6.0 CHEMICAL SPILLS
CHEMICAL SPILLS

Requirements: OSHA 1920.120

Acids (Except Hydrofluoric and Perchloric)

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-A, Neutrasorb or equivalent product) from the perimeter of the spill, inward. Kitty litter is acceptable but not preferred.
3. Carefully mix with brushes and scoops to obtain a homogenous mixture.
4. When foaming subsides, check pH of a homogeneous sample of the mixture.
5. Add a scoopful (about 5ml) of the treated material to about 100ml of water.
6. Test pH with pH paper
7. If pH is not between 3 and 10, add more neutralizers. When the acid has been sufficiently neutralized, pick up treated material with the scoop and transfer it to a disposal container.
8. Seal Container and label.
9. Decontaminate and wash spill site surfaces with soapy water and a wet sponge.
11. File report with the Chemical Hygiene Officer and Campus Security.

Hydrofluoric Acid

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply solid calcium carbonate from the perimeter of the spill, inward. When the hydrofluoric acid has been absorbed, mix thoroughly with a plastic scoop.
3. Add a scoopful of (about 5ml) of the mixture to about 100 ml of water.
4. Test the pH with pH paper. When the pH is between 7-10, scoop the neutralized material into a plastic container of water.
5. Let stand until the white solid settles out of the solution.
6. Decant the solution to the drain with a least 50 % volumes of water.
7. Package the solid residue in a plastic bag, seal and label.

Perchloric Acid

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-A, Neutrasorb or equivalent product from the perimeter of the spill, inward.
3. Mop up with wet rags or paper towels. Contaminated paper or rags (combustibles) must be kept wet to prevent combustion upon drying.
4. Wipe up spill site with wet rags.
5. Place wet rags or towels in a plastic bag, seal and put into a solid waste disposal drum that is not metal.
7. File report with the Chemical Hygiene Officer and Campus Security.
Bases (Caustics)

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-C, Neutrasorb or equivalent product from the perimeter of the spill, inward. Kitty Litter is acceptable but not preferred.
3. Carefully mix with brushes and scoops to obtain a homogenous mixture.
4. When foaming subsides, check pH of a homogeneous sample of the mixture.
5. Add a scoopful (about 5ml) of the treated material to about 100ml of water.
6. Test pH with pH paper.
7. If pH is not between 3 and 10, add more neutralizer. When the acid has been sufficiently neutralized, pick up treated material with the scoop and transfer it to a disposal container.
8. Seal Container and label.
9. Decontaminate and wash spill site surfaces with soapy water and a wet sponge.
11. File report with the Chemical Hygiene Officer and Campus Security.

Flammable Solvents

Do not attempt to clean up a solvent spill if there is an ignition source present

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Turn off any device, instrument, or machine that could exacerbate the spill. Use caution if any device is not spark proof and the spill includes flammable materials.
3. Apply solvent absorbent (Spill X-S, Solusorb or equivalent product) from the perimeter inward, covering the total spill area. Kitty Litter is acceptable but not preferred.
4. Mix thoroughly with plastic scoops until material is dry and free flowing, and no evidence of free liquid remains.
5. Transfer the absorbent solvent to an appropriate disposal container that is compatible with the spilled solvents and seal the container.
7. File report with the Chemical Hygiene Officer and Campus Security.
Mercury Spills

For very small spills (less than 1 cc) where Mg stays in larger beads or droplets:

1. Use a trapped vacuum line attached to a tapered glass tube, similar to a medicine dropper, to pick up mercury droplets or use mercury clean up kit which includes Hg absorb Sponges, Hg vapor absorbent and Hg indicator. (Do not use a household or shop vacuum cleaner).
2. Once larger mercury droplets are removed, wash the surface with mercury neutralizing solution such as 20% sodium sulfide or sodium thiosulfate.
3. Place the mercury in a container and seal it. Contaminated items (e.g. broken thermometer, gloves, suction bulbs, etc...) should also be placed into the container.
4. Dispose of all cleanup materials as hazardous waste. Waste must be properly packaged, sealed and labeled with a hazardous waste label.
5. Complete a Release Incident Form.
6. File report with the Chemical Hygiene Officer and Campus Security.

