

# Clearing up spills of metallic Mercury

## 1 **PURPOSE**

The purpose of this safety note is to warn University staff and students about the ill effect of metallic mercury vapours and provide guidance on how to deal with a small mercury spill e.g. from a mercury-in-glass thermometer. Large spills of mercury e.g. in a scientific lab are out of scope for this note and are covered in the Code of Practice (CoP) for Spill Management. Such spills shall be considered in risk assessments for the work and dealt accordingly.

## 2 **INTRODUCTION**

Metallic Mercury can present a significant toxic challenge to those exposed to its vapours. **Inhalation of mercury vapour poses a major hazard to human health.** Significant amounts of toxic vapour can be released from even milligram quantities of metallic mercury, this can have serious effects on the health of persons in the room, particularly if exposed for a prolonged period.

Any event resulting in a spill of metallic mercury (small or large) should be immediately reported to the [Health and Safety Coordinator](#) for that area, and logged as an [incident](#) on the Health & Safety Services (HSS) online incident notification form, available [here](#).

## 3 **MERCURY HAZARD**

Metallic mercury vapours have both acute and chronic effects on human health. Acute effects are normally seen when exposures are high and include damage to the kidneys; lungs (causing coughing, difficulties in breathing and pneumonitis) and the central nervous system. Chronic exposure to significant quantities of mercury vapour can lead to dementia. In addition, chronic exposure can give rise to mercury deposits in the tissues (as oxidised an018cd(i)5(nci)6(de)3(nt)] TÆTÆTO 0le

boards not sealed to the floor. As a result, an unattended/ uncleaned mercury spill could give rise to chronic exposure over many years. It is therefore imperative to clear up even the smallest spills of elemental/ liquid mercury e.g. from ay

To collect the spilled mercury quickly, just unscrew the lid with the foam pad, and press the pad firmly onto the spill. This pressure forces the mercury into the pad. When the lid freestanding perforated plate, releasing the mercury into the jar bottom.

### **3.2 Mercury Clean-up kit**

This type of kit is also available from several suppliers but can quite easily be made in-house from easily available materials

#### **3.2.1 Contents**

- 1 x pack Sulphur powder
- 1 x pack Calcium Hydroxide
- 1 x empty waste jar good enough to hold the waste safely
- 1 x plastic scoop to take out 20 mg of Sulphur powder
- 1 x brush
- 1 x 10ml syringe
- 1 x pair disposable nitrile gloves
- Copy of the safety note

#### **3.2.2 How to use the kit**

Secure the area and try to stop the mercury from spreading or splitting into smaller droplets or fall on the floor if the spill is on a surface. Put on protective gloves and increase ventilation by opening a window but avoid any wind blowing through the window to avoid the Sulphur and Calcium Hydroxide from spreading.

Use firm but short strokes of the brush and move the globules/ droplets of mercury together to form one or as few as possible larger pool/ drop. Use the syringe to pick up as much mercury as possible.

Mix equal amount of Calcium Hydroxide and Sulphur and make a paste with as little water as possible if needed otherwise you might wish to use the mixed powders without water (dry powder works as effectively. Spread the mixture onto the spillage area using the brush; then brush the contaminated material into the scoop/ directly into the waste container, whichever is safe and convenient.

Replace the cap on the waste container tightly and store the container at an appropriate waste store (Please see section 3.3.).

### **3.3 Disposal**

Disposal of mercury must be arranged via [Sustainability Services](#). This will need to be disposed as hazardous waste, following the guidance on storage and disposal in Health and Safety Services CoP 48: Hazardous waste. Sustainability Services will assist with actor. Where possible, the used spill kit should be collected by the waste contractor from in-situ Sustainability Services cannot transport/move the waste.

spill has occurred: the person clearing up the spill and/or the person responsible for the spill should identify an alternative temporary storage space. If necessary, they should

seek guidance from H&SS on the suitability of the storage space and on the safe transport/ movement of the waste. The process of identifying a suitable temporary storage space may require negotiation with Schools and Functions who have existing designated hazardous waste stores.

Cost of disposal will be recharged to the relevant individual/group/school/function who caused the spill.

#### **4. Version control**

| EDITION | KEEPER       | REVIEWED | APPROVED BY | APPROVAL DATE |
|---------|--------------|----------|-------------|---------------|
| 2       | H&S Services |          |             |               |