



THE UNIVERSITY OF WESTERN ONTARIO
OCCUPATIONAL HEALTH AND SAFETY

DESIGNATED SUBSTANCES PROGRAM
MERCURY

Prepared by: Occupational Health and Safety
Effective Date: February 2005
Supersedes: None (new)

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INTRODUCTION:

Mercury is prescribed as a designated substance under the "*Regulation respecting Mercury - made under the Occupational Health and Safety Act*", [\[R.R.O. 1990, Reg. 844 as amended by O. Reg. 520/92; 390/00110/04\]](#). Designated substance regulations apply to employers and workers at workplaces where two conditions are met:

- the substance is present in the workplace, and
- a worker is likely to inhale, ingest or absorb some of the substance that is present.

The designated substance regulations require that an assessment be conducted to determine the extent to which workers are exposed to the substance. The assessment is done to determine:

- whether workers are inhaling, ingesting or absorbing the substance at present or whether they are likely to do so in the future; and
- whether or not the health of a worker may be affected by exposure to the substance.

This assessment covers the following details:

- the methods and procedures used in the processing, use, handling or storage of the substance;
- the actual and the potential exposure of workers to the substance; and
- the measures and procedures necessary to control such exposure by means of engineering controls, work practices, and hygiene practices and facilities.

RESPONSIBILITIES:

Every person working with mercury is responsible for following safe work practices. The Principal Investigator/supervisor is responsible for ensuring that an inventory of all designated substances is maintained, including recording of the amount used. The inventory is to be submitted to Occupational Health and Safety (OHS). The Principal Investigator/supervisor is responsible for ensuring adequate training is provided to employees and that safety equipment is used, including personal protective equipment and engineering controls e.g. fumehoods.

IDENTIFICATION AND USE:

University of Western Ontario (UWO) Employees using mercury or mercury compounds are to submit a Designated Substance Inventory form to OHS indicating the location and the amount used. The forms are stored in the "Designated Substance" binder and the information is also stored in the Lab Safety Database. Mercury compounds are used in small quantities (less than 1kg) in various locations at UWO. Elemental mercury is used in larger amounts by the Physics and Astronomy dept.

EXPOSURE POTENTIAL / CONTROL MEASURES:

Exposure Potential

The amounts of mercury compounds used at UWO are small and therefore the exposure potential is low should there be an accidental spill. Elemental mercury is used in the Physics and Astronomy dept in larger amounts.

In order to ensure that the potential for exposure remains low:

- Only the minimum amount of a chemical should be purchased.

- All spills must be cleaned up immediately.
- Waste mercury must be properly collected and disposed of promptly.

Call Campus Community Police Services (CCPS) @ 911 for the UWO Hazardous Material Response Team who, will respond to all hazardous materials emergencies, including designated substances. The team is equipped with the proper personal protective equipment and is always on call to deal with all situations involving hazardous materials emergencies

Control Measures

Employees handling mercury and mercury compounds are required to follow the procedure for handling chemicals according to the Laboratory Health and Safety Manual, the Hazardous Materials Management Handbook and The UWO Mercury Control Program (Appendix 1)

ASSESSMENT

Each location listed will be assessed depending on the amount and form used. The information will be stored in the Lab Safety Database. If an assessment is required, a Mercury Assessment Form (Appendix 2) is to be completed and stored in the “Designated Substance” binder. Should an assessment result in the need for a control program this will be implemented as required.

MEDICAL SURVEILLANCE

Each employee at UWO is to have a [Position Hazard Communication Form](#) filled out by their supervisor and submitted to Workplace Health. If medical surveillance is required, staff health will arrange the necessary tests as required. Should the employee decide not to participate in a medical surveillance program, a waiver must be signed by the employee.

TRAINING

The supervisor is responsible for ensuring all personnel are trained in the handling of the mercury that they are working with. All training is to be documented and the records kept.

The UNIVERSITY of WESTERN ONTARIO
Physical Plant and Capital Planning Services Division

POLICY: MERCURY CONTROL PROGRAM			NUMBER: S-10
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PREPARED BY: PP&CPSD	AUTHORIZED BY: D.V.B. Riddell	CLASSIFICATION: Safety Procedure	EFFECTIVE: December 1, 2004
			SUPERSEDES: August 23, 1983
<p>Elemental (metallic) mercury is not hazardous when confined within a closed system such as a manometer. However, should such an instrument shatter or develop a leak, the resulting spill could expose nearby personnel to high levels of mercury vapour depending upon the amount spilled and the effectiveness of the area ventilation system. Repetitive inhalation in such a situation can result in mercury poisoning in the exposed individual.</p> <p>Many campus labs and research areas have been replacing mercury - type instrumentation with equivalent or better non - mercury systems i.e. mercury replaced by coloured water in manometers. This form of control is encouraged by Occupational Health and Safety (OH&S).</p> <p><u>ACCIDENTAL MERCURY SPILLS:</u></p> <p>All spills of mercury (Hg) must be cleaned up immediately to minimize the introduction of the potentially harmful vapours into the workplace. Cleanup of such spills must be performed by OH&S or a qualified contractor. The recommended clean-up procedures will depend on the size and the extent of the spill. See instructions below.</p> <ol style="list-style-type: none"> 1. Small Spill Clean-Up (i.e, thermometers, etc.) <ol style="list-style-type: none"> 1.1 Collect up all spilled mercury by using handy commercial kits, lab suction apparatus (aspirator), etc., and seal in a leak proof container. 1.2 Gather other materials used in clean-up or having been in contact with mercury and seal in a 6 mil plastic bag. 2. Large Spill Clean-Up (i.e, greater than 2 ml.) <ol style="list-style-type: none"> 2.1 Ventilate area by using portable air exhaust units. 2.2 Contact Occupational Health and Safety immediately if assistance is required. A specialized mercury vacuum, respirators and a mercury vapour detector are available when required. In addition, Occupational Health and Safety can advise on the degree of hazard and other preventive measures to be taken. 2.3 Supervisors must complete an Accident Investigation Report. 			

3. Disposal

- 3.1 Contact Occupational Health & Safety for disposal of mercury or mercury related waste.
- 3.2 Ensure that all materials are tightly sealed in plastic and labeled according to instructions in the Hazardous Materials Management Handbook.

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LABORATORY PLUMBING MAINTENANCE: (Physical Plant Personnel)

If sinks or drain pipes are being removed or repaired in laboratories, precautionary steps must be taken before starting this job. Over exposures caused by using a torch to free the pipe joints can be prevented by the following steps below.

- Always empty a sink trap by placing a suitable container under it.
- Any mercury collected in this manner must be sealed tightly in a leak proof container preferably plastic.
- Contact Occupational Health & Safety for proper disposal, see Large Spill Clean-up section above.

