

# Mercury Policy

## What is Mercury?

Mercury is a naturally occurring element that is found in air, water and soil. It exists in several forms:

- elemental or metallic mercury,
- inorganic mercury compounds and
- organic mercury compounds.

*Elemental or metallic mercury* is a shiny, silver-white metal and is liquid at room temperature. It is the common liquid metal used in thermometers, oven thermometers, barometers, blood pressure cuffs, thermostats, fluorescent light bulbs and some electrical switches.

*Inorganic mercury* compounds take the form of mercury salts and are generally white powder or crystals, with the exception of mercuric sulfide (cinnabar) which is red. Inorganic mercury compounds have been included in products such as fungicides, antiseptics or disinfectants. Some skin-lightening and freckle creams, as well as some traditional medicines, can contain mercury compounds.

*Organic mercury* compounds, such as methylmercury, are formed when mercury combines with carbon. Microscopic organisms convert inorganic mercury into methylmercury, which is the most common organic mercury compound found in the environment. Methylmercury accumulates up the food chain.

## What is Mercury used for?

Mercury is used in thermometers, oven thermometers, barometers, blood pressure cuffs, thermostats, fluorescent light bulbs and some electrical switches. Mercury compounds were formally used in paints, art supplies, fungicides and some medicines.

## Why is Mercury Dangerous?

When dropped, elemental mercury breaks into smaller droplets which can go through small cracks or become strongly attached to certain materials. At room temperature, exposed elemental mercury can evaporate to become an invisible, odorless toxic vapor. People can be exposed to elemental mercury vapor when products that contain mercury break and expose mercury to the air, particularly in poorly ventilated spaces. Up to 80 percent of the mercury vapors inhaled will be absorbed by the lungs, and may cause damage. From the lungs, mercury can travel to the brain and kidneys causing permanent damage. Young children, pregnant women, elderly people and people with chronic health problems are more sensitive to mercury poisoning.

Most cases of mercury poisoning occur when mercury is spilled in a home or a school. The amount of mercury in a fever thermometer is small, but this amount is enough to poison all people who are in the area for any length of time.

## **What are the Health Effects of Mercury?**

*Methylmercury effects:* impairment of the peripheral vision; disturbances in sensations (pins-and-needles feelings, usually in the hands, feet and around the mouth); lack of coordination of movements; impairment of speech, hearing, walking; and muscle weakness.

*Elemental mercury effects:* tremors; emotional changes (e.g., mood swings, irritability, nervousness, excessive shyness); insomnia; neuromuscular changes (such as weakness, muscle atrophy, twitching); headaches; disturbances in sensations; changes in nerve responses; performance deficits on tests of cognitive function. At higher exposures, there may be kidney effects, respiratory failure and death.

*Inorganic and organic mercury effects:* skin rashes and dermatitis; mood swings; memory loss; mental disturbances; and muscle weakness.

## **Should Mercury be removed from the School Setting?**

YES! Mercury-containing thermometers, thermostats and barometers can be replaced with other devices that do not contain mercury and cost roughly the same amount. Because mercury spills are costly and difficult to clean up and the effects of mercury on humans is disastrous, it is a safer choice to remove all mercury-containing devices from the school setting.

## **Where do I take Mercury product when I remove them from my School?**

Some communities have mercury collection centers; contact your local health department or the Ohio Department of Health to find out if your community has one. If a mercury-collection center does not exist in your community, contact the local solid waste district to determine if they have household hazardous waste collection and on which days they collect the waste. In the meantime, the mercury items should be carefully stored in a sealed, heavy plastic bag. The bag should be placed in a sealed container and preferably stored in a garage or shed until the material can be collected.

If you are unable to find a collection center or household hazardous waste collection site, contact Bowling Green State University at (419) 372-2171 for additional assistance. They should be able to connect you with an agency that will collect your mercury waste.

## **What should I do in the case of a Mercury Spill?**

1. Keep everyone out of the room where the spill occurred.
2. Open the windows near the spill.
3. Close the heating vents in the room.
4. DO NOT try to vacuum or pick up the mercury, as this will only spread it further.

For information on how to handle both small and large mercury spills, call the Ohio EPA's Spill Hotline at 1-800-282-9378.

## ADDITIONAL RESOURCES

### Web resources

<http://www.epa.gov/epaoswer/hazwaste/mercury/index.htm>

<http://www.epa.state.oh.us/pic/facts/mercury.pdf>

Ohio Department of Health's Mercury Packet

[http://www.odh.ohio.gov/odhprograms/eh/hlth\\_as/chemfs1.aspx](http://www.odh.ohio.gov/odhprograms/eh/hlth_as/chemfs1.aspx)

Ohio EPA Spill Hotline

1-800-282-9378

Ohio Department of Health

Health Assessment Section

246 N. High Street

Columbus, Ohio 43215

Phone: (614) 466-1390

E-mail: [BEH@odh.ohio.gov](mailto:BEH@odh.ohio.gov)

Ohio Environmental Protection Agency (OEPA)

Ohio Mercury Reduction Group (OMRG)

122 S. Front Street

Columbus, Ohio 43215

Phone: (614) 644-3469

Bowling Green State University

Elemental Mercury Collection and Reclamation Program

102 College Park Office Building

Bowling Green, Ohio 43403

Phone: (419) 372-2171

## Sample Mercury School Policy

Most cases of mercury poisoning occur when mercury is spilled in a home or a school. The small amount of mercury in a fever thermometer is enough to poison all people who are in the area for any length of time. It is therefore important that careful consideration be taken when using mercury-containing products in the school setting and all unnecessary mercury-containing products should be removed and properly disposed of. Because mercury spills are costly and difficult to clean up and the effects of mercury on humans is disastrous, it is a safer choice to remove all mercury-containing devices from the school setting.

### Identification of Mercury-containing Products in the School Setting

All mercury-containing materials must be identified and catalogued to ensure remediation of these materials is complete and effective. Mercury is used in a number of different products and it is therefore important to check all of these products for mercury.

### Removal of Mercury-containing Products

All efforts should be made to remove all mercury-containing materials from the school setting to ensure the safety of school attendees and staff. While awaiting pickup mercury items should be carefully stored in a sealed, heavy plastic bag. The bag should be placed in a sealed container and preferably stored in a garage or shed until the material can be collected. The nearest mercury-collection center or solid waste authority should be contacted to arrange pickup of the mercury products.

### Handling Mercury Spills

For information on how to handle both small and large mercury spills, call the Ohio EPA's Spill Hotline at 1-800-282-9378. Guidelines are also listed in ODH's mercury packet, at the following Web site: [http://www.odh.ohio.gov/odhprograms/eh/hlth\\_as/chemfs1.aspx](http://www.odh.ohio.gov/odhprograms/eh/hlth_as/chemfs1.aspx).

Superintendent \_\_\_\_\_ Effective Date \_\_\_\_\_

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District Representative

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IPM Program Supervisor