Removal of Mercury from Science Rooms

1. Determine sources and locations of Mercury in your science rooms. An inventory has been developed for your use. See, "*Inventory of Mercury and Mercury Containing Devices in Science Rooms.*" When conducting an inventory, make a special effort to search for containers of liquid mercury. These might be found in science classrooms, storerooms, and under sinks in old or disused science labs or demonstration rooms. DO NOT MOVE OR REMOVE MERCURY CONTAINING ITEMS YOURSELF. The professional waste removal company will do this.
2. Have your Assistant Principal of Science sign the inventory and forward to your Custodian.
3. The Custodian will prepare a PO 18 request for mercury removal. The Trade Code to be used is 75.
4. The Custodian then contacts the DOE Deputy Director of Facilities (DDF) to prepare a work order for removal.
5. The professional waste removal company will use your inventory to locate the mercury sources, and remove these items.
6. The waste removal company may conduct an assessment of the area where the mercury was found to determine whether mercury was spilled.

PLEASE DO NOT HANDLE MERCURY ITEMS OR MOVE THEM TO A CENTRAL COLLECTION LOCATION. The professional waste removal company will do this.

If Mercury Spills .....

- DO NOT ATTEMPT TO CLEAN UP
- EVACUATE THE AREA
- CLOSE AND LOCK THE DOOR TO THE AFFECTED ROOM
- ISOLATE THE SPILL AREA IF APPLICABLE
- IMMEDIATELY NOTIFY THE PRINCIPAL & CUSTODIAN
- A HAZARDOUS WASTE COMPANY WILL PERFORM THE CLEAN UP AND CONDUCT AIR MONITORING

Do Not.....

- **ATTEMPT** to clean any mercury spills.
- **HANDLE** mercury.
- **MOVE** mercury items to a central collection location.
- **PURCHASE** mercury or mercury containing products.
- **USE** elemental mercury for classroom demonstrations.
- **THROW** mercury or mercury containing items in the trash or down the sink.
- **WALK** through a mercury contaminated area as this will prevent tracking mercury from one area to another.
- **DELAY** in reporting mercury when it is found.

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Safety and Health Department
52 Broadway
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United Federation of Teachers
A Union of Professionals

Mercury Removal

in

NYC Department of Education Schools

for

Administrators,
Science Teachers & Laboratory Specialists

- Get instructions for identifying and removing mercury products from Science Rooms.
- It's the Law.
- Disposal of mercury waste in the regular trash or down the drain is illegal and unsafe.

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What is Mercury?

Mercury is a silvery, liquid metal that occurs naturally in the earth's surface. Children are fascinated by its ability to break into small droplets. These small globules can lodge in cracks and crevices and emit colorless and odorless vapors at room temperature. Elemental mercury or simple mercury vapor create a danger to students and staff as it can be absorbed through the skin, lungs or intestinal tract in either liquid or gaseous form. Just a few drops of mercury can create a harmful level of mercury vapor in a room. It does not degrade and is not destroyed by burning, which is why proper disposal and recycling are essential.

Mercury Exposure is a Health Concern

Spilled liquid mercury is a health concern. The central nervous system is probably the most sensitive target organ for mercury vapor exposure. Mercury vapors can affect different areas of the brain resulting in a variety of symptoms. Some symptoms from exposure to high levels of mercury vapor, or from long-term exposure to low levels, can include memory loss, headache, sleeplessness, irritability and tremors. Short-term exposure to high levels can also cause coughing, shortness of breath, chest pain, nausea, vomiting, diarrhea, fever, high blood pressure and skin rashes. Young children's exposure to mercury is of particular concern because their nervous systems are still developing.

Exposure to elemental mercury can occur by breathing mercury vapors, eating or swallowing contaminated food or drinks, or having skin contact with liquid mercury. After a spill, the primary health concern is from breathing in mercury vapors. Since mercury vapor is colorless and odorless, people are not aware that the indoor air contains mercury or that they are breathing mercury vapor. The exposure can last a long time if the spill is not properly cleaned up. Just a few drops of mercury can produce harmful vapor levels in enclosed spaces such as rooms or vehicles.

Mercury Sources in Schools

Instruments containing mercury can be found virtually anywhere on school property—in the nurses' office, science rooms, gymnasiums, art rooms and boiler rooms. Liquid mercury is used in instruments that measure:

- Temperature - thermometers
- Pressure - barometers or sphygmomanometers
- Humidity - sling psychrometer, hygrometers,
- Vacuum - laboratory manometers
- Flow - water meters
- Air speed - anemometers.

Mercury can also be found in lights (particularly gymnasium and fluorescent lights), thermostats, heating/ventilation and air conditioning (HVAC) systems, plumbing systems, cafeteria equipment, medical devices, regulators, gauges and science room equipment.

Sometimes children or adults who are unaware of the hazard bring mercury into schools as a novelty, for demonstrations or as part of cultural rituals. Contractors, guest speakers, parents, staff or students might bring mercury-containing devices into the school.

Effective September 4, 2004, New York State has banned the purchase of elemental mercury in primary and secondary schools.

MERCURY DEVICES	NON MERCURY REPLACEMENT ALTERNATIVES
Lab thermometer	Alcohol glass bulbs, mineral spirits glass bulbs or digital.
Barometer	Aneroid or digital; new liquid one being developed.
Spectrum tube	At least 16 alternative gases are available. Ask your scientific supplies distributor for a list of alternative gases.
Gas law apparatus	A simple Charles' Law Apparatus may suffice.
Anemometer	Digital versions available
Other metallic mercury containing instruments	Non-mercury alternatives are available for most instruments. Contact the manufacturer. Also try: http://www.epa.gov/ginpo/seahome. Always check with the original manufacturer for contents of older devices and components. They may have a swap-out program available.

Department of Education
Dennis M. Walcott, Chancellor

INVENTORY OF MERCURY AND MERCURY-CONTAINING DEVICES IN SCIENCE ROOMS

Adapted from: Northeast Management Officials' Association (NEWMOA) 2002 Revised Draft checklist – Mercury in Schools Project by the NYCDOE Office of Occupational Safety and Health

ITEM	DO YOU HAVE THE ITEM(S) YES / NO	NUMBER OR AMOUNT OF ITEM (USED AND STORED)	ROOM #	LOCATION OF ITEMS (Give Specific Location in Room)	COMMENTS
Jars or other bulk containers of elemental mercury					
Mercury lab thermometer					
Mercury barometer					
Mercury hygrometer					
Mercury hydrometer					
Mercury vacuum gauge					
Mercury spectrum tube					
Mercury molecular motion device					
Mercury gas law apparatus					
Mercury anemometer					
Other metallic mercury containing instruments					

CONTACT INFORMATION OF PERSON COMPLETING FORM		INSTRUCTIONS
SCHOOL NAME	**CFN #**	Read the entire inventory. Please complete each section
NAME:		Please complete a separate inventory for each room.
TITLE:		**DO NOT HANDLE OR MOVE MERCURY CONTAINING DEVICES.** The professional waste removal company will do this.
PHONE:		Submit completed form to your Custodian. He/she will complete a PO 18 and submit it to the Division of School Facilities
FAX:		Questions on removal? Contact Environmental Health and Safety 718 361-3701
EMAIL:		For more information on mercury: http://schools.nyc.gov/offices/DHR/OSH

PRINT LAB. SPECIALIST NAME/SCIENCE TEACHER	SIGNATURE OF LAB SPECIALIST/SCIENCE TEACHER	DATE	SIGNATURE OF PRINCIPAL/AP SCIENCE	DATE