Part E: Emergency Procedures

Plan for emergencies. Do not let them take you by surprise. If it can happen, it will happen. First, look around your laboratory. Consider what chemical emergencies are possible. Could there be a fire, spill, chemical exposure, or gas release?

Second, plan how to prevent and respond to those emergencies. For most labs, this Guide will suffice as its written Emergency Response Plan. Some laboratories may need additional procedures for unusual situations. For example, some procedures cannot be conducted safely alone.

Third, make sure you are prepared to respond to an emergency. Store spill control materials, personal protective clothing, and other emergency response equipment nearby. Practice emergency communications, evacuation procedures, and spill response. Post hazard information and contact names on the door to your lab to help emergency responders.

UW-L EMERGENCY RESPONSE PROCEDURE

Determine if event is a life threatening or non-life threatening emergency.
Call 911 to report any **life-threatening emergency** to local authorities.
Provide follow-up notification to University Police at 789-9999.
Call 789-9999 to report **all other emergencies** to University Police.
Call 789-9000 for other campus switchboard/dispatch requests for **assistance** or **information**.

A Life Threatening Emergency is an unforeseen event in which there is a clear potential for serious injury to a person if immediate action is not taken. If in doubt, consider the emergency life threatening.

An Emergency is an unforeseen event that calls for immediate action to protect individuals, the environment or property.

Additional emergency response procedures specific to UW-L can be accessed on the UW-L website by searching for the term emergency plan.

Notification: Your Responsibility

Immediately report all spills, leaks, or releases to University Police that enter or could enter a sanitary drain, storm drain, or is some other way the environment. Also, report spills, leaks, or releases that do not affect the environment; but are beyond your ability to clean with standard spill kits and personal protective equipment available in or around your lab. University Police will request assistance from local emergency responders and should inform UWL Environmental Health and Safety. Environmental Health and Safety will assess the event and complete regulatory agency notification and reporting. Wisconsin's Spill Law covers accidental, intentional, sudden and non-sudden releases to the environment including spills, leaks, and releases to land, air, or water.

Routine fume hood releases through normal use need not be reported to the Environmental Health and Safety office. However, strive to minimize all releases to the environment. Check with the Environmental Health and Safety office if you emit highly toxic or unusual chemicals via a fume hood.

University Police is the communication center for campus emergency response.

911 Phone Number: How It Works, When To Use It

911 service is the universal emergency phone number that can be used no matter where a caller may be. Dialing 911 in emergencies speeds up emergency service by eliminating the need for the caller to look up emergency phone numbers.

When 911 is dialed from a campus telephone, the call is received at a local emergency dispatch center. The police dispatcher records any relevant information about the nature of the emergency and dispatches the appropriate personnel. University Police are notified of the incident and provide collaborative support in responding to the emergency.

According to University Police, one of the biggest confusions about 911 service is determining when to use the service. Call 911 in any instance that may be life threatening or where you would expect a police officer's immediate response.

There are also numerous blue-light emergency telephones on campus. These telephones are connected directly to University Police.

Please note that when calling 911 or 789-9999 (University Police emergency number) from a cell phone or other mobile device, the location of your call may not be known by the dispatcher, so please make sure you communicate the location of the emergency.

Your Cooperation is Needed

When the fire alarm in your building goes off, leave the building immediately. Do not take anything with you that would slow you down or impede the exit of others. Individuals with disabilities who are unable to exit should go to the nearest exit stairwell, where other staff or fire fighters will assist them when they arrive on the scene.

Do not re-enter the building (even if the fire alarm stops sounding) unless University Police or Fire Department personnel give permission

POST YOUR ROOM FOR EMERGENCIES

Post the entrance to your laboratory with a sign to inform emergency responders of the hazards present and whom they should contact in the event of an emergency. This will facilitate a prompt response and minimize damage to your lab.

The Environmental Health and Safety office recommends that each laboratory have a sign posted that includes the following content.

