Flammable Liquid Spill Clean Up

1. SCOPE

Laboratory-specific safe work procedures must be written, trained and adhered to for hazardous operations, including chemicals usage, storage and spill response. This procedure is to be followed by any employees involved in a spill clean-up.

If the chemical spilled is not a flammable liquid, follow one of the other spill clean-up procedures on the SRS website acidic, basic, cytotoxic, hydrofluoric acid, perchloric acid or mercury, follow the specific spill clean-up procedures posted on the SRS website at www.srs.ubc.ca.

If the spill happened at an off-campus location (e.g. hospital sites) follow the site-specific procedures.

2. PURPOSE

Accidental release or spills of chemicals must be immediately contained, reported and cleaned up by persons knowledgeable in the hazards involved and the precautions to be taken during the cleanup operations (WorkSafe BC Regulations).

The purpose of this protocol is to ensure any chemical spills are cleaned up appropriately. There are various actions that laboratory personnel can take in response to a laboratory spill. Laboratory workers should never put themselves at risk during an emergency or clean-up operation. If there is any doubt about the safety of the individual in the lab, immediately call 911. A trained laboratory worker may be able to respond to a small chemical spill depending upon the hazardous nature of the chemical.

3. RESPONSIBILITY

Employer

- Provide personal protective equipment (PPE) required for spill clean-up
- Provide written safe work procedures, material and equipment necessary for the clean-up and disposal of the hazardous substance

Employee

- In the event of a spill follow the instructions in the safe work procedure
- Report all spills on the online reporting system UBC CAIRS

4. TRAINING REQUIRED

Chemical safety education (e.g. WHMIS, Chemical safety course) **and** site-specific training

5. MATERIALS/EQUIPMENT

The items in the spill kit should be placed in a labeled plastic container fitted with a lid. The basic items to be included in a spill kit are:

- Absorbent material such as absorbent granules, pillows
- Solvent absorbent (e.g. Spill-X S, Solusorb)

- Plastic spatula, dust pan and brush
- Container for hazardous waste
- PPE: safety goggles and heavy-duty nitrile gloves

6. PERSONAL EXPOSURE

In the case of a chemical spill, first priority is the safety of the lab occupants.

If contaminated, remove as much of the contaminated clothing as you can and enter emergency shower (the more exposed the skin is to water, the more effective the shower). Rinse for at least 15 minutes. If eyes have been affected, use an eye wash station and flush eyes for 15 minutes.

7. PROCEDURE

7.1. Initial Assessment

1) Before responding to any spill the following information must be verified:
    - Name of the chemical(s) involved
    - Approximate quantity
    - Hazards of the chemical (review SDS if available)
        - Flammability
        - Toxicity and LD_{50}
        - Corrosiveness – pH
        - Exposure route (is inhalation a risk?)
2) If there are ignition sources present **OR** if the spilled chemical is highly toxic and/or volatile material:
    a) Notify all personnel in the vicinity of the spill as well as your supervisor.
    b) Evacuate the space and post warnings as necessary to cordon off the area and prevent harmful exposure. If an ignition source is present, pull the fire alarm to evacuate the building.
    c) Call 911 and provide the following information:
        - Your name and phone number
        - The exact location of the spill (building and room number)
        - The name of the spilled material
        - The quantity of spilled material
        - Information on injuries to personnel
    d) Call UBC Campus Security at 604-822-2222 and provide the same information as above
3) If 911 was not engaged, verify the following before starting clean-up:
    - The appropriate spill control material, equipment and PPE are available.
    - Personnel are familiar with equipment and clean-up procedures.
    - More than one person is in the lab and available to assist if necessary.

7.2. Spill clean-up steps

1) Gather the required equipment and materials.
2) Put on appropriate protective clothing. This includes a lab coat, long loose-fitting pants, fully covering liquid resistant shoes, heavy duty nitrile gloves, and safety goggles.
3) Use an unreactive absorbent material to make a barrier around the spill and prevent it from seeping into a drain or under furniture or equipment.
4) Apply a solvent absorbent (Spill-X S, Solusorb, or an equivalent product), covering the entire spill.
5) Carefully mix with a non-reactive tool (e.g. Teflon coated spatula), adding more solvent absorbent until no more free-flowing liquid is visible.
6) Mix the barrier material with the solvent absorbent material and scoop the mixture into a compatible container. Seal and label the container.
7) Clean the affected spill area with soap and water
8) Remove PPE and clean contaminated items with soap and water.

7.3. After clean-up

1) The mixture in the container is considered hazardous and must be disposed as hazardous waste. The UBC procedures for hazardous waste disposal can be found on the SRS webpage at www.srs.ubc.ca
2) Report the incident on the online reporting system UBC CAIRS.
3) Restock the spill kit with any items that have been used.

8. DOCUMENT INFORMATION

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