For very small spills (less than 1 cc) where Mg breaks into smaller beads or droplets:

1. If mercury has broken up into smaller globules, sprinkle with sulfur powder or commercial product and leave area for several hours before clean up.
2. Collect contaminated materials with a brush. (Do not use a household or shop vacuum cleaner).
3. Dispose of all cleanup materials as hazardous waste. Contaminated items (e.g. broken thermometer, gloves, suction bulbs, etc...) Waste must be properly packaged, sealed and labeled with a hazardous waste label.
4. Complete a Release Incident Form.
5. File report with the Chemical Hygiene Officer and Campus Security.

For a large spill, greater than 1 cc call Campus Security or Infotrac immediately:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Seal off the area until assistance arrives.
3. Block drains to prevent the spread of the spill.
4. Contact InfoTrac and Campus Security for assistance.
5. Complete a Release Incident Form.
6. File report with the Chemical Hygiene Officer and Campus Security.
CHEMICAL SPILLS

Requirements: OSHA 1920.120

This section details instructions for dealing with Non-Emergency Situation Chemical Spills. A Non-Emergency Chemical Spill is typically one that involves less than one liter and the chemical involved is of low toxicity and presents a low flammable hazard. Most spills greater than 1 liter in volume require assistance from trained personnel. Call InfoTrac for guidance (1-800-535-3035). If employee is unsure of the safety of a situation, it should be treated as an Emergency as detailed in the section "Emergency Procedures" on page ___ of this manual.

Quick and ready access to a chemical spill kit is required in laboratories and areas that work with hazardous chemicals. Every employee should know the location of the spill kits and be trained on their proper use.

Spill Kit Contents:

1. splash resistant goggles
2. chemical resistant gloves
3. hazardous waste disposal bags
4. multi-chemical sorbent (enough for 2 liter spill)
5. scooper
6. brush/dust pan

It should be noted that some absorbents are chemically specific. The best absorbents are those which can be used to clean up all types of chemical spills. Check absorbents in spill kits for their absorbency range.

Specific Directions for Spills of Non-Reactive Chemicals:

1. Locate the spill kit.
2. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
3. Use a fitted respirator if there is an inhalation hazard above the permissible exposure limit. You must have training to use a respirator. If you are not trained call security at extension 6923.
4. Confine or contain the spill (if possible).
5. Cover liquid spills with spill kit absorbent and scoop into a plastic disposal bag.
6. Sweep solid materials into a dustpan and place in a sealed container.
7. Dispose of waste as normal trash as long as substance is non-volatile, non-hazardous other wise dispose of in the hazardous waste collection container.

Specific Directions for Spills of Acids (Except Hydrofluoric and Perchloric):

8. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
9. Slowly apply acid neutralizer (Spill X-A, Neutrasorb or equivalent product) from the perimeter of the spill, inward. Kitty litter is acceptable but not preferred.
10. Carefully mix with brushes and/or scoops to obtain a homogeneous mixture.
11. When foaming subsides, check pH of a homogeneous sample of the mixture.
12. Add a scoopful (about 5ml) of the treated material to about 100ml of water.
13. Test pH with pH paper
14. If pH is not between 3 and 10, add more neutralizers. When the acid has been sufficiently neutralized, pick up treated material with the scoop and transfer it to a disposal container.
15. Seal Container and label.
16. Decontaminate and wash spill site surfaces with soapy water and a wet sponge.
18. File report with the Chemical Hygiene Officer and Campus Security.
Specific Directions for Spills of Hydrofluoric Acid:

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply solid calcium carbonate from the perimeter of the spill, inward. When the hydrofluoric acid has been absorbed, mix thoroughly with a plastic scoop.
3. Add a scoopful of (about 5ml) of the mixture to about 100 ml of water.
4. Test the pH with pH paper. When the pH is between 7-10, scoop the neutralized material into a plastic container of water.
5. Let stand until the white solid settles out of the solution.
6. Decant the solution to the drain with a least 50 % volumes of water.
7. Package the solid residue in a plastic bag, seal and label.

Specific Directions for Spills of Perchloric Acid:

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-A, Neutrasorb or equivalent product from the perimeter of the spill, inward.
3. Mop up with wet rags or paper towels. Contaminated paper or rags (combustibles) must be kept wet to prevent combustion upon drying.
4. Wipe up spill site with wet rags.
5. Place wet rags or towels in a plastic bag, seal and put into a solid waste disposal drum that is not metal.
7. File report with the Chemical Hygiene Officer and Campus Security.

