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JUNE *Safety Talk*

Topic: Cleaning Up Minor Mercury Spills

Compact fluorescent lamps (CFLs) contain a small amount of mercury, sealed within the glass tubing.

Thermometers also contain a small amount of mercury.

What may not be commonly known is that mercury can be present in older vehicles (2003 and older):

vehicle convenience light switches, heated car rear windows, tilt switches, acceleration sensors for air bags and seatbelts and wheel balancers may all contain mercury. It may also be present in some anti-lock braking systems.

Button cell batteries may have small amounts of mercury as a protective film around zinc in the cells, which prevents battery rupture from the production of hydrogen gas.



What are the hazards of mercury?

Metallic mercury is liquid at room temperature, but can easily evaporate from liquid to a vapour. Mercury vapour is colourless and odourless.

Elemental (metallic) mercury primarily causes health effects when it is breathed as a vapour which can be absorbed through the lungs. These exposures can occur when mercury is spilled, particularly in poorly ventilated areas. High mercury exposure results in permanent damage to the nervous system and kidneys.

What are the symptoms of mercury exposure?

Signs of mercury poisoning include tremors; mood, memory or coordination changes; and skin irritation or allergy.

How does mercury exposure occur?

When a mercury-containing bulb or thermometer accidentally breaks, mercury in the glass tube is released and a small amount of mercury vapour enters the air. A small amount of liquid mercury falls to the ground, where it continues to evaporate to form a vapour.

Exposure can also occur by skin contact.

How do you avoid exposure?

The most common way to be exposed to mercury would be from broken bulbs or thermometers.

Each organization should establish safe work procedures for removal of broken thermometers or Compact Fluorescent Lamps. (see www.bcmsa.ca/resources/safe-work-procedures for example)

Key elements in the procedures may include:

- Ensure no workers can be exposed by asking everyone to leave the room, and blocking access.
- Open outside doors and windows to provide ventilation.
- Shut off the room's heating and ventilation system to avoid spreading mercury vapour into the rest of the building.
- Don appropriate personal protective equipment, which may include disposable coveralls, gloves, eyewear and respirator.
- Use paper or cardboard to move droplets of mercury into a plastic dustpan, avoiding pushing mercury into any cracks or crevices.
- A flashlight will help illuminate any small droplets; use an eyedropper or sticky tape to pick them up.

- If the mercury has spilled on any porous items (e.g. clothing or rug), the item should be placed in double plastic bags and marked as hazardous waste. All PPE and any rags used in spill clean up should be disposed of in the same manner.
- Materials from clean up of mercury spills must be disposed of in compliance with the Environmental Management Act and the Hazardous Waste Regulation.
- Continue to ventilate the room with the HVAC system shut off.
- After the spill has been cleaned up, a mercury vapour analyzer can be used to test the contaminated room for any residual mercury.



DO NOT:

- Use a vacuum cleaner to clean up mercury. The mercury will pass through the vacuum and re-contaminate the air as well as the vacuum.
- Use a broom or brush to sweep up mercury. This will break up the mercury into even smaller droplets and spread them further.
- Wash mercury-contaminated items in a washing machine.
- Pour mercury down the drain or put contaminated items into ordinary garbage.