SAFE WORK PROCEDURE

Faculty/School: Faculty of Pharmacy
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Next Review Date: 01/10/2015

SWP Reference Number: Version: 3
Version Issue Date: 30/08/2013

SWP Title: Chemical Spills Clean-up
Description: Stepwise instructions to help manage chemical spills which occur outside of a fume cupboard

Prepared by: Dr Sarah Cui
Responsible supervisor/s: Research Supervisors and Lab Supervisors

List the Hazards and risk controls as per risk assessment

<table>
<thead>
<tr>
<th>Associated risk assessment reference:</th>
<th>Hazards</th>
<th>Risk controls</th>
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<tbody>
<tr>
<td>Areas outside of a fume cupboard</td>
<td>1. Chemical contamination 2. Fire 3. Inhalation of vapours</td>
<td>1. Suitable PPE as below 2. Turn off/remove sources of ignition, cover spill with absorbent, ventilate room, avoid static discharge, no synthetic materials in clothing, notify emergency services 3. Evacuation of laboratory and adjacent areas as necessary, room ventilation via fume cupboard, appropriate respirators</td>
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List resources required including personal protective clothing, chemicals and equipment needed

- Suitable PPE: lab coat, safety glass, enclosed shoes
- Spill kits: small spill kits are located in the labs for small spills, large spill kits are located in corridor level 2 close to lab S206, level 3 in lab N355, and one large spill kit is located in solvent store N208.
- Dustpan, brush, spatula
- Do not enter sign for the door
- Detergent
- Mop and bucket of water to rinse the floor

List step by step instructions or order for undertaking the task

NB: Call Emergency Number x13333, for spills you are not prepared to manage internally as the following scopes:
Packing Group I, spillage > 500ml; Packing Group II & III, Spillage > 2.5L. Hazardous Materials (Hazmat)-Fire and Rescue NSW will respond and deal with these spillages.
1. Immediately check yourself for contamination. If contaminated, remove contaminated protective clothing and examine your clothes for contamination which may have soaked through. If day clothing is contaminated, remove, and wash skin under running water or safety shower immediately for 15 minutes or until medical attention arrives.
2. Notify others and clear the area of unprotected personnel (i.e. evacuate the lab if risk of fire is high or inhalation risk exists).
3. DO NOT open windows to ventilate the spill as this will usually push the vapours into uncontrolled parts of the building which will require a larger evacuation and potential for widespread exposure.
4. If you do not have a fume cupboard and windows are the only means of ventilation, then only open them after the liquid has been absorbed and bagged. The need for further evacuation must be assessed prior to opening the windows.

5. To prevent a fire safely, PRESS ON emergency power isolation button. DO NOT operate switches on equipment or power outlets in the immediate vicinity of the spill as this could ignite any vapours. Extinguish open flames / isolate other ignition sources in the area around the spillage.

6. Call Emergency number if quantity of the spillage exceeds 500ml for Packing Group I and 2.5L for Packing Group II & III.

7. Only personnel trained to clean up a spillage are to be involved in the clean-up.

8. At least 2 persons are required for spills clean up.

9. Check MSDS for specifics of PPE, a respirator is located at faculty administration office.

10. Use formalin cartridge if the spillage is formalin.

11. Post notice/sign on door to restrict/prevent entry to the lab during clean up and ventilation period.

12. Second person (trained personal) to have fire extinguisher ready if the need arises.

13. Contain the spillage by using the Boom bunding in the adjacent chemical spill kit, more than one may be required to contain the spill, this will depend on the size of the spill. For smaller spillages boom bunding may not be necessary. The spill may be encircled in powdered absorbent, sand or vermiculite.

14. Carefully check the limits of the spill to avoid walking into it or any spatter on the floor.

15. COVER SLOWLY and absorb the spill with non-combustible absorbent pads (or sand, vermiculite or proprietary powder) from the chemical spill kit starting from the outside of the spill area working towards the center. If the spill is very small, one pad may be to the appropriate size of the spill.

16. Collect the absorbed spillage using a dustpan and plastic spatulas or scoops and place into a white bucket / plastic bags provided. Tie the bag with a cable tie and double contain in a second bag also sealed with a cable tie.

17. Thoroughly rinse the floor or site of Chemical Spillage with water and dispose of rinse water down the sink. Some mild detergent should be added to remove residual contamination.

18. Wash contaminated gloves prior to removal and wash hands thoroughly. Put on clean disposable gloves and remove other PPE. Contaminated PPE should be washed and cleaned ASAP. Do not remove respirator until you have left the laboratory.

19. The laboratory where the spillage occurred should be allowed to ventilate for 30 - 60 minutes (depending on room ventilation) to remove hazardous vapours. Ventilation should occur via the fume cupboards. If no fume cupboard is present then open windows, but you may need to evacuate the adjacent labs and floors as vapours will travel through the building during this period.

20. Label the waste as follows: Solvent Name & Concentration, Contaminated absorbent pads, broken glass (if smashed Winchester included), Chemical Spillage Boom/pads (if used).

21. Organise for chemical waste disposal by the usual method.

22. The person who spilled the acid or a witness should complete an online incident report via Riskware by their supervisor or a staff member who works in the lab.

23. Used contents of the Spill Kit must be replaced immediately or at least within 24 hours.

24. Remove any contamination from the re-usable PPE.

**List emergency shutdown procedures**

Isolate power to nearby equipment but allow fume cupboard fans to continue to run. DO NOT operate equipment switches or power outlets as this may cause a spark and ignite vapours. Turn off gas supply to lit Bunsen burners to extinguish flames. Isolate power via the EMERGENCY stop button adjacent to the exit.

**List Emergency procedures for how to deal with fires, spills or exposure to hazardous substances**

**Fire:** Cover the fire with a fire blanket if it can be fully contained underneath the blanket otherwise use a fire extinguisher (for trained users). Carbon dioxide or dry powder is suitable for flammable liquid spills. Be prepared for re-ignition: do not leave the scene unless fumes or smoke are hazardous.

**Spill:** see above spills procedure
**Exposure:** remove contaminated protective clothing and examine your clothes for contamination which may have soaked through. If day clothing is contaminated, remove, and wash skin under running water or safety shower immediately for 15 minutes or until medical assistance arrives.

**List Clean up and waste disposal requirements**

See above and SWP for Hazardous Waste Disposal

**List references used in the development of this SWP, e.g. codes of practice**

- Work Health and Safety Act 2011
- NSW Poisons and Therapeutic Goods Regulation 2002
- WorkCover NSW Code of Practice – Control of Workplace Hazardous Substances 2006
- WorkCover NSW Code of Practice – Storage and Handling of Dangerous Goods 2005
- University's WHS Policy.

**List competency required – qualifications, certificates, licensing, training - e.g. course or instruction:**

The training for this procedure is required; users need to be competent prior to starting any research using hazardous substances.

**Staff approved to assess competence for this SWP**

Research Supervisors and Lab Supervisors
In signing this section the assessor agrees that the following persons are competent in following this SWP.

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date Competent</th>
<th>Name of Assessor/Authoriser</th>
<th>Assessor/Authoriser signature</th>
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