Specific Directions for Spills of Bases (Caustics):

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-C, Neutrasorb or equivalent product from the perimeter of the spill, inward. Kitty Litter is acceptable but not preferred.
3. Carefully mix with brushes and/or scoops to obtain a homogenous mixture.
4. When foaming subsides, check pH of a homogeneous sample of the mixture.
5. Add a scoopful (about 5ml) of the treated material to about 100ml of water.
6. Test pH with pH paper.
7. If pH is not between 3 and 10, add more neutralizer. When the acid has been sufficiently neutralized, pick up treated material with the scoop and transfer it to a disposal container.
8. Seal Container and label.
9. Decontaminate and wash spill site surfaces with soapy water and a wet sponge.
11. File report with the Chemical Hygiene Officer and Campus Security.
Specific Directions for Spills of Flammable Solvents:

Do not attempt to clean up a solvent spill if there is an ignition source present

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Turn off any device, instrument, or machine that could exacerbate the spill. Use caution if any device is not spark proof and the spill includes flammable materials.
3. Apply solvent absorbent (Spill X-S, Solusorb or equivalent product) from the perimeter inward, covering the total spill area. Kitty Litter is acceptable but not preferred.
4. Mix thoroughly with plastic scoops until material is dry and free flowing, and no evidence of free liquid remains.
5. Transfer the absorbent solvent to an appropriate disposal container that is compatible with the spilled solvents and seal the container.
7. File report with the Chemical Hygiene Officer and Campus Security.

Specific Directions for Spills of Mercury:

For very small spills (less than 1 cc) where Mg stays in larger beads or droplets:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Use the plastic disposable pipet or trapped vacuum line attached to a a tapered glass tube (similar to a medicine dropper) to pick up mercury droplets or use mercury clean up kit which includes Hg absorb Sponges, Hg vapor absorbent and Hg indicator.
3. Once larger mercury droplets are removed, wash the surface with mercury neutralizing solution such as 20% sodium sulfide or sodium thiosulfate.
4. Place the mercury in a container and seal it. Contaminated items (e.g. broken thermometer, gloves, suction bulbs, etc...) should also be placed into the container.
5. Dispose of all cleanup materials as hazardous waste. Waste must be properly packaged, sealed and labeled with a hazardous waste label.
6. Complete a Release Incident Form.
7. File report with the Chemical Hygiene Officer and Campus Security.

For very small spills (less than 1 cc) where Mg breaks into smaller beads or droplets:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. If mercury has broken up into smaller globules, sprinkle with sulfur powder or commercial product and leave area for several hours before clean up.
3. Collect contaminated materials with a brush. (Do not use a household or shop vacuum cleaner).
4. Dispose of all cleanup materials as hazardous waste. Contaminated items (e.g. broken thermometer, gloves, suction bulbs, etc...) Waste must be properly packaged, sealed and labeled with a hazardous waste label.
5. Complete a Release Incident Form.
6. File report with the Chemical Hygiene Officer and Campus Security.

For a large spill, greater than 1 cc call Campus Security (ext 6923) and/or Infotrac at (800) 535-5035 immediately:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Seal off the area until assistance arrives.
3. Block drains to prevent the spread of the spill.
4. Contact InfoTrac (800) 535-5035 and Campus Security at extension 6923 for assistance.
5. Complete a Release Incident Form.
6. File report with the Chemical Hygiene Officer and Campus Security.
Directions for Use of Chemical Spill Kit

Specific Directions for Spills of Non-Reactive Chemicals:

1. Locate the spill kit.
2. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
3. Use a fitted respirator if there is an inhalation hazard above the permissible exposure limit.
   You must have training to use a respirator. If you are not trained call security at extension 6923.
4. Confine or contain the spill (if possible).
5. Cover liquid spills with spill kit absorbent and scoop into a plastic disposal bag.
6. Sweep solid materials into a dustpan and place in a sealed container.
7. Dispose of waste as normal trash as long as substance is non-volatile, non-hazardous other wise dispose of in the hazardous waste collection container.

Specific Directions for Spills of Acids (Except Hydrofluoric and Perchloric):

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-A, Neutrasorb or equivalent product) from the perimeter of the spill, inward. Kitty litter is acceptable but not preferred.
3. Carefully mix with brushes and/or scoops to obtain a homogenous mixture.
4. When foaming subsides, check pH of a homogeneous sample of the mixture.
5. Add a scoopful (about 5ml) of the treated material to about 100ml of water.
6. Test pH with pH paper
7. If pH is not between 3 and 10, add more neutralizers. When the acid has been sufficiently neutralized, pick up treated material with the scoop and transfer it to a disposal container.
8. Seal Container and label.
9. Decontaminate and wash spill site surfaces with soapy water and a wet sponge.
11. File report with the Chemical Hygiene Officer and Campus Security.

