

# Mercury Spill

## Information Sheet

Follow this advice to avoid toxicity resulting from the incorrect clean up of **small mercury spills from mercury thermometers** (around ¼ teaspoon). For spills greater than this, evacuate the area and seek help from professional hazardous waste disposal companies. Contractors can be found in the Yellow Pages or the Web.



### What is Mercury?

Mercury is a silvery-white metal that is liquid at room temperature. It is used in a variety of manufacturing processes and products such as thermometers and fluorescent bulbs.

Mercury and most of its compounds are extremely toxic and must be handled with care. Liquid mercury is not readily absorbed through the skin or gut but it does vapourise at room temperature and inhalation of airborne vapours can be harmful to human health. Mercury also has a significant impact on ecological health if it is released into the environment.

### How Should I Clean Up a Mercury Spill?

In cases of spills involving mercury, specific cleaning procedures must be used to avoid toxic exposure. Inadequate cleanup may allow ongoing release of mercury vapours, and potentially, chronic toxicity to occur. Small children crawling on the floor are most at risk, as mercury vapour is heavier than air.

Mercury is a dense liquid and spills tend to break into smaller droplets. These can be easily broken up into smaller and smaller pieces, becoming too small to see and collecting in cracks and crevices. It is important to use caution when collecting spilled mercury to avoid further disturbance to the material.

### WHAT NEVER TO DO AFTER A LIQUID MERCURY SPILL

**DO NOT use a vacuum cleaner or broom to clean up mercury.** This will break up the mercury into smaller droplets that evaporate faster, increasing the chances of breathing in high levels of mercury vapour. Any contaminated vacuum cleaner or broom must be disposed of as hazardous waste.

**DO NOT use household cleaning products to clean up the spill.** Some cleaning products will react violently with mercury, releasing toxic gases.

**DO NOT walk around areas where mercury has spilled.** Shoes and clothing may become contaminated and will spread the mercury further.

**DO NOT dispose of mercury down the drain as it is a water pollutant.** It can also become lodged in 'P' traps and may continue to produce hazardous vapours.

**DO NOT wash visibly contaminated clothing, linens or furnishings in the washing machine.** Mercury will contaminate the appliance and be discharged into the sewerage system. Contaminated materials should be placed in a plastic bag and sealed for disposal.

## **SMALL MERCURY SPILLS: Less Than or Equal to a Single Thermometer**

- Clear the room and isolate the area by closing doors. Keep children and pets away.
- Ventilate the area by opening windows for at least 24 hours. Turn off air-conditioning and heating to the area to prevent the spread of vapours to other areas of the building.
- Contain the spill with rags or other disposable materials to prevent it spreading.
- Collect clean-up supplies. A mercury spill kit may be obtained from some safety equipment and products shops for around \$85. If a specialised spill kit is not available, common household articles can be used (these can be purchased from hardware stores); the following items can be used:
  - Eye dropper or small syringe (to suck up mercury)
  - Wide mouth plastic container (to store the mercury)
  - Paper towels
  - Wide sticky tape (to pick up small mercury beads)
  - Plastic 'zipper' bags (to contain mercury contaminated debris and equipment)
  - Rubbish bags (for containing mercury waste)
  - Stiff paper or cardboard (to collect mercury beads)
  - Torch (to reflect mercury)
  - Powdered sulphur (optional – available from garden supply stores)
- Prepare yourself by putting on an old set of clothes and shoes that can be disposed of should they become contaminated. Remove all jewellery (mercury will bind with gold and will discolour jewellery). Put on rubber gloves.

### **Step by Step Guide**

1. Pick up any broken pieces of glass or sharp materials. Wrap in paper towels and place in a sealable container. Use sticky tape to collect small pieces of material and place in the container.
2. Clean up the mercury as outlined below for the different flooring types involved.
3. Place all contaminated clean-up items in plastic bags and seal well. Place in a safe area until disposed of.
4. After cleaning, remove gloves, old clothing and shoes. Gloves should be bagged and sealed for disposal. Any clothing or footwear that has come into direct contact with liquid mercury should also be bagged for disposal. Items exposed to mercury vapour only can be washed thoroughly and re-used.
5. Thoroughly wash hands and any other parts of the body that may have come into contact with mercury.
6. Contact your local authority (council) regarding disposal of the mercury and contaminated waste.
7. Keep the area well ventilated to the outside for at least 24 hours after clean-up (open windows and run any available fans). Continue to keep children and pets away for this period.

### **FOR SPILLS ON HARD SURFACES: Linoleum, Tiles, Floorboards, Concrete**

- Use two pieces of cardboard or stiff paper to gather mercury droplets into larger balls. Use slow sweeping motions. Scoop up and place into storage container. Tightly seal with the lid.
- Use an eyedropper or syringe to suck up remaining mercury. Clear the eyedropper or syringe by gently squeezing the contents into the container. Wrap the used eyedropper/syringe in paper towels and place in a sealed plastic bag or container.
- Darken the room and use a torch held at a low angle over the floor to pick up additional glistening beads that may have been missed. Mercury can spread far so check the entire room.
- Use sticky tape or duct tape to collect small beads of mercury. Place in a sealed bag or container.
- If the beads are too small to see, sprinkle powdered sulphur over the area to locate them. The sulfur does two things: (1) it makes the mercury easier to see since there is a color change from yellow to brown and (2) it binds the mercury so that it can be easily removed and suppresses the vapour of any missing mercury. The mercury and sulphur can be cleaned up using the above steps.

**Warning:** sulphur can discolour surfaces. Keep the room well ventilated and do not breathe in sulphur powder.
- A damp, disposable rag or paper towels should then be used to do a final wipe of the area.

## FOR SPILLS ON SOFT OR UNEVEN SURFACES: Carpet, Furnishings

- **DO NOT sweep mercury droplets together as this may force mercury deeper into the surface material.** Suck up any visible droplets of mercury using the eyedropper or syringe.
- Clean up the mercury as outlined for spills on hard surfaces above.
- If the mercury cannot be retrieved from the contaminated material, then the affected material should be cut out and removed. This material should be double bagged and sealed.

## LARGER MERCURY SPILLS: Greater Than a Single Thermometer

- Clear the room and isolate the area by closing doors. Keep children and pets away.
- Ventilate the area by opening windows for at least 24 hours. Turn off air-conditioning and heating to the area to prevent the spread of vapours to other areas of the building.
- Seek help from professional hazardous waste disposal companies. Contractors can be contacted through the Yellow Pages under "Waste Disposal".

## For further general information contact:

Public Health Centre  
Whanganui Hospital  
Heads Road  
Private Bag 3003  
**WHANGANUI 4540**

Telephone: (06) 348 1775

Public Health Unit  
Palmerston North Hospital  
Heretaunga Street  
Private Bag 11036  
**PALMERSTON NORTH 4440**

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