- An indication of the level of flammability, reactivity and toxicity hazards of the chemicals present in the room. Also, indicate if a water reactive chemical is present.
- The names and phone numbers (campus and home) of the person or persons responsible for your lab, and an alternate emergency contact.

See the next page for a sample of a laboratory entrance poster. Emergency contact posters are available from the Environmental Health and Safety office.

If you use radioactive materials or biohazardous agents, or if other hazards are present in the room that emergency responders should know about (e.g., high voltage power supply), be sure to include those hazards on your emergency posting.

LIFE THREATENING EMERGENCIES

Life threatening emergencies are those emergencies that pose an immediate threat to health, property, or the environment. Some incidents, like spills and releases of hazardous materials require the assistance of the La Crosse Fire Department's Hazardous Incident Response Team. Emergencies that require the evacuation of a building (or a floor or a wing of a building), or result in injuries requiring an ambulance, are high hazard emergencies.

It is best to err on the side of caution. If you do not know the nature of the emergency or are in any way uncertain as to how to handle the emergency, proceed with the below Life Threatening Emergency procedures.

> Life Threatening Emergencies include most fires and explosions, spills or releases that threaten to spread to other areas, injuries that require medical attention, and any emergency that requires evacuation.

Responding to Life Threatening Emergencies

1. Call 911 and then University Police at 789-9999.
   - Identify yourself and the reason you are calling.
   - Identify the exact location of the emergency.
   - Identify the nature of the emergency, any injuries or symptoms involved, and the identity of any hazardous materials involved if you know them.

> Never attempt a rescue unless you are protected from the hazard and you are sure of your safe return. Leave rescue operations to the La Crosse Fire Department or other emergency responders.

UNIVERSITY of WISCONSIN
LA CROSSE
EMERGENCY LABORATORY INFORMATION

(Complete gray highlighted sections and post in sign holder mounted in hallway near lab door.)

Department	Room Number	Date
Person Responsible for Lab	Office Phone	Other Phone
Alternate Contact	Office Phone	Other Phone

EMERGENCY RESPONSE PROCEDURE

Call 911 or 9-911 *to report* ***life-threatening emergency*** *to local authorities.* Provide follow up notification to UWL Police at 608-789-9999.
Call 9-9999 or 608-789-9999 to report all other emergencies to UWL Police.
A Life Threatening Emergency is an unforeseen event in which there is a clear potential for serious injury to a person if immediate action is not taken.
An **Emergency** is an unforeseen event that calls for immediate action to protect individuals, the environment, or property.

- For Fire: Pull alarm and evacuate building. Stay outside until UWL Police or City of La Crosse Fire Department permits entry.
- For Large or Dangerous Hazardous Material Release: Evacuate area, close doors to affected lab(s), and call 608-789-9999 or 9-9999.
- Search for and become familiar with "Emergency Response Plan" at UWL homepage.
- Contact UWL Police (608-789-9000) or Environmental Health & Safety (608-785-6800) for additional information.

EMERGENCY EXITS AND EQUIPMENT LOCATION: Familiarize yourself with alternate emergency exit routes. Know the location of nearby fire extinguishers, fire alarm pull stations, emergency eyewash/shower, and spill control kits. ***DO NOT BLOCK EXIT ROUTES OR EMERGENCY EQUIPMENT.***

LABORATORY HAZARDS (Place "X" in preceding boxes)

	Biosafety Level 1 (Less Hazardous)		Flammable Liquids (flashpoint < 100 °F)		Compressed Gas Cylinders
	Biosafety Level 2		Combustible Liquids (flashpoint at or > 100 °F)		Cryogens (e.g. Liquid Nitrogen)
	Biosafety Level 3 (More Hazardous)		Air/Water Reactive		Radioactive Materials (Isotopes)
	Human Pathogen(s)		Concentrated Acids/Bases (Corrosives)		Other:
	Animal Pathogen(s)		Strong Oxidizers		Other:
	Plant Pathogen(s)		Toxins/Carcinogens/Mutagens		Other:

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2. For situations that threaten fire or explosion, and spills in which hazardous vapors are present:
   - Evacuate the area and tell others to evacuate.
   - Close, but do not lock doors behind you to isolate the area.
   - Call 911
   - Go to the floor(s) below the effected area to determine if the spill is entering other areas.
   - If you have time to do so safely, post a sign to warn others not to enter the area.