Specific Directions for Spills of Perchloric Acid:

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-A, Neutrasorb or equivalent product from the perimeter of the spill, inward.
3. Mop up with wet rags or paper towels. Contaminated paper or rags (combustibles) must be kept wet to prevent combustion upon drying.
4. Wipe up spill site with wet rags.
5. Place wet rags or towels in a plastic bag, seal and put into a solid waste disposal drum that is not metal.
7. File report with the Chemical Hygiene Officer and Campus Security.
Specific Directions for Spills of Bases (Caustics):

1. Wear proper personal protection to protect self (Gloves, Goggles, Body Protection).
2. Slowly apply acid neutralizer (Spill X-C, Neutrasorb or equivalent product from the perimeter of the spill, inward. Kitty Litter is acceptable but not preferred.
3. Carefully mix with brushes and/or scoops to obtain a homogenous mixture.
4. When foaming subsides, check pH of a homogeneous sample of the mixture.
5. Add a scoopful (about 5ml) of the treated material to about 100ml of water.
6. Test pH with pH paper.
7. If pH is not between 3 and 10, add more neutralizer. When the acid has been sufficiently neutralized, pick up treated material with the scoop and transfer it to a disposal container.
8. Seal Container and label.
9. Decontaminate and wash spill site surfaces with soapy water and a wet sponge.
11. File report with the Chemical Hygiene Officer and Campus Security.

Specific Directions for Spills of Flammable Solvents:

Do not attempt to clean up a solvent spill if there is an ignition source present

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Turn off any device, instrument, or machine that could exacerbate the spill. Use caution if any device is not spark proof and the spill includes flammable materials.
3. Apply solvent absorbent (Spill X-S, Solusorb or equivalent product) from the perimeter inward, covering the total spill area. Kitty Litter is acceptable but not preferred.
4. Mix thoroughly with plastic scoops until material is dry and free flowing, and no evidence of free liquid remains.
5. Transfer the absorbent solvent to an appropriate disposal container that is compatible with the spilled solvents and seal the container.
7. File report with the Chemical Hygiene Officer and Campus Security.
Directions for Use of Mercury Spill Kit

For very small spills (less than 1 cc) where Mg stays in larger beads or droplets:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Use the plastic disposable pipet or trapped vacuum line attached to a a tapered glass tube (similar to a medicine dropper) to pick up mercury droplets or use mercury clean up kit which includes Hg absorb Sponges, Hg vapor absorbent and Hg indicator.
3. Once larger mercury droplets are removed, wash the surface with mercury neutralizing solution such as 20% sodium sulfide or sodium thiosulfate.
4. Place the mercury in a container and seal it. Contaminated items (e.g. broken thermometer, gloves, suction bulbs, etc...) should also be placed into the container.
5. Dispose of all cleanup materials as hazardous waste. Waste must be properly packaged, sealed and labeled with a hazardous waste label.
6. Complete a Release Incident Form.
7. File report with the Chemical Hygiene Officer and Campus Security.

For very small spills (less than 1 cc) where Mg breaks into smaller beads or droplets:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. If mercury has broken up into smaller globules, sprinkle with sulfur powder or commercial product and leave area for several hours before clean up.
3. Collect contaminated materials with a brush. (Do not use a household or shop vacuum cleaner).
4. Dispose of all cleanup materials as hazardous waste. Contaminated items (e.g. broken thermometer, gloves, suction bulbs, etc...) Waste must be properly packaged, sealed and labeled with a hazardous waste label.
5. Complete a Release Incident Form.
6. File report with the Chemical Hygiene Officer and Campus Security.

For a large spill, greater than 1 cc call Campus Security or Infotrac immediately:

1. Wear proper personal protection to protect self. (Gloves, Goggles, Body Protection).
2. Seal off the area until assistance arrives.
3. Block drains to prevent the spread of the spill.
4. Contact InfoTrac (800) 535-5035 and Campus Security at extension 6923 for assistance.
5. Complete a Release Incident Form.
6. File report with the Chemical Hygiene Officer and Campus Security.