Chemical Spills and Other Accidental Releases

The range and quantity of hazardous substances used in laboratories require preplanning to respond safely to chemical spills. Only knowledgeable and experienced personnel should do the cleanup of a chemical spill. Spill kits with instructions, absorbents, reactants, and protective equipment should be available to clean up minor spills. A minor chemical spill is one that the laboratory staff is capable of handling safely without the assistance of safety and emergency personnel. All other chemical spills are considered major. Contact Risk Management Services (621-1790) to ensure proper procedures are taken to clean up the spill.

Major Chemical Spill

If the situation is life or health threatening or you are unsure:

- Attend to injured persons and remove them from exposure
- Shut doors to the area, and alert those in the vicinity to do the same
- Alert people in the immediate area to evacuate. If necessary, pull fire alarm
- Call 9-1-1 immediately from a remote location
- Have person knowledgeable of the incident and laboratory assist emergency personnel

Minor Chemical Spill

- If the situation is not health threatening and trained people and proper cleanup equipment are on hand, you may clean up the spill and dispose of waste materials properly.
  - However, even under seemingly innocuous conditions, it is recommended that RMS be consulted to be sure that the right steps are being taken to clean up the spill.
  - Wear Protective equipment including safety goggles, appropriate gloves and lab coat
  - Avoid breathing vapors from the spill
For inorganic acids and bases, use appropriate neutralizer. Absorb neutralized spill, collect residue, place in container, label, and dispose as chemical waste.

For other chemicals, absorb spill with appropriate material, collect residue, place in container, label, and dispose as chemical waste.

Clean area with detergent and water.

**Major Toxic or Flammable Gas Leak**

- If the situation is life or health threatening or you are unsure:
  - Immediately evacuate the laboratory, shut doors to the area and alert those in the vicinity to do the same.
  - Pull the nearest fire alarm to evacuate the building and notify emergency response personnel.
  - Remain at a distance of at least 200 feet from the building, wait for emergency response personnel and provide them with any details you may know about the problem.
  - If you are a supervisor, try to account for your employees and report any missing persons to the emergency personnel at the scene.
  - Do not re-enter the building until directed to do so by emergency response personnel.

**Minor Toxic or Flammable Gas Leak**

- If the situation is not health threatening:
  - Place the leaking cylinder in a fume hood, close the sash and open windows if possible to ventilate the area.
  - Notify RMS immediately by calling 621-1790.

**Mercury Spill**

- Notify RMS immediately by calling 621-1790.
- RMS has a vacuum specifically designed for mercury use. The vacuum collects mercury droplets and captures mercury vapor.
- Isolate the spill.
- Protect sinks and floor drains from contamination.
- Restrict foot traffic in the area.
- Do not put sulfur or other material on the spill. It hinders cleanup and makes ultimate disposal difficult and more expensive.
Unusual or Out-of-Place Odor

- Call RMS at 621-1790 to report the odor. RM&S will provide guidance or investigate the odor if necessary

Chemical Exposure

In addition to the actions for personal injury (LINK “personal injury” TO PERSONAL INJURY SECTION BELOW), supervisors of employees who are exposed to chemicals shall ensure that the following information is provided to the physician at the time medical care is rendered:

- the identity of the hazardous chemical(s) to which the affected person may have been exposed;
- a description of the conditions under which the exposure occurred including quantitative exposure data, if available, and
- a description of the signs and symptoms of exposure that the affected person is experiencing, if any.

INTERIM FIRST AID

Chemical Inhalation

- If large amount of hazardous material are inhaled
  - Immediately get to fresh air

- If not feeling well or if there is persistent respiratory burning
  - Immediately call the Arizona Poison & Drug Information Center: 800.222.1222 for advice as to whether further actions are required

- If experiencing extreme pain or difficulty breathing
  - Get medical care as soon as possible

- If the affected person’s breathing has stopped
  - Perform artificial respiration if you are trained in cardiopulmonary resuscitation (CPR)
  - Keep the affected person warm and at rest
**Skin Contact with Chemicals**

- If hazardous materials get on the skin:
  - Immediately flush the contaminated skin with copious amounts of plain water for at least 15 minutes, while removing all contaminated clothing and shoes.
  - Immediately after flushing with water, call the Arizona Poison & Drug Information Center at 800-222-1222 for advice as to whether further actions are required.

**Eye Contact with Chemicals**

- If hazardous materials get into the eyes:
  - Immediately irrigate the eyes with copious amounts of plain water for a minimum of 15 minutes, while holding the eyelids open and rolling the eyes.
  - Immediately following the eye washing, get medical care as soon as possible.

**Ingestion or Injection of Chemicals**

- If hazardous materials are ingested or injected via a puncture wound:
  - Immediately wash out the affected area with copious amounts of water and if there is a puncture wound, make it bleed.
  - Immediately following the washing, call the Arizona Poison Information Center at 800-222-1222 for advice as to whether further actions are required.

**Burns**

- Extinguish any burning clothing by using the emergency shower, dousing with water, or wrapping the person in a coat, blanket or whatever is available to extinguish the fire, and roll the person on the floor.
  - Quickly remove any clothing contaminated with chemicals.
  - Flush burned areas with cold water to remove heat. Continue to flush with plain water for at least 15 minutes if chemicals are involved.
  - Place clean, wet, cold cloths on the burned area.
  - Get medical care immediately if the burn is serious, extensive, or you are in doubt.
**Bleeding**

**SEVERE BLEEDING**
- Control the bleeding by compressing the wound with a cloth or whatever is available. Never remove bandage once applied.
- Elevate the injury above the level of the heart.
- Get medical care as soon as possible.
- Call 9-1-1

**LESS SEVERE CUTS**
- Wash the cut and remove any pieces of glass if present. Bandage the wound.
- If the cut is not trivial, get medical care as soon as possible.