3. If fire, smoke, gases or vapors are spreading to other areas:
   - Pull the fire alarm to evacuate the building.
   - Call University Police from a remote location and inform them of the spill.
   - Be available to advise emergency response personnel by identifying yourself when they arrive. Someone responsible for that room or building should be present to provide details of the incident to emergency responders. This individual should be able to identify the types and quantities of chemicals stored there, and their locations within the rooms.

Provide clear and complete information to emergency responders.

FIRES

Be prepared for fires. Know where your emergency exits and nearest fire alarms are. Call the Environmental Health and Safety office to request fire extinguisher training. Your ability to respond quickly and competently with the appropriate fire extinguisher can keep a minor flame from turning into a major fire.

Be prepared for emergencies: Know where your nearest exits and fire extinguishers are before they are needed.

In the event of a fire, pull the fire alarm first. Then, if you have been trained and the fire is very small, attempt to extinguish the fire with an appropriate fire extinguisher. If you manage to extinguish the fire, inform University Police.

In the event of a fire, pull the fire alarm <u>first.</u>

These campus fire extinguishers…	**… are good for fighting fires involving:**
Class ABC Dry Chemical	Normal combustibles (paper, wood, and rubbish), flammable liquids and electrical fires
Class BC Dry Chemical Class BC Carbon Dioxide	Flammable liquids and electrical fires
Class A Water	Normal combustibles, such as paper, wood and rubbish
Class D Metal Class D	Alkali metals, such as Sodium, Potassium or Lithium and other alkali metals

If you doubt your ability to extinguish the fire with an extinguisher, get out of the affected area, and call 911 to summon the Fire Department. When you evacuate, move well away from the building to allow firefighters room to work. Move upwind of the building. Do not re-enter the building until the Fire Department or University Police give permission. Fire prevention is discussed in Part D, Chemical Safety Procedures for Laboratories.

EXPLOSIONS

If an explosion occurs, follow Life-threatening emergency procedures, and:

- Beware of secondary explosions, fires, and spills or releases of toxic chemicals due to glass container damage triggered by the first blast.
- Stay clear of windows.
- See Part D and Appendix B for information about preventing explosions.

INJURIES

All injured persons should seek medical advice and attention. Prompt action to notify emergency responders and appropriate first aid attention is important to someone who is seriously injured. To transport an injured person to a local emergency room call 911. In some cases, University Police will transport injured personnel to the emergency room. You may also take minor accident victims to a local emergency room. However, do not move a seriously injured person unless he or she is in further danger.

Also, be sure to notify your supervisor of any injuries, and complete a Worker Compensation Injury and Illness Report available on the UWL Human Resources website.

First notify 911 or University Police, then seek medical attention for the victim, then administer first aid.

FIRST AID

If you have been trained to administer first aid, you can help treat minor injuries or help direct interim first aid measures until medical personnel can take over. Be prepared by taking a Red Cross first aid class. The following are first aid procedures that may be useful in a laboratory setting:

Smoke or other gaseous inhalation: Victim should be moved to an area of fresh air, resuscitated with rescue breathing if necessary, and given shock prevention treatment. Shock prevention includes having victim lying down, lightly covered to preserve body heat, and comforted to reduce anxiety.

Chemical splash in the eyes: Remove contact lenses (if present) and flush the opened eyes for at least 15 minutes in an emergency eyewash.

The first 15 seconds are critical in limiting the amount of eye damage.

Chemical splash on the body*:* Immediately rinse off the affected area in the nearest emergency shower, or other water source, for at least 15 minutes. Immediately remove all contaminated clothing, including undergarments and jewelry. This is no time for

modesty. Removing saturated clothing from the victim promptly can greatly reduce the severity of a chemical burn.

