Michigan Department of Community Health

MDCH

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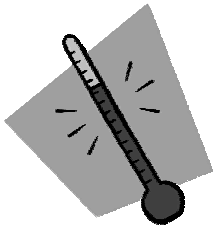
Keep our kids safe: Steps to Eliminate Mercury in Michigan K-12 Schools

Under Public Act 376 of 2000, Michigan's public and private K-12 schools were required to have eliminated elemental mercury and mercury-containing instruments by December 31, 2004**. If your school is not yet in compliance with this law, you should follow this guidance to complete the mercury elimination process.**

Mercury is a powerful neurotoxin. Because it is a liquid at room temperature, and it vaporizes quickly, children can easily be exposed to hazardous amounts from open jars or mercury spills. Elimination of mercury and mercury-containing instruments will prevent costly and time-consuming mercury spill clean-up. Elemental mercury and mercury-containing instruments are most often found in classrooms and health offices.

Earlier this year a mercury thermometer broke in a science classroom: it cost the school over $2000 to clean up the spill, and days of staff time to address parents' concerns. The school has since become mercury-free!



This document outlines steps a school can take to ensure that it is mercury-free. For more detailed instructions, go to www.michigan.gov/deqmercuryinschools and click on "Mercury Elimination Guidelines for Michigan Schools."

Step 1: Set up an administrative process

Support should be obtained from upper management. There may be cost saving opportunities if other schools in your school district are also completing this process and work together cooperatively. Typically a formal directive or memorandum is issued, which identifies a lead for overseeing the mercury reduction process.

Step 2: Conduct a mercury audit

Science, chemistry, biology and physics classrooms and the school health office should be the primary focus. Art and home economics classrooms may also have mercury. An inventory checklist, on page 4 of this document, will assist in identifying mercury sources.

Mercury items to be eliminated according to PA 376

Free-flowing Liquid Elemental Mercury and Mercury-containing Instruments including, but not limited to:

- Mercury Thermometers
- Mercury Fever Thermometers
- Mercury Barometers
- Mercury Manometers
- Sphygmomanometers *(blood pressure devices with silver-colored liquid)*

Step 3: Develop a cost analysis and implementation plan

The cost analysis estimates expenses for handling, packaging, transporting, and recycling, as well as costs for replacing mercury devices with mercury-free alternatives. Contact the recycling sites (see step 6 below) to determine costs and shipping/handling requirements before choosing one or more sites for your program.

A written timetable and approval from authorities for necessary expenditures will ensure success.

Step 4: Communicate the plan

Science teachers, nurses and others need to understand the process. They also need to know how to handle mercury spills. Having a mercury spill kit in the school is recommended in case a spill occurs while making your school mercury-free. For more information about spill clean-up, visit www.michigan.gov/deqmercuryp2. Under the "Mercury Spills" heading, click on "Spill Cleanup Kits."

To Contain a Mercury Spill:

Immediately **restrict traffic** in the spill zone area.
Never vacuum up a mercury spill.
Contain the spill as best as possible.
Call 1-800-MI-TOXIC (800-648-6942)
for further instructions.

Never throw mercury or mercury-laden articles in the trash or pour mercury down the drain.

Step 5: Consolidate the mercury

Move all items on the inventory to a locked, secure location within the building, preferably after hours. Have the mercury spill kit on hand. Place elemental mercury and mercury instruments sorted by type of device in unbreakable containers such as plastic food storage containers, and then place or wrap the container in another plastic container (e.g. large plastic zipper-type freezer bag or clear plastic trash bag).

Step 6: Identify a recycler

Visit the DEQ's website at www.michigan.gov/deqmercuryp2. Under the "Mercury Spills" heading, click on "Where to Take Mercury and Mercury Containing Devices."

Note!	Michigan's Groundwater Stewardship "Clean Sweep" Program sites accept mercury from schools **free of charge**. To find a site near you, follow the links above and click on the first option: "Mercury and Pesticide Drop-off Sites - (Clean Sweep Contacts)."

Step 7: Determine handling and transport method

How you transport the materials to the disposal site depends on many factors, including mercury amounts and whether the mercury is managed as "universal" or "hazardous waste." The transportation requirements can sometimes be complex.

- Your school may choose to transport the mercury simply by packing the containers carefully to avoid any spills and driving the material to the disposal/recycling site yourself. While this is the least expensive method, potential liabilities should be considered. For details, go to www.michigan.gov/deqmercuryinschools and click on "Mercury Elimination Guidelines for Schools."

- In general, shipping the material through the U.S. Postal Service is not allowed. Shipping using United Parcel Service, Fed Ex or other shippers is difficult because of their stringent requirements about shipping mercury.

- If your school already uses a hazardous waste contractor or hauler, you may want to consult them regarding disposal of your mercury.

Step 8: Adopt mercury-free purchasing policies

It makes little sense to rid a school of mercury, only to have new mercury instruments reappear in the future. Having purchasing policies in place, informing venders, removing mercury products from catalogs, and educating staff on this policy should ensure success in the future.

Step 9: Receive recognition for your achievement!

Inform the State of Michigan that the process of mercury elimination was completed by e-mailing Noreen Hughes at hughesn@michigan.gov or Martha Stanbury at stanburym@michigan.gov, or by calling 1-800-MI-TOXIC (800-648-6942). Your school will be added to the list of mercury-free schools at www.michigan.gov/deqmercuryinschools.

Checklist for Inventory of Mercury in School Classrooms and Health Offices

Item	No	Yes	How used?	How Many/ How Much?	Location?
Science, Chemistry, Physics, Biology Rooms					
Elemental Mercury					
Mercury Thermometers					
Mercury Barometers					
Mercury Vacuum Gauges					
Hg Spectral Tubes					
Mercury Molecular Motion Device					
Mercury Sling Psychrometer					
Mercury Compounds					
Mercury oxide					
Mercury (II) chloride					
Mercury (II) sulfate					
Mercury nitrate					
Mercury iodine					
Zenker's Solution					
Other Mercury Materials					
Home Economics & Art					
Mercury Cooking Thermometer					
True Vermillion Paint (contains mercuric sulfide)					
Cadmium Vermillion Red					
Medical					
Mercury Fever Thermometers					
Sphygmomanometers (Blood Pressure Devices with silver liquid)					

Note: Other mercury-containing items found in buildings, such as thermostats, light switches, relays, electrical contractors, and fluorescent lights, are not specifically listed in this legislation. However, it is recommended that, as these products reach the end of their useful lives, they be replaced with mercury-free alternatives if available.