



Subject: **MERCURY SAFETY**

Policy No. 102

APPLICATION

All New York University academic, commercial and residential facilities.

PURPOSE

It is the intention of New York University to ensure 1) that human health and the environmental are protected; 2) the safe, use, storage and disposal of mercury and mercury waste and universal waste mercury; and 3) the proper guidance regarding mercury spills.

POLICY AND GENERAL INFORMATION

Mercury is an inorganic element that is readily absorbed via the respiratory tract (as in elemental mercury vapor or mercury compound dust form). Mercury in the organic form is extremely toxic via skin contact, inhalation, and ingestion.

No new elemental mercury containing products should be purchased. Mercury can be found in a variety of products all around the University community. The common usages for elemental mercury are found in barometers, manometer, thermometer, hydrometers, pyrometers, switches, UV ray lamps and fluorescent lamps. Mercury compounds can also be found in various chemical reagents and solutions.

1.0 RESPONSIBILITIES

1.1 The Senior Director of Environmental Services or designee is responsible for:

- 1.1.1 developing the Mercury Safety Policy;
- 1.1.2 providing the departments with information about the Policy;
- 1.1.3 assisting the departments in implementing the Policy;
- 1.1.4 periodically evaluating the effectiveness of the Policy; and
- 1.1.5 maintaining recyclable mercury and mercury waste disposal records.

1.2 Department Chairpersons, or designees, are responsible for compliance with the Policy in their departments. Their responsibilities include:

- 1.2.1 ensuring that all employees who work with mercury receive information about this Policy; and
- 1.2.2 ensuring that waste is collected in appropriate containers, stored and labeled properly, and removed on a regular basis.

ISSUE DATE	REPLACES	ORIGINATOR	APPROVAL
11/05	12/04	ENVIRONMENTAL SERVICES	SR. VP OPERATIONS AND ADMINISTRATION

1.2.3 ensuring that elemental mercury containing products are purchased.

1.3 Employees who work with Mercury are responsible for:

1.3.1 being familiar with the hazards of Mercury;

1.3.2 collecting, storing, and labeling Mercury waste in accordance with this Policy; and

1.3.3 notifying their supervisors of any exposures, spills or any other pertinent problems.

2.0 **WASTE MINIMIZATION**

2.1 In certain applications non-mercury containing products can be substituted. In the case of thermometers, manometers, etc., digital, dial thermocouples, and alcohol thermometers are practical and accurate substitutes. When replacing fluorescent light tubes, low mercury containing bulbs should be used. However, these will be collected as Universal Waste. (See Section 3.1 for definition)

3.0 **WASTE COLLECTION/WASTE DISPOSAL**

3.1 **Universal Waste** - some mercury wastes may be managed as universal waste (see Policy No. 120 Universal Waste Policy). This policy describes, in detail, how to collect and dispose of specific mercury-containing wastes such as batteries.

3.2 **Liquid Mercury Waste** (elemental mercury) and mercury compound solutions must be collected in containers that are leak-proof, capable of being sealed tightly, and in good condition. A hazardous waste label must be completely filled out and attached to the container. Only then can the container be turned in via Environmental Services for waste disposal.

3.3 **Broken Fluorescent Light Tubes** are considered hazardous waste. The broken tubes shall be collected, double-bagged and tightly sealed. The bag shall then be placed in a box and sealed. A hazardous waste label must be completely filled out and attached to the container. Only then can the container be turned in via Environmental Services for waste disposal. (The collection and disposal of whole Fluorescent Light Tubes shall be addressed in Policy No. 120 Universal Waste Policy).

3.3 **Solid Mercury Waste** (including mercury-contaminated gloves, contaminated towels and spill cleanup material) shall be double-bagged and tightly sealed. A hazardous waste label must be completely filled out and attached to the bag. Only then can the bag be turned in via Environmental Services for waste disposal.

3.4 **Mercury Waste Amalgams** shall be collected in containers designated for the collection of amalgam only. No extraneous liquid or solids shall be added to these containers. The container shall remain in the clinic, laboratory or designated area until removed by a contracted private disposal company.

3.4 **Mercury-Containing Thermometers, Thermostats, Switches, etc.** shall be collected in a large enough container that will encapsulate the entire item. Zip-lock plastic bags or wide-mouthed "mayo" jars with lids are acceptable containers for these items. A completed hazardous waste label must be completely filled out and attached to the container or bag. Only then can the items be turned in via Environmental Services for waste disposal. (Please refer to

Policy No. 120 Universal Waste Policy for detailed guidelines on the collection and disposal of thermostats, etc.)

4.0 **SPILLS**

4.1 Notify Environmental Services x81450 (after hours call Public Safety x82222) whenever a mercury spill occurs (including thermometer spills). Laboratory and clinic employees shall be trained in appropriate cleanup procedures for small spills.