Thermal Bums: Immerse the burned area in cold water or hold under cold running water until the pain stops. Cover with a sterile dressing.

Poisons: Call the American Association of Poison Control Centers at 1-800-222-1222 for advice about poisoning and chemical toxicity.

Bleeding: Hold a clean pad directly on the wound and apply hand pressure. If necessary, elevate the bleeding extremity and apply pressure to a pressure point to reduce blood flow. Wear gloves and other protective equipment to prevent exposure to another person's blood.

Clothing Fires*:* Put out burning clothing or hair by dousing the victim in a safety shower or other water source. If the shower is not immediately present, STOP, DROP, and ROLL. The affected person should lie down on the ground and be covered with a blanket. The first priority should be to put out the fire at the head and work down to the feet.

Always get medical attention for a victim after administering first aid.

SIMPLE SPILLS

At a minimum, persons spilling chemicals and persons discovering chemical spills are responsible for assessing the spill and notifying University Police. Campus chemical users are responsible for cleanup of small spills, while the La Crosse Fire Department's Hazardous Materials Response Team responds to spills that are more serious. The Environmental Health and Safety office does not clean up chemical spills on campus. Environmental Health and Safety will provide advice and can provide spill cleanup supplies. For mercury spills, see the special procedures below.

Assessing Spills

Persons causing small spills are responsible for cleanup to the extent of their abilities. A small spill is defined as one that is a quantity of hazardous material normally worked with that does not spread rapidly, does not endanger people or property except by direct contact, and does not endanger the environment outside the building. A simple spill can be neutralized, absorbed, or otherwise managed by the user(s) of the chemical. However, prior to clean-up the person must be familiar with the hazards of the material and the volume spilled must be a volume that they normally work with.

> A small spill does not spread rapidly, does not endanger people or property except by direct contact, and does not endanger the environment outside the building.

No notification of emergency responders is necessary for simple spills. However, the Environmental Health and Safety office must be notified.

Environmental Health and Safety have provided spill kits to all laboratories. Please become familiar with these kits and their location.

All other spills or releases should be considered life-threatening emergencies (see above). The La Crosse Fire Department's Hazardous Materials Response Team contains life-threatening chemical spills or releases. Your call to 911 or University Police will summon them. They have self-contained breathing apparatuses and other protective equipment that allows safe entry into the hazardous area.

Remember:

- Even a small amount of spilled flammable liquid or reactive substance can present a significant fire hazard. There are many spark sources in laboratories. Do not hesitate to evacuate. Notify 911, University Police, and pull the fire alarm if you are unsure of the spill's fire potential.

- Any uncontained chemical that can disperse fumes, gases, or dusts may be hazardous to your health and the health of those around you. If you suspect that the spilled or released chemical is toxic, evacuate the area. If others in the area could be exposed to the chemical, evacuate the area or building and follow the high hazard emergency procedures.

Always err on the side of caution; when in doubt, get out!

Preparing for Spills

Chemicals users should be aware of the hazards of their chemicals and how to manage spilled materials. This information can be found on the Safety Data Sheet (SDS), which are available for every chemical you purchase. If you are unsure of the safety hazards of a particular chemical, be sure to study the SDS before starting any procedures. If you need a SDS, you can locate one through most manufacturer's websites or contact the Environmental Health and Safety office.

Everyone who works with chemicals should learn how to respond to spills and practice methods to prevent spills.

