How to Clean Simple Bench Top or Lab Floor Chemical Spills at Elliott Hall or the K.C. Irving Centre

BEFORE CLEANING ANY SPILL YOU MUST:

A) Determine if this is a **major** or **minor** spill:
   a. If a **major** spill, such as:
      i. spilling 4 Litres or more
      ii. chemical vapours are too dangerous for being in the room
      iii. risk of being electrocuted , a risk of fire, or explosion from possible electrical source contaminated by chemical

Contact ***safety and security 585-1103 if using a cell phone or 7-1103 if using a university phone:***

   a) Be careful not to step in the chemical or contaminate yourself
   b) Alert everyone in the room and Evacuate the area
   c) Put a barrier and sign to prevent entry to the area
   d) Locate and review the MSDS of the chemical spilled

   b. If a **minor** spill, proceed to next step

B) ALERT others in the room of the spill
C) STAY CALM , don't panic, everything you need is in the spill kit with step-by-step directions ☺
D) Locate and review the MSDS of the spilled chemical
E) Open Spill Kit found in the lab
F) Wear LAB SAFETY GOGGLES (in Spill Kit)
G) Chemical appropriate GLOVES (in Spill Kit)
H) buttoned up LAB COAT (in Spill Kit)
I) HAIR tied back (in Spill Kit)
J) CLOSED TOE footwear
K) Choose appropriate spill procedure listed below for the chemical spilled (also in spill kit)
L) After clean-up ALWAYS notify your supervisor so that they can:
   a. consider future preventative options
   b. Replace materials used in the clean-up for future spills

Type of Chemical / Hazard Class	Neutralizing Agent / Clean-up Supplies
Acid	Sodium Bicarbonate(baking soda)
Bases	Citric Acid, diluted Acetic Acid,vinegar, or Sodium bisulfate
Organic Solvents	Absorbent pads; charcoal, sand, or kitty litter
Mercury	Amalgam (mercury-absorbing) sponges
Metals* (e.g., sodium)	DO **NOT** USE WATER, Only use kitty litter or Class-D fire extinguisher
Other chemicals	Absorb with inert absorbent material (kitty litter)

1) **Acid Spills**
    a. If there are drains (floor or sink) block them first to prevent chemical from entering the drain system
    b. Surround the outer edge of the spill with the gray absorbent sponge tubing provided in the Spill Kit to prevent it from spreading
    c. Pour baking soda (sodium bicarbonate) over the spill to neutralize it (until fizzing completely stops) working from the outside edge to the middle.

        <u>Note</u>: Remember not to lean over the spill when doing this to prevent from breathing in any off gasses/vapours.
    d. After fizzing has stopped, insert pH paper to confirm neutralization (Don't forget to wear appropriate gloves)
    e. Once neutralized scoop up material with a broom and dust pan (add Kitty Litter if too fluid for scooping)
    f. Dispose neutralized waste into a plastic container or plastic bag (in Spill Kit)
    g. Dispose container or bag into general waste; it is no longer a hazard because it has been neutralized

        <u>Note</u>: ***If there are hazard warnings with this chemical Mark these warnings on the bag/container using the provided labels and dispose of accordingly. For example, carcinogenic (cancer causing) should not go into regular waste disposal***
    h. Clean spill surface area with lots of soap and after chemical has been removed

2) **Base Spills**
    a. If there are drains (floor or sink) block them first to prevent chemical from entering the drain system
    b. Surround the outer edge of the spill with the gray absorbent sponge tubing provided in the Spill Kit to prevent it from spreading
    c. Pour diluted Acetic Acid (vinegar), Citric Acid, or Sodium bisulfate over the spill to neutralize the base working from the outside edge to the middle.

        <u>Note</u>: ***If using vinegar remember it's a liquid and will cause the spill to travel. Make sure the absorbent barrier around the outer edge of the spill is in place.***
    d. Test with pH paper to confirm neutralization(Don't forget to wear appropriate gloves)
    e. Once neutralized scoop up material with a broom and dust pan (add kitty litter or absorbent towel if too fluid for scooping, then use broom and dust pan)
    f. Dispose neutralized waste into a plastic container or plastic bag (in Spill Kit)
    g. Dispose of bag or container into general waste; it is no longer a hazard because it has been neutralized

        <u>Note</u>*: If there are hazard warnings with this chemical Mark these warnings on the bag/container using the provided labels and dispose of accordingly. For example, carcinogenic (cancer causing) should not go into regular waste disposal*
    h. Clean spill surface area with lots of soap and water after chemical has been removed

3) Organic Solvent Spills (including Oil Spills)

a. Check for possible ignition sources such as fire, heat, or electricity.
    i. If **Yes**, determine
        1. if you can safely remove the source
        2. if there's a risk of **fire** or **explosion**
            a. if Yes, treat as a **major** spill, contact ***safety and security 585-1103 if using a cell phone or 7-1103 if using a university phone***
                i. Be careful not to step in the chemical or contaminate yourself
                ii. Alert everyone in the room and Evacuate the area
                iii. Put a barrier and sign to prevent entry to the area
                iv. Locate and review the MSDS of the chemical spilled
    ii. If **No**, proceed with instructions below
b. If there are drains (floor or sink) block them first to prevent chemical from entering the drain system
c. Surround the outer edge of the spill with the gray absorbent sponge tubing provided in the Spill Kit to prevent it from spreading
d. Pour Kitty Litter or Sand over the spill
e. Once the chemical is absorbed scoop up with broom and dust pan into a plastic organic waste container
f. Label the container as organic waste with appropriate Hazard Warnings
g. Dispose of container with the chemistry department organic waste removal

4) Mercury Spills

a. If there are drains (floor or sink) block them first to prevent chemical from entering the drain system
b. If possible, surround the outer edge of the spill with the gray absorbent sponge tubing provided in the Spill Kit to prevent it from spreading
c. **Refer to the Mercury Spill Kit for specific procedure to follow. There are four Mercury kits in Elliott, one per teaching lab (Physical/Analytical, Organic, Biochemistry, Intro Chemistry labs) next to Gray Spill Kit.**