylpropyl)-4,6-dinitro  
 P009 Phenol, 2,4,6-trinitro-, ammonium salt (R)  
 P128 Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester).  
 P199 Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate  
 P202 Phenol, 3-(1-methylethyl)-, methyl carbamate.  
 P201 Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate.  
 P092 Phenylmercury acetate  
 P093 Phenylthiourea  
 P094 Phorate  
 P095 Phosgene  
 P096 Phosphine  
 P041 Phosphoric acid, diethyl 4-nitrophenyl ester  
 P039 Phosphorodithioic acid, 0,0-diethyl  
 P094 Phosphorodithioic acid, 0,0-diethyl  
 P044 Phosphorodithioic acid, 0,0-dimethyl S-[2-(methylamino)-2-oxoethyl] ester  
 P043 Phosphorofluondic acid, bis(1-methylethyl) ester  
 P089 Phosphorothioic acid, 0,0-diethyl O-(4-nitrophenyl) ester  
 P040 Phosphorothioic acid, 0,0-diethyl O-pyrazinyl ester  
 P097 Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] 0,0-dimethyl ester  
 P071 Phosphorothioic acid, 0,0.-dimethyl 0.(4-nitrophenyl) ester  
 P204 Physostigmine.  
 P188 Physostigmine salicylate.  
 Pilo Plumbane, tetraethyl  
 P098 Potassium cyanide  
 P098 Potassium cyanide K(CN)  
 P099 Potassium silver cyanide  
 P201 Promecarb  
 P070 Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime  
 P203 Propanal, 2-methyl-2-(methyl-sulfonyl)-, O-[(methylamino)carbonyl] oxime.  
 P101 Propanenitrile  
 P027 Propanenitrile, 3-chloro  
 P069 Propanenitrile, 2-hydroxy-2-methyl  
 P081 1,2,3-Propanetdol, trinitrate (R)  
 P017 2-Propanone, 1-bromo  
 P102 Propargyl alcohol  
 P003 2-Propenal  
 P005 2-Propen-1-ol  
 P0671, 2-Propylenimine

P102 2-Propyn-1-ol  
 P008 4-Pyridinamine  
 P075 Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, 8 salts  
 P204 Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-thmethyl-,methylcarbamate (ester), (3aS-cis)-.  
 P114 Selenious acid, dilhallium(1+) salt  
 P104 Silver cyanide  
 P104 Silver cyanide Ag(CN)  
 P105 Sodium azide  
 P106 Sodium cyanide  
 P106 Sodium cyanide Na(CN)  
 P108 Strychnidin-10-one, & salts  
 P018 Strychnidin-10-one, 2,3-dimethoxy  
 P108 Strychnine, & salts  
 P115 Sulfuric acid, dithallium(1+) salt  
 P109 Tetraethyldithiopyrophosphate  
 P110 Tetraethyl lead  
 P111 Tetraethyl pyrophosphate  
 P112 Tetranilromethane (R)  
 P062 Tetrphosphoric acid, hexaethyl ester  
 P113 Thallic oxide  
 P713 Thallium oxide Tl<sub>2</sub>O,  
 P114 Thallium(I) selenite  
 P115 Thallium(I) sulfate  
 P109 Thiodiphosphoric acid, tetraethyl ester  
 P045 Thiofanox  
 P049 Thioimidodicarbonic diamide [(H= N)C(S)1= NH  
 P014 Thiophenol  
 P116 Thiosemicarbazide  
 P026 Thiourea, (2-chlorophenyl)  
 P072 Thiourea, 1-naphthalenyl  
 P093 Thiourea, phenyl  
 P185 Tirpate.  
 P123 Toxaphene  
 P118 Trichloromethanethiol  
 P119 Vanadic acid, ammonium salt  
 P120 Vanadium oxide V<sub>2</sub>O<sub>5</sub>  
 P120 Vanadium pentoxide  
 P084 Vinylamine, N-methyl-N-nitroso  
 P103 Selenourea  
 P001 Warfarin, & salts, when present at concentrations greater than 0.3

P205 Zinc, bis(dimethylcarbamodithioalo-S,S')-,  
P121 Zinc cyanide  
P121 Zinc cyanide  $Zn(CN)_2$   
P122 Zinc phosphide  $Zn_3P_2$ , when present at concentrations greater than 10% (R,T)  
P205 Ziram  
U007 Acrylamide  
U135 Hydrogen sulfide  
U135 Hydrogen sulfide  $H_2S$   
U151 Mercury  
U188 Phenol  
See F027 2,4,5-T  
U207 1,2,4,5-Tetrachlorobenzene  
U208 1,1,1,2-Tetrachloroethane  
U209 1,1,2,2-Tetrachloroethane  
U210 Tetrachloroethylene  
See F027 2,3,4,6-Tetrachlorophenol

**Appendix XII**  
**Facility Locations**

## Facility Locations

### University City Campus

Drexel : 3141 Chestnut Street  
Philadelphia, Pa 19104

### Center City Campus

New College Building : 245 North 15<sup>th</sup> Street  
Philadelphia, Pa 19102

Bobst Building : 245 North 15<sup>th</sup> Street  
Philadelphia, PA 19102

Academy of Natural Science : 1900 Benjamin Franklin Parkway  
Philadelphia, PA 19012

### Queen Lane Campus

Queen Lane : 2900 Queen Lane  
Philadelphia, Pa 19129

### West Reading Campus

West Reading : 50 Innovation Way,  
Wyomissing, PA 19610