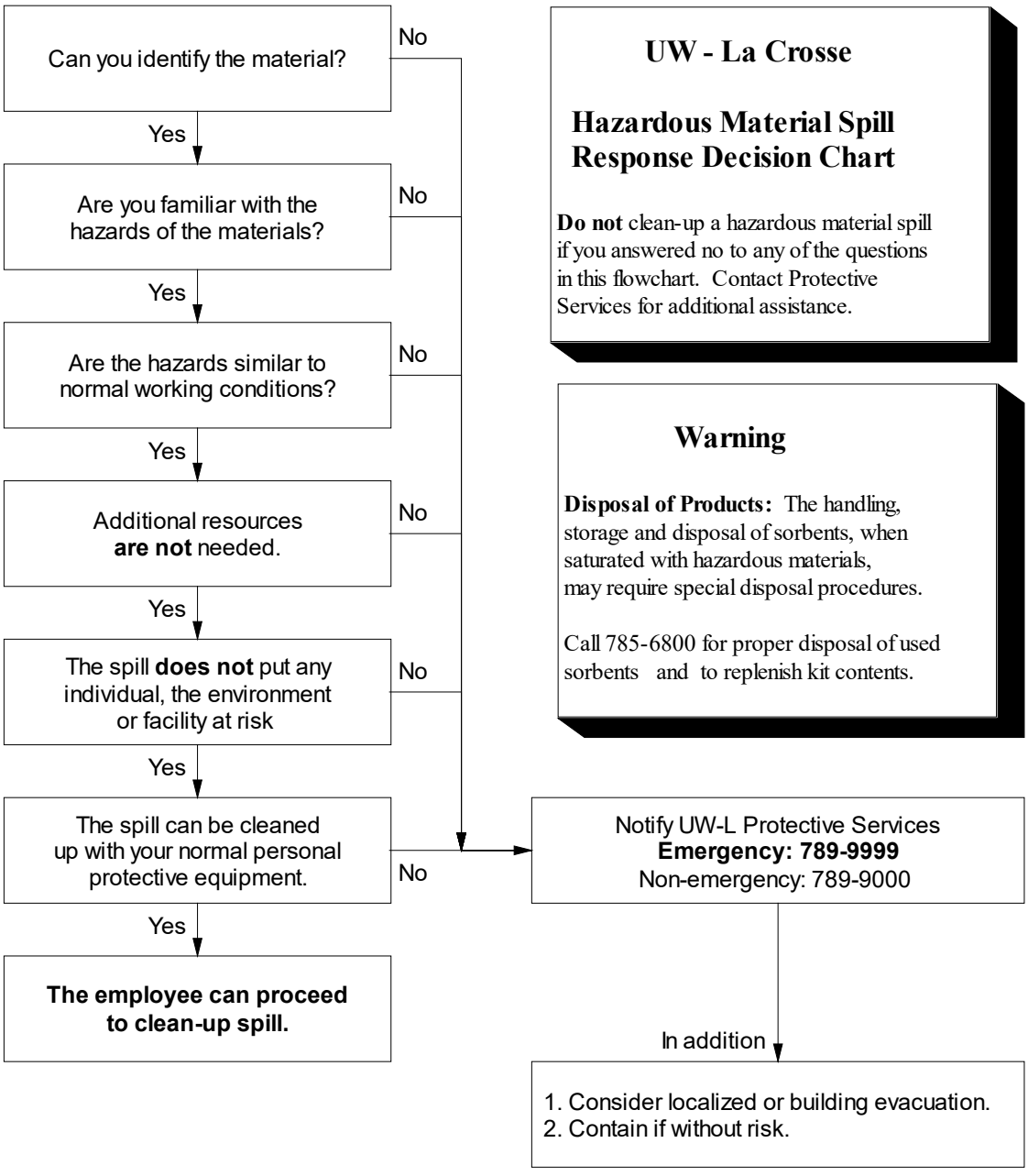
Investigators and supervisors are responsible for training students and employees on the procedures for safely working with chemicals, including responding to chemical spills. Training aids are described in Appendix G.

Environmental Health and Safety is also available for training and consultation regarding safety practices and engineering controls to prevent spills and releases. They can also recommend spill control materials that are applicable for your specific situation.

Please refer to the following UW-La Crosse Hazardous Material Spill Response Decision Chart for information related to responding to spills.

