Chemical Spill Control

- Download the Lecture Notes (pdf file)

Chemical spill control

**** also apply to chemical waste spillage***

- Spills are almost certain to happen in laboratories.
- The key is to be prepared for them
- Consider how to be prepared for them
- Know when to call for help
- Review steps for cleaning a spill

Chemical spill control -- Prepare

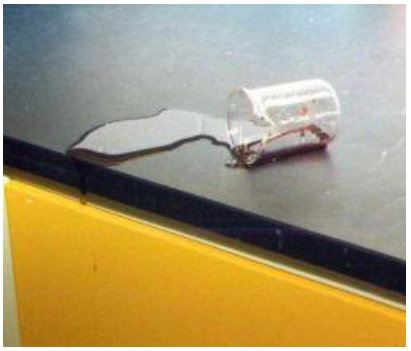
- Read the Material Safety Data Sheet(MSDS), label.
- What personal protective equipment is needed? Use only the appropriate equipment.
- Know where the emergency equipment is located and how to use it.

Keep appropriate spill kits on hand

- Organic solvent - Activated charcoal. Activated charcoal traps the vapors, as well as absorbing the liquid. Paper towels or clay absorb the liquid, but allow the liquid to evaporate. If an ignition source is present, absorbing the liquid with these materials will provide little or no protection.
- The absorbent for acids or bases should neutralize the corrosive.
- Acid - e.g. sodium bicarbonate as neutralizer.
- Base - e.g. Citric acid as neutralizer.
- Absorbent pads, pillows and rolls for large quantity spillage.
- Check the neutralizer's capacity.

Spill control

- Control the spill if safe to do so
- Switch off any ignition sources
- Leave the lab
- Decide whether this is a big/small chemical spillage



Spill control - When to call for help?

- The spill is health/life threatening
- there is a lack of proper equipment or spill kit
- Simply - "I can't handle it!!"

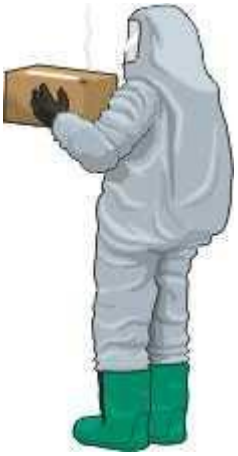
"I can't handle it!"

- Quickly leave and close the lab
- Alert the others
- Report to the Security Unit (Ext.37999) and the University Safety Office
- Stay at safe place and provide information to Security Unit, University Safety Office, Department Head, Fire Services Dept, Police, EPD, Labour Dept, doctor, ...

Provide What Information

- What is the chemical?
- How much is spilled?
- Is anyone injured
- What is the immediate hazard?
- I don't know!!

Small Chemical Spill Cleanup



- Inform your supervisor or department head.
- Think clearly, plan carefully, Check MSDS again
- At lease 3 people to do the job
- Enough air ventilation (portable emergency ventilation fan may needed)
- Put on appropriate PPE
- Make yourself at a non obstructive, easy to escape position

- Using the appropriate absorbent, build a dike around the outside of the spill first, and then put absorbent on the spill inside the dike. Purpose: to prevent the spill moving toward a floor drain or spread to the other area.
- Suitable type and enough quantity chemical neutralizer / absorbent
- Clean-up the spill

Decontaminate means to do the final cleaning to eliminate the hazard. Generally, the area is cleaned with soap and water to remove the last of the hazard. And, of course, don't forget to decontaminate yourself. Personal protective equipment is contaminated and must be considered for proper disposal.

Don't Forget

- Beware of symptoms
- Fill in the Accident / Incident report