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| SAFE WORK PROCEDURE | UBC-RMS-OHS-SWP-17-006 |
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Mercury Spill Clean-up Procedure

1. SCOPE

This document describes the cleanup procedure in the case of a mercury spill of less than 10 milliliters on a non-porous surface. A hazardous materials removal contractor should be retained if the spill is greater than 10 ml, on a porous surface, in cracks or crevices, or carpeting or upholstery that cannot be discarded.

2. PURPOSE

Accidental release or spills of chemicals must be immediately contained, reported and cleaned up by persons knowledgeable in the hazards involved and the precautions to be taken during the cleanup operations. ([WorkSafe BC Regulations](#)).

The purpose of this procedure is to ensure any mercury spills are cleaned up appropriately. There are various actions that laboratory personnel can take in response to a mercury spill. Laboratory workers should never put themselves in at risk during an emergency or cleanup operation. If there is any doubt about the safety of the individual in the lab, immediately call 911. Vancouver Fire and Rescue Services will notify the Hazmat Team. A trained laboratory worker may be able to respond to a small mercury spill if a specific spill kit is available.

3. DEFINITIONS

"Hazardous Materials and Wastes" means materials and wastes posing a risk to the health of people, animals, or the environment through exposure to the material or substance producing such risk, including Biological Materials, Radiation Sources, and Chemical Materials.

4. RESPONSIBILITY

Employer

- Protect workers from hazards in the workplace by considering the hierarchy of controls (e.g. in the order of elimination, substitution, engineering, administrative and personal protective equipment (PPE))
- Inform and instruct workers on how to eliminate or reduce the risk of contact with all hazardous materials



- Provide workers with adequate supervision to ensure that work practices eliminate or minimize the risk of unforeseen contact
- Provide workers with the equipment, tools and PPE needed to deal with an unexpected contact
- Ensure facilities and material for washing is provided
- Monitor the workplace to ensure that safeguards are used and safe work practices are followed
- In case of a potential or suspected exposure, ensure that employees are aware of procedures for reporting incidents of exposure to the employer and a physician

Employee

- Attend education and training sessions provided by the employer
- Use controls and follow safe work practices established by the employer.
- Use the appropriate and available tools and PPE that have been provided for use when cleaning up a spill containing hazardous materials.
- Report all spills on the online reporting system [UBC CAIRS](#)

5. TRAINING REQUIRED

Chemical Safety Training offered by Risk Management Services

If appropriate equipment and trained personnel are not available on site, the area must be evacuated and emergency services called. Contact the Vancouver Fire and Rescue Services and Risk Management Services for support.

6. MATERIALS/EQUIPMENT

The basic items to be included in a spill kit are:

- Personal Protective Equipment (gloves, safety goggles, disposable coveralls)
- Flashlight
- Large plastic trash bag
- Sealable plastic bags (e.g., zip-lock)
- Plastic sheeting
- Paper towels
- Rags
- Duct tape or packing tape
- Barrier tape (caution yellow) and warning sign
- Permanent marker
- Plastic dustpan
- Eyedropper
- Sheets of letter-sized stiff paper or cardboard
- Containers (glass, metal, or plastic) with tight-fitting lids
- Commercially available mercury spill kit (optional). A typical kit contains:
 - Neutralizer (chemically converts mercury into a less hazardous form)
 - Aspirator (used to pick-up globs of mercury)



- Personal protective equipment (gloves, safety goggles)
- Disposal bags
- Labels and instructions

DO NOT

- Do not use a vacuum cleaner to cleanup mercury – the mercury will pass through the vacuum and contaminate the air and the apparatus.
- Do not use a broom or brush to sweep mercury – it will break up the mercury in even smaller droplets and spread them around.
- Do not wash mercury-contaminated items in a washing machine – it will contaminate the washing machine and pollute the sewage system.
- Do not pour mercury down the drain or put contaminated items into ordinary garbage.

7. PROCEDURE

Once the risk of injuries has been controlled, the spill may be cleaned up and the area decontaminated using the following general procedures. If a mercury spill kit is available, proceed with step 7.12 first then continue with step 7.1 to end.

7.1. Area Control

- Evacuate the room and block off access; close the door and put up a warning sign indicating the presence of spilled mercury.
- Use caution tape and plastic sheeting to barricade open areas.
- Provide fresh air by opening any exterior windows.
- Shut off the room's ventilation system to avoid the spread of mercury vapor to the rest of the building.
- Turn down the thermostat to slow the release of mercury vapor into the air.

7.2. Discard any clothing contaminated with mercury. Place contaminated items into a double plastic bag for proper disposal. Wash affected skin immediately with soap and water.

7.3. Don personal protective equipment including clothing, gloves, and eyewear. Avoid stepping on any contaminated surfaces. An approved and fit-tested respirator must be worn if the spill is old (i.e., it has been present for more than a few days). For more information on respirator use and fit testing contact [Risk Management Services – Respiratory Safety](#).

7.4. Stop the spill from spreading by blocking the mercury with rags.

7.5. Carefully pick up any broken glass and place the glass in a container with a tight-fitting lid.

7.6. Use stiff paper or cardboard to move the droplets of mercury into a plastic dustpan. Avoid pushing the mercury into any cracks or crevices. A flashlight will help illuminate any small droplets. Use an eyedropper or sticky tape to pick them up. Carefully put the mercury into a container and seal the lid.

7.7. If the mercury has spilled on any small, porous items (e.g., clothing or a small rug), these items should be put in doubled plastic bags for disposal. If mercury has spilled on carpet, the



affected section can be cut out and placed in doubled plastic bags; however, it might be easier to replace the carpet.

- 7.8.** Put all of the mercury-contaminated waste (clothing, rags, paper, gloves, containers used for glass and mercury, etc.) into doubled plastic bags. Label the bags *Elemental Mercury: Hazardous Waste*.
- 7.9.** Material from cleanup of mercury spills must be disposed of according to the provisions of the province's *Environmental Management Act* and the *Hazardous Waste Regulation*. Contact the Environmental Services Facility (ESF) at 604-822-1285 or 604-323-4420 for disposal enquiries.
- 7.10.** After the spill has been cleaned up, continue to ventilate the room with fresh air for at least two days before re-occupancy.
- 7.11.** A mercury vapor analyzer can be used to test the contaminated room and any adjacent area after the cleanup has been completed.
- 7.12.** If a mercury spill kit is available
 - Spray the neutralizer on the spilled mercury and any mercury-contaminated surfaces before the spill is leaned up
 - Proceed with all previously listed clean-up steps
 - Neutralizer can re-applied after the mercury has been removed to neutralize any residue

- 7.13.** Report the spill via UBC's Centralized Accident / Incident Reporting System ([CAIRS](#))

8. ADDITIONAL RESOURCES

If the mercury spill is not entirely contained and some was released into drains, notify Risk Management Services by phoning the Main Office at 604-822-2029.

UBC specific spill reporting forms can be found on the [Environment page](#) of the Risk Management Services webpage.

For a list of specialized spill containment products see [Spill Containment Products](#).

9. REVIEW AND RETENTION

This SWP is reviewed annually or whenever deemed necessary by the responsible departmental representative in Risk Management Services.

10. DOCUMENT INFORMATION

Written / Reviewed by: RMS Advisor, Chemical Safety
Contact: researchsafety@rms.ubc.ca
604-827-3409