NOTICE

Read all instructions **prior** to use of this kit. Be thoroughly familiar with the hazards of the spilled materials and appropriate protective measures **before** cleaning up any spilled chemical.



Personal Protective Equipment for Spill Cleanup

Eye Protection: Safety glasses are the absolute minimum for working in a laboratory or cleaning up spills of hazardous materials; for corrosive and/or reactive materials, chemical goggles and/or a face shield are also necessary.

Skin Protection: All personnel involved in spill cleanup should wear a lab coat. If splashing is a possibility, an apron should be worn.

Gloves are very important to protect your hands. Since chemicals penetrate or degrade gloves, you should refer to a glove selection chart to choose the best glove for your work. The Environmental Health and Safety office is available for consultation on glove selection. Boots or shoe covers may be necessary for large liquid spills.

Respirator use during emergency spill cleanup events is limited to emergency responders or contractors hired to cleanup a spill. This practice exists because respirators, by regulation, must be selected based on the material(s) spilled and the airborne concentrations of the material spilled. OSHA regulations also require medical evaluations for respirator users and annual training. Respirators are not needed for items with low volatility or low toxicity. Lab users of low volatility and low toxicity chemicals should clean up spills of these materials.

If a respirator is required to clean up a spill, evacuate the spill area and allow emergency responders to clean up the spill. Trained contractors or the La Crosse Fire Department's Hazardous Materials Response Team will respond to the spill event. You should not use a respirator unless you have been trained, medically evaluated, fit-tested, and the respirator has been selected based on hazards and characteristics of the spilled material.

SPILL CLEANUP PROCEDURES

Be prepared for the worst-case scenario. Plan for a spill of your largest container of acid, base, solvent, or dry chemical. The provided procedures provide a generic response protocol that may have to be adapted for your situation. Contact Environmental Health and Safety for additional guidance. Environmental Health and Safety has provided chemical spills kits for all labs. Contact Environmental Health and Safety if you need kit contents replenished, if you want additional kits, or you have need for special spill response supplies.

Chemical Spill Cleanup Procedures and Response Supplies	
Step	**Supplies Needed**
1. Control the spread of the liquid. Make a dike around the liquid by placing absorbents or pillows at the outside edges of the spill.	•Absorbent material (e.g. paper towels, oil-dry, cat litter, spill booms and pillows).
2. Treatment/neutralization of spilled acids and bases must be must done safely. Treating strong or concentrated acids and bases in place is not encouraged as this process can generate excess heat and irritant gases. Weak or diluted acids and bases can be treated in place; once neutralized, they can be mopped up and rinsed down the drain. A neutralizing spill absorber greatly simplifies cleanup and disposal.	•For acids: sodium carbonate, calcium carbonate or sodium bicarbonate. •For bases: citric acid powder. •pH paper to indicate when spills of acids and bases have been neutralized. •Specific agent: call the Environmental Health and Safety office for advice.

3. Absorption: Add the absorbents to the spill, working from the outer edges toward the center.	•Chemical spill control pillows and pads are included in all spill kits provided by Environmental Health and Safety.
4. Recovery and Containment for Disposal: The neutralized spill residue or the absorbent should be placed in a plastic bag set into a 5-gallon bucket or other container. For dry powders or liquids absorbed to dryness, you can double bag the residue into plastic bags and place the bags into a box. For spills of powders or solid materials, sweep up the material. You may want to mist the dry material with water to reduce making the material airborne. Do not add water to water-reactive materials.	•Plastic bag, jar, bottle, jug or plastic pail. •Forceps (to pick up broken glass), broom, shovel, dust pan. •Mop and bucket.
5. Decontamination: Ventilation may be necessary. Open windows or use a fan. In some instances, the Environmental Health and Safety office can test the air near where the spill occurred, to see if air concentrations of the chemical have been lowered to an acceptable level.	•For most spills, conventional cleaning products applied with a mop will decontaminate satisfactorily. •For toxic chemicals: use a suitable solvent; call the Environmental Health and Safety office for advice.
6. Disposal: Write directly on the container the identity of the spilled material and whether it is absorbed or neutralized. Contact the Environmental Health and Safety office for disposal.	•Plastic or sturdy cardboard over pack containers. •Plastic bags to act as an inner liner for the over pack container. •Label container with chemical name(s), contact person name, spill location, and spill date.

