



## Chemical Spills

### 1. Purpose

This procedure outlines the steps necessary to manage a chemical spill, in such a way that the potential for injury or damage to the environment is minimized.

### 2. Scope

The procedure applies to any chemical handling that is carried out by staff and students of the School of Chemistry, in the event of a hazardous substance not being contained.

### 3. References

Hazard and Incident Reporting Guidelines OHS132

<http://staff.uow.edu.au/content/groups/public/@web/@ohs/documents/doc/uow016969.pdf>

Emergency Management Procedures Index

[https://intranet.uow.edu.au/content/ohs/emergency\\_management/ohs-emergency-management-procedures.pdf](https://intranet.uow.edu.au/content/ohs/emergency_management/ohs-emergency-management-procedures.pdf)

Working with Hazardous Substances Guidelines OHS114

<http://staff.uow.edu.au/content/groups/public/@web/@ohs/documents/doc/uow017028.pdf>

### 4. Definitions

Major Spill, Minor Spill: The nature of the spill is determined by the risk that the hazardous substance carries and the level to which the spill is contained, e.g. volume and location of spill. An example of a minor spill may be 5ml of concentrated Sulphuric Acid. Although the risk of concentrated acid is high it is only a small volume that could be easily neutralised and contained. An example of a major spill may involve the uncontrolled release of ammonia from a gas cylinder. The volume is large, it is not easily contained and may represent a high risk.

### 5. Procedure

A chemical spill in the laboratory can range from a minor incident, which staff can deal with immediately, or a potentially hazardous situation that may pose danger to both the laboratory workers and the environment therefore requiring expert assistance. Spill management and response strategies should be included in a laboratory's emergency plan and personnel trained in the procedures. A quick response by laboratory personnel to a spilled chemical, whether it be a minor or major spill, may limit the consequences.

#### 5.1. Chemical Spill Management

Minor Spill	Major Spill
<ul style="list-style-type: none"><li>• Containment - spills must be cleaned up promptly and thoroughly.</li><li>• Approach with care - many harmful chemicals lack colour or offensive odours. Never assume that they are harmless.</li><li>• Identify the chemical/s and hazards involved – check Material Safety Data sheet.</li><li>• Use the information on the physical and chemical properties of the material to judge response and/or evacuation procedures.</li><li>• Decontaminate equipment, clothing and personnel, including any victims, on site if necessary.</li><li>• Dispose of contaminated equipment and materials only after receiving specialist advice.</li><li>• Ensure emergency procedures are in place and practiced.</li></ul>	<ul style="list-style-type: none"><li>• Do not touch any substance.</li><li>• Raise the alarm - alert others in the laboratory to evacuate the room.</li><li>• Contact the School Safety Adviser (John Korth, Sandra Chapman) or a building warden. If necessary, advise security (ext 4900), who will notify the Fire Brigade.</li><li>• Determine if any person is injured. Take care not to become a victim yourself. If required, summon a First Aid Officer.</li><li>• Close doors to prevent further contamination. Secure the area to keep non-emergency response personnel away from the danger.</li><li>• To assist the responding emergency service, identify the chemical involved, check Material Safety Data Sheet or label.</li><li>• In conjunction with expert assistance, minimise</li></ul>

	the spread of contamination and commence decontamination/clean up procedures.
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## 5.2. Specific Chemical Spills

Consult the Material Safety Data Sheet, but generally the following can be applied:-

- **Organic** Material use vermiculite to absorb and placed spent vermiculite in labelled bag for waste collection
- **Acid** spills should be neutralised with sodium bicarbonate. Spill Kits contain soda ash (sodium bicarbonate) which can be sprinkled liberally over the spill. Avoid breathing soda ash dust.
- **Alkali** spills can be neutralised with boric acid.
- **Mercury spills**, which are small, should be removed with a mercury sponge (available from First Year teaching laboratories) or vacuumed up with a suction flask or dusted with sulphur powder. Clean up the mercury thoroughly, because mercury vapours from fine droplets are highly toxic. Once the Mercury is contained it should be clearly labelled and submitted for waste disposal.

## 5.3. Laboratory Spills Kit

All laboratories have a spill kit available to deal with spills. The kit may include:

- A barrier to contain a spill such as clean, dry sand or a commercial product.
- Vermiculite to absorb a spill
- Reagents necessary for decontamination procedures e.g. Calcium carbonate
- Personal protection equipment including protective clothing
- Chemically resistant gloves
- Safety glasses
- Appropriate containers in which to store waste and contaminated materials e.g. plastic bags and buckets.
- Warning signs and barriers.

Face shields are available from the School Safety Advisor.

## 5.4. Incident reporting

Incidents involving hazardous materials must be reported by completing the Hazard and Incident report online using SafetyNet <http://staff.uow.edu.au/ohs/reportingahazardorinjury/reporting/index.html>

In the event of a building evacuation the OH&S unit will carry out an investigation. An Emergency Evacuation Debrief form will be completed, available at:

<http://staff.uow.edu.au/content/groups/public/@web/@ohs/documents/doc/uow016930.pdf>

Some incidents maybe 'notifiable', which means that WorkCover will also be called in to review the incident. In these cases the site should not be disturbed.

## 6. Reference Personnel

All changes to this document shall be referred to the School Safety Committee prior to implementation.

## 7. Documentation

Hazard and Incident Report Form on SafetyNet

<http://staff.uow.edu.au/ohs/reportingahazardorinjury/reporting/index.html>

OHS157

Emergency Evacuation Debrief Form

<http://staff.uow.edu.au/content/groups/public/@web/@ohs/documents/doc/uow016930.pdf>