

University of Pittsburgh Safety Manual	EHS Policy #	03-014
Subject: MERCURY HANDLING AND SPILL CLEAN UP	Effective Date	Page 1 of 2
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MERCURY

Mercury is a silver liquid metal that vaporizes at temperatures as low as 10°F. Mercury vapor is colorless and odorless and may cause a toxic effect when inhaled. Most health effects result from chronic exposure, and the symptoms include fatigue, anorexia, weight loss, inflammation of gums, and tremors. The symptoms of acute over-exposure are bronchitis, cough, chest pain, excessive salivation or metallic taste. Short-term exposures to low level mercury vapors present little hazard.

1. Mercury Spills

- 1.1 For **large mercury spills** (>25 ml) such as broken manometers, immediately call **EH&S at 4-9505 or the University Police at 4-2121**. Prevent people from walking through the spill area. Notify others to leave the immediate area. Close all doors to the room and wait outside the area for EH&S responders.
- 1.2 **Small spills** of mercury, such as broken thermometers, can be cleaned up immediately by laboratory personnel if contained, or by EH&S if area contamination is suspected.

2. Spill Clean-Up

- 2.1 At a minimum a lab coat, disposable nitrile gloves, and shoe covers should be worn during cleanup of mercury spills to prevent skin absorption or contamination of clothing.
- 2.2 When possible clean up all mercury spills with a specially designed HEPA filtered vacuum with a charcoal filter. EH&S will respond with this equipment when necessary.
- 2.3 **Under no circumstances** should mercury be swept with a broom or vacuumed with an ordinary vacuum cleaner. These procedures will disperse mercury vapors and droplets quickly into the air spreading the contamination.
- 2.4 Very small amounts of mercury can be cleaned up by lab personnel using an index card or rubber squeegee to form a larger bead that can be vacuumed up or amalgamated.
- 2.5 Beads of mercury can also be collected with a disposable pipette, a water-trapped vacuum line attached to a disposable pipette or a hand-operated vacuum pump.
- 2.6 Mercury-absorbing powders, if available, can be used to amalgamate mercury in non-accessible locations.
- 2.7 Mercury waste and materials used in spill cleanup must be placed in a sealed bottle or in a double layer of plastic bags and labeled for disposal by EH&S through the chemical waste program.
- 2.8 After all visible mercury has been collected, the area should be washed with a detergent solution, rinsed, and allowed to dry before use.
- 2.9 In areas that cannot be completely cleaned of mercury, a sulfur slurry should be applied to oxidize the metal and reduce the possibility for airborne vapors. Excess sulfur powder should be vacuumed or wet cleaned during final clean-up after it has had time to react with the mercury.
- 2.10 Carpets heavily contaminated during a mercury spill may have to be removed if EH&S monitoring of mercury vapor levels after vacuum cleaning determines this need.

3. Disposal

All mercury and mercury-containing wastes must be packaged, labeled and disposed via the EH&S Chemical Waste Program and according to the University's "Guidelines for Disposal of Chemical Waste".

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