4.2 Mercury spill control kits shall be purchased and readily available for use in each area where mercury is in use. Clean up procedures to be followed are printed inside each kit. Lab Safety Supply offers a variety of kits for mercury cleanup. Go to:
www.labsafety.com/store/dept.asp?dept_id=2691 or phone 1-800-356-0783.

4.2 **Mercury thermometer spills on smooth surfaces:**

4.2.1 Isolate the area by marking off the spill section to prevent inadvertent spreading of the mercury.

4.2.2 Wear two pairs of chemical resistant gloves (nitrile or silver shield), lab coat, and eye protection during cleanup operations.

4.2.3 Using a scraper, push the scattered mercury droplets together into a larger droplet.

4.2.4 Aspirate the larger mercury droplets and place them into a zip-lock bag or screw top container.

4.2.5 Sprinkle mercury absorbent powder lightly over the remaining micro-droplets of mercury.

4.2.6 Spray a water mist over the powder.

4.2.7 Using the scraper, mix the materials into a paste amalgam. The resulting substance will not emit dangerous mercury vapors.

4.2.8 Scoop up the amalgam and wipe down the surfaces with a scraper and damp sponge. Place the amalgam, sponge, gloves, scraper, scoop, and all other mercury contaminated debris (spill cleanup material) into the zip lock bag or container. Tape sharp ends of the glass thermometer and place into the bag or container as well. Follow Section 3.3 of this Policy for proper collection and disposal of waste.

4.3 **Mercury manometer spills on any surface and mercury spills on porous surfaces (carpet, upholstery, concrete, etc.)**

4.3.1 The preferred method of clean up for large mercury spills on any surface or any size mercury spill on porous flooring or carpeting is the use of a mercury vacuum. In some instances the surface cannot be cleaned or decontaminated. Carpets and fabrics are typically disposed of as hazardous waste. In the event that this should happen, the area should be cordoned off to prevent exposure to personnel and the surrounding environment. This would require the assistance of an outside hazardous waste emergency response contractor. Please call Environmental Services x81450 if this should occur. (After hours call Public Safety x82222)

4.4 Mercury spills in ovens, incubators, hot water baths or other elevated temperature situations

- 4.4.1 If the spill should occur in equipment with elevated temperature conditions such as an oven or incubator, an exposure to mercury vapor is more likely.
- 4.4.2 Shut off the equipment and leave the area immediately. Phone Environmental Services x81450 (after hours call Public Safety x82222).
- 4.4.3 Prior to cleanup, mercury vapor monitoring must be performed.
- 4.4.4 Continued mercury vapor monitoring will need to be conducted after the cleanup is complete.

4.5 Large mercury spills

- 4.5.1 Phone Environmental Services x81450 (after hours call Public Safety x82222) and leave the area immediately.
- 4.5.2 Cordon off the area to prevent exposure to personnel or surrounding environment.
- 4.5.3 This would require the immediate assistance of an outside hazardous waste emergency response contractor. Please call Environmental Services x81450 (after hours call Public Safety x82222) if this should occur.

5.0 PERSONAL PROTECTION EQUIPMENT

- 5.1 Wear a lab coat, two pairs of chemical resistant gloves, and safety glasses with side shields when working with mercury. Leave lab coats, gloves, and other PPE in the lab to prevent the spread of this or other chemicals outside the lab. Please refer to Policy No. 112 – The Use and Selection of Personal Protection Equipment.

6.0 ACCIDENTAL EXPOSURES

- 6.1 Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- 6.2 Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes. Contaminated clothing and shoes should be removed. Get medical attention.
- 6.3 Inhalation: Remove to fresh air.
- 6.4 If seriously exposed to mercury or mercury vapors, seek medical attention.

MERCURY SPILL FORM

Subject: **Mercury Safety**

Policy No. 102

Date of Notification: _____ Where: _____

Time: _____ Room: _____

Caller's Name: _____ Is Spill Contained?: _____

Estimated Amount: _____ (call Emergency Response if necessary)

WHO IS INVOLVED?

Name: _____ Position: _____

Phone: _____ Fax: _____ Email: _____

Name: _____ Position: _____

Phone: _____ Fax: _____ Email: _____

SPILL INFORMATION

Type of Spill _____ Approximate Amount: _____

Thermometer ____ Manometer ____ Other? _____

Where Spill Occurred

On Smooth Surface: _____ On Porous Surface (carpet, upholstery, concrete): _____

In oven, incubator, hot water bath or any other elevated temp. situation: _____
(If this item is checked, then Emergency Response IS NECESSARY)

Was there a release to water? _____

ACCIDENTAL EXPOSURES

Has anyone been injured or exposed? _____

Name: _____ Injury/Exposure: _____

Name: _____ Injury/Exposure: _____