PROCEDURES FOR HYDROFLUORIC ACID SPILLS

If you use hydrofluoric acid (HF), contact Environmental Health and Safety to acquire an HF spill kit. Only use a neutralizing agent on dilute concentrations of HF. Sodium carbonate, sodium bicarbonate, or sodium hydroxide are suitable neutralization agents for HF.

Hydrofluoric acid (HF) rapidly penetrates deep into skin tissue, so avoid getting any on your skin or in your eyes. Always wear an apron, gloves, and goggles when using HF.

Calcium gluconate gel is a topical antidote for HF skin exposure. Calcium gluconate works by combining with HF to form insoluble calcium fluoride, thus preventing the extraction of calcium from tissues and bones. Keep calcium gluconate gel nearby whenever you are working with HF. Calcium gluconate has a limited shelf life and should be stored in a refrigerator if possible and replaced after its expiration date has passed. Use disposable gloves to apply calcium gluconate gel. For HF eye exposure flush with water for 15 minutes. For HF ingestion, drink water or milk. For HF inhalation move victim to fresh air. Do not ingest or apply calcium gluconate to the eyes. Medical evaluation must be completed for any HF exposure.

Any lab using HF should develop an HF safety plan for use of this material.

MERCURY SPILLS

Mercury use has been greatly curtailed at UWL. Mercury presents a problem because of the difficulty in picking up the tiny droplets and the hazards of undetected residues. Metallic mercury remaining in cracks and crevices can give off toxic vapors for years.

Prevention is the best way to handle mercury spills. Trays should be used under equipment wherever a mercury spill is possible. Eliminate mercury from your lab!

Wear gloves when cleaning up mercury spills. Although the main exposure route is through inhalation, it can also be absorbed through the skin.

Do not use a regular vacuum cleaner to pick up spills of liquid mercury. Some mercury is removed, but most of it is dispersed into the air.

Mercury Spills Clean-up Procedure

First, pick up glass or other large debris, and then pick up the spilled metallic mercury. You can use a side arm flask connected to a vacuum pump or sink aspirator to vacuum up small beads. Alternatively, you can consolidate the spill by using a thin piece of cardboard or plastic. The mercury can be pushed onto another thin piece of cardboard or plastic and transferred into the disposal container. Use mercury spill powder, mercury absorbent paper, or mercury sponges to decontaminate the area and clean up spill residues. A recipe for mercury spill powder is provided below. Commercial kits and equipment are available for mercury spills. Mercury spill kits are available from Environmental Health and Safety. Please familiarize yourself with these kits and their location.

Put the mercury into an airtight container labeled, "Waste Mercury". Debris that cannot be cleaned should be provided to Environmental Health and Safety. Glassware and other debris that are clean (no visible mercury) may be discarded in the normal trash.

Broken Mercury Thermometers

Put the mercury in an airtight container labeled "Waste Mercury" or carefully wrap the sharp ends of the broken thermometer and place in a plastic bag, wide mouth jar or other puncture resistant container. Refer to procedures in Part G, Chemical Disposal Procedures, for disposal instructions.

Large Mercury Spills

For mercury spills greater than 5 milliliters, call the Environmental Health and Safety office. Close off and post the area to prevent mercury inhalation injuries and vapors from spreading.

Make spill powder to clean up mercury spills by mixing 85 grams of finely powdered sodium thiosulfate with 15 grams of finely powdered EDTA. Follow this procedure:

1. Pick up all the large drops of mercury using an aspirator or other means.
2. Sprinkle the powder on the spill area; wet it down with a water mist (pump operated spray bottles work well for this).
3. Let it sit over night.
4. The powder should be disposed according to Part G, Chemical Disposal Procedures.

