

HEALTH AND SAFETY SERVICE

Guidance on Management of Mercury Spillages

Guidance relating to the associated risks involved with the spillage or accidental release of mercury within the workplace and the procedure for ensuring spillages and any associated waste products are managed and disposed of safely.

Lead Manager:	K. Fleming Head of Health and Safety
Lead Author:	J. Paterson Lead Health and Safety Practitioner
Approved by:	Health and Safety Service
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1. Introduction

The aim of this guidance is to provide information regarding health and safety issues including the clean up procedure and safe disposal of mercury or mercury contaminated equipment following a spillage.

Currently within NHSGG&C the major source of mercury contamination occurs following broken or leaking sphygmomanometers in such circumstances significant quantities of mercury can be released which can cause extensive dispersal of the substance and result in considerable contamination of the immediate and surrounding environment.

To ensure that mercury filled devices cannot be purchased they are no longer available to order through Procurement. New equipment must be of a non-mercury equivalent.

2. Definition

Mercury is a toxic metal, with serious cumulative effects. The metal is liquid and volatile. It releases an invisible vapour at room temperature which can be inhaled. The vapour is odourless. Its acute effects include nausea, abdominal pain and diarrhoea. Chronic effects from continued exposure to much smaller amounts are severe nervous disturbance, tremor, irritability, depression and kidney damage. Routes of exposure are by inhalation of the vapour, by permeation through the skin or ingestion.

3. Spillages

Mercury spillage kits are supplied by the Health & Safety department the following information is contained within each spillage kit. Out of hours the spill kit can be obtained from the contingency cupboard or area in Accident and Emergency. It is the responsibility of the user to ensure that any spillage kits used are replaced

MERCURY SPILLAGE TREATMENT KIT – INSTRUCTIONS FOR USE

Mercury is a heavy silvery liquid found in thermometers, sphygmomanometers, and certain types of switches in theatres. It is toxic and has serious cumulative effects. The major risk of exposure occurs if a thermometer or sphygmomanometer is broken, thus releasing mercury. Mercury is also used in laboratories, and there is the risk of spillage during transport between departments. Because of its nature, mercury tends to form small globules which quickly roll around the floor and find their way into cracks and crevices in the surface either of the floor or on an uneven worktop. Mercury vapour may then be slowly released.

Spills must be dealt with quickly so that all material is located and neutralised as soon as possible.

This document gives instructions on how to use the NHSGGC Mercury Spillage Treatment Kit and how to dispose of the waste.

N.B. UNDER NO CIRCUMSTANCES SHOULD A VACUUM CLEANER BE USED TO GATHER UP MERCURY GLOBULES. MERCURY SPILLS ON CARPETS AND CARPET TILES SHOULD BE DEALT WITH AS DESCRIBED BELOW, BUT THE AREA SHOULD BE CORDONED OFF UNTIL MERCURY MONITORING HAS BEEN CARRIED OUT.

i. Contents of the spillage kit:

1 x jar Microfined Sulphur powder (20g)
1 x jar Calcium Hydroxide
1 x empty (waste) jar
1 x plastic scoop
1 x brush
1 x 10ml syringe
1 x pair disposable nitrile gloves
Instruction leaflet

ii. How to use the spillage kit:

Dealing with a spillage

In the event of spillage, try to confine the affected area to a minimum. Put on protective gloves and mask to reduce dust inhalation. Increase ventilation by opening a window. Try to reduce the spread of the spill as much as possible; in particular, avoid getting mercury on the floor. Never use a vacuum cleaner or aspirator.

Using the brush, move the globules of mercury together to form one large pool. Pick up as much of this as you can using the syringe and place in the waste container. Make a paste of equal amounts of micro fined sulphur and calcium hydroxide with a little water. (in some situations you might wish to use the mixed powders without water - this will still absorb mercury effectively). Spread the adsorbent onto the spillage area using the brush; then brush the contaminated material into the scoop and place in the waste container.

Replace the cap on the waste container tightly and store with the kit in a well-ventilated area away from sources of heat until you need it again. The work-surface and/or-floor can then be decontaminated using the procedure described below. Dispose of the full waste container at a council site as toxic waste, or at an amalgam recovery service.

Decontamination Procedure:

Put on the protective gloves and mask to reduce dust inhalation. Mix about two teaspoons full of micro fined sulphur with an equal amount of calcium hydroxide in a plastic bucket with a few drops of washing up liquid. Fill half-full with tepid water and use a mop to clean the floor thoroughly with the suspension. Follow this by cleaning the floor with a conventional detergent cleanser, using the same mop.

Waste water can be disposed of via the drains.

- iii. Safe Disposal: It is the responsibility of the user to ensure that the used kit is disposed of via a licensed waste contractor; any costs incurred shall be borne by the service. A list of approved contractors is available from health and safety.

Monitoring: If only small quantities of mercury are involved, for example if a thermometer has been broken, then NO FURTHER ACTION is required.

However: In cases of very high exposure (extremely unlikely in a ward situation) an occupational medical examination and/or blood level monitoring may be performed by the Occupational Health Service.

4. Recommendations

Obtain risk assessment from Staffnet and complete it with regard to on dealing with mercury spillages with local details. Train staff on spillage procedures. Ensure that ALL spillages irrespective of volume are reported through Datix and local investigation is initiated. Ensure contact details for relevant support groups are included within the Health and Safety Management Manual e.g.

- Health and Safety
- Occupational Health
- Accident and Emergency
- Facilities

5. A summary of actions for dealing with mercury spillages

Actions to be undertaken

- Assess the level of spillage, if the spillage cannot be managed safely evacuate the area
- Ensure area is well ventilated
- Access risk assessment and spillage kit
- Follow guidance in spillage kit
- Report incident on Datix