

(Reviewed 7/06)

METALLIC MERCURY SPILLS

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

Most mercury spills at UNL are small and can be readily cleaned up by personnel working in the area where the spill occurs. Because of this, Environmental Health & Safety expects all work areas that use mercury to have mercury spill kits available, and workers who are trained to use them.

Hazard Information

Mercury is a heavy, silvery white, shining metal that is liquid at ordinary room temperature and is toxic by inhalation, absorption through the skin, and ingestion. Mercury may cause sensitization by inhalation and skin contact. It is irritating to the eyes, respiratory system, and skin. The effects of mercury are cumulative and may result in kidney damage, emotional disturbances, unsteadiness, inflammation of the mouth and gums, general fatigue, memory loss, headaches, and irritation or corrosion of the skin.

Commercial Kits and Devices for Responding to Small Mercury Spills

There are several options available for cleaning up mercury spills. These include:

- **Mercury vacuum:** This device is essential only for responding to large mercury spills and is not an economical choice when dealing with minor mercury spills resulting from broken thermometers or other mercury-containing items. These devices are specially designed to purify exhaust air and capture the elemental mercury for recycling.
- **Amalgamating kits:** These are sold by numerous safety and lab supply vendors. In brief, the amalgamating powder is sprinkled over the droplets of mercury, wetted to initiate the amalgamating reaction between the powder and the mercury, and then the mixture is scooped up and placed in a container for disposal. Some kits are equipped with a small hand pump for difficult to reach areas and collecting large mercury droplets before amalgamating.
- **Sponges:** These kits contain specially designed sponges that pick up mercury droplets when firmly pressed against the surface of the spill. Use of a sponge alone is not recommended. If a sponge is used, the area should be treated with

an amalgamating powder as well to reduce any mercury vapors emitting from residual mercury. The sponges work best on non-porous, smooth surfaces.

Small Mercury Spills (5 mls or less from small devices such as thermometers)

- If the spill is onto or within a heated surface, do not attempt to clean up the spill. Instead, turn off the heat-producing device. If possible turn on fume hoods or open windows to ventilate the area, have all personnel leave the room, and shut the door. Placard the door(s) to the room with the following words, "Mercury Spill- Do Not Enter." Contact EHS at 472-4925 for further instruction.
- If the spill is not onto a heated surface, access the spill kit and follow the enclosed instructions. In general, this should include:
 1. Wear protective latex or nitrile gloves. Using the scrapers provided with the kit or two small pieces of stiff cardboard (one in each hand), consolidate the droplets of mercury. Collect the large droplets using either a hand pump, mercury sponge, or amalgamating powder. Place the recovered mercury and other contaminated materials (i.e. broken thermometers, beakers) in a heavy-walled polyethylene bottle with a screw-cap lid and label the bottle as "mercury spill residue."
 2. Remove gloves and place them in the mercury spill residue bottle. Wash hands, arms and face thoroughly.
 3. Tag the spill residue bottle for collection by EHS.
- Contact EHS for assistance if the mercury has spread to an inaccessible area (such as floor cracks or crevices, drains, etc.).

Large Mercury Spills

If more than 5 mls of mercury is involved in the spill contact EHS for assistance.