REVIEW QUESTIONS

1. Who do you first call for a life-threatening emergency?
   a) Environmental Health and Safety.
   b) 911.
   c) University Police.
   d) Wisconsin Department of Natural Resources.

2. Life threatening chemical emergencies (e.g., large spills, releases, or fires) on the UWL campus are initially contained by:
   a) Whoever caused it.
   b) Environmental Health and Safety office.
   c) La Crosse Fire Department's Hazardous Material Response Team.
   d) Wisconsin Department of Natural Resources (DNR).

3. A fire alarm is used to:
   a) Evacuate a building in case of a fire.
   b) Evacuate a building in case of any emergency requiring evacuation.
   c) Notify emergency responders of a potential emergency condition.
   d) All of the above.

4. A Class BC fire extinguisher is not appropriate for what type of fire?
   a) Normal combustibles, such as paper, wood and rubbish.
   b) Flammable liquids.
   c) Electrical fires.
   d) Alkali metals, such as sodium or potassium metal.
   e) a and d.

5. You are using an acidic solution in a dispenser. The dispenser malfunctions and squirts your eye with the acidic solution. The correct response is:
   a) Go to the nearest eyewash station and flush your eye for at least 15 minutes.
   b) Go to an emergency room for medical attention.
   c) Use a basic solution to neutralize the acid.
   d) a then b.

6. You have knocked a one-liter glass container of a liquid chemical off the counter in your lab, spilling the contents all over the floor. The correct first response is to:
   a) Pull the fire alarm and leave the building.
   b) Find out what chemical has spilled, and if you can safely proceed, clean up the spill.
   c) Call the Environmental Health and Safety office and ask them to come and clean it up for you.
   d) Don't worry about it and continue with your work.
   e) a or b

7. You've knocked over a small bottle of a pyrophoric chemical out of the hood where you were working with it into a nearby wastepaper basket. It bursts into flames. The best response to this situation is:
   a) Pick up the flaming trash can and put it in the sink, where you can turn on the faucet to put out the fire.
   b) Pull the fire alarm and call 911. Alternatively, get one of your co-workers to call, while you try to extinguish the fire by covering it or with a fire extinguisher.
   c) Pull the fire alarm and run out of the building.
   d) Pick up the flaming trashcan and put it in the hood, and close the sash and turn off the hood's fan. Then allow the fire to bum out.

8. Your mercury manometer fell over and shattered, spilling the contents onto the carpeting in your lab. The correct response is to:
   a) Clean the carpet with a vacuum.
   b) Clean it up with the Shop-vac.
   c) Pull the fire alarm and run out of the building.
   d) Close off the room, post warning signs, and notify University Police.

9. The La Crosse Fire Department provides the following services to campus:
   a) Firefighting in case of a fire in campus buildings.
   b) Response to a hazardous material spill or release, including use of special personal protective equipment and clothing for safe entry into a hazardous area.
   c) Emergency medical care of injured persons and coordinating ambulance transport to a local emergency room.
   d) Inspecting campus buildings to prevent fires.
   e) All of the above.

10. Which of the following describes a small spill?
   a) A small spill does not spread rapidly.
   b) A small spill does not endanger people or property except by direct contact.
   c) A small spill does not endanger the environment outside the building.
   d) A small spill can be neutralized, absorbed, or otherwise managed by the user(s) of the chemical.
   e) All of the above.

ANSWERS

1. b) 911.

2. c) The La Crosse Fire Department's Hazardous Materials Response Team.

3. d) All of the above.

4. e) a and d.

5. d) a then b.

6. b) Find out what chemical has spilled, and if you can safely proceed, clean up the spill.

7. b) Pull the fire alarm and call 911. Alternately, get one of your co-workers to call, while you try to extinguish the fire by covering it or with a fire extinguisher.

8. d) Close off the room, post warning signs, and call University Police.

9. e) All of the above.

10 e) All of the above.