

# PHASE OUT MERCURY IN PRODUCTS



Michigan Network for  
**CHILDREN'S**  
**Environmental**  
**HEALTH**

*Mercury, a well-known neurotoxicant, is highly damaging to children's health and development. Support Michigan legislation (HB 4277-81) to phase out mercury in certain products and better control its uses and disposal.*

## WHAT IS MERCURY?

- Mercury is a silver-colored metal. Its pure form, metallic mercury, is most often seen in liquid form in products such as thermometers and fluorescent light bulbs. Mercury occurs naturally in the environment, but **human use and disposal results in concentrations that threaten human health.**<sup>1</sup>

## HOW ARE PEOPLE EXPOSED TO MERCURY?

- In the U.S., coal fired power plants are the single largest source of mercury, but mercury is also released from landfills, waste incinerators, and industrial facilities.<sup>2</sup>
- Mercury in water can be methylated by bacteria to form organic methylmercury, which bioaccumulates in fish and people who eat fish.<sup>1</sup> **Michigan has a fish consumption advisory for all of its 11,000 inland lakes, reservoirs.**<sup>3</sup>
- **Household items containing mercury are a cause of exposure**, including barometers, thermostats, thermometers, and batteries.<sup>1</sup>
- People with dental amalgam fillings may be exposed to mercury. Amalgams used in silver-colored dental fillings are composed of approximately 50% metallic mercury.<sup>1</sup>
- Some people are exposed to mercury vapor at work.<sup>1</sup> Jobs at highest risk for mercury exposure include manufacturers of electrical equipment or automotive parts, chemical processing plants that use mercury, metal processing, and many medical professions.<sup>1</sup>

## HOW DOES MERCURY AFFECT HUMAN HEALTH?

- Mercury can harm the nervous system as well as other critical physiological systems such as the cardiovascular and endocrine systems. **Exposure can affect virtually every organ of the body including the heart, intestines, kidneys, skin, and lungs.**<sup>1</sup>
- Consuming large amounts of methylmercury from fish over a long period of time has been known to cause brain and kidney damage, as well as damage to the nervous system.<sup>1</sup>
- Only a few hours of exposure to mercury vapor can harm the lungs and lining of the mouth, cause nausea, vomiting, diarrhea, increase blood pressure or heart rate, cause skin rashes, and cause eye irritation.<sup>1</sup> More consistent exposure to mercury vapor can cause headaches, emotional changes, tremors, weakness, and insomnia. Higher level exposures can cause kidney problems, respiratory failure, and intestinal damage.<sup>1</sup>

## HOW DOES MERCURY AFFECT CHILDREN'S HEALTH?

- **Young children are potentially more vulnerable** to the neurotoxicity of methylmercury than adults and older children because their nervous systems and brains are still developing and growing.<sup>1</sup> Methylmercury can cross through the placenta where it gains access to fetal blood. Once in the blood it can travel into the brain where it may interfere with neurological development, which can result in **low birth weight, mental retardation, cerebral palsy, deafness, blindness, and seizures.**<sup>4</sup>
- Prenatal exposure to mercury is extremely harmful to the fetus. **Between 315,000 and 635,000 children are born each year in the U.S. with umbilical cord blood mercury concentrations linked to IQ loss.** The diminished economic activity as a result of these IQ losses is \$8.7 billion annually.<sup>5</sup>

*Michigan has taken a leadership role in limiting the mercury contents in products such as blood pressure monitors and other medical devices, and has a statute requiring state agencies to attempt to avoid purchasing products containing mercury. But the work is not finished.*

### WHAT CAN LAWMAKERS DO?

- Stop any mercury added **novelties or cell phone batteries** from being sold in Michigan (HB 4279).
- Stop sales of mercury-added flow meters, hydrometers, barometers, manometers, hygrometers, and psychrometers, as well as mercury switches, and mercury relays (HB 4281).
- **Eliminate the disposal** of mercury added products in landfills or incinerators (HB 4277).
- Mandate that manufacturers issue a **warning label** on all mercury added products (HB 4278).
- Mandate that any person who sells or distributes mercury must provide a **safety data sheet** to the recipient. The recipient must sign a statement acknowledging the safe use and disposal of the purchased mercury (HB 4280).

### References:

1. Agency for Toxic Substances & Disease Registry (ATSDR). Public Health Statement for Mercury. 1999. Department of Health and Human Services. <http://www.atsdr.cdc.gov/toxprofiles/phs46.html>. (Accessed July 25, 2007).
2. Where is mercury found? GreenFacts. <http://www.greenfacts.org/en/mercury/l-3/index.htm#0p0> (Accessed March 31, 2009).
3. Michigan Department of Environmental Quality. Mercury Awareness for Michigan Citizens. <http://www.deq.state.mi.us/documents/deq-ead-p2-mercury-mercbroc.pdf> (Accessed March 21, 2009).
4. Mercury: Health Effects and Reducing Exposure. Environmental Health Education Center, University of Maryland School of Nursing. <http://www.jhu.edu/hsrc/mercury.pdf> (Accessed April 10, 2009).
5. Trasande L, Landrigan PJ, Schechter C. Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain. *Environmental Health Perspectives* 2005; 113:590-596.

***Support HB 4277-4281 to protect Michigan's children!***

**Bolding** was added by the Michigan Network for Children's Environmental Health.

**Network Members:** American Academy of Pediatrics (Michigan Chapter), Arab Community Center for Economic and Social Services (ACCESS), Association for Children's Mental Health, Autism Society of Michigan, Citizens for Alternatives to Chemical Contamination, Clean Water Fund, Clinton County Family Resource Center, Detroiters Working for Environmental Justice, East Michigan Environmental Action Council, Ecology Center, Healthy Homes Coalition of West Michigan, Learning Disabilities Association (LDA) of Michigan, Local Motion, Michigan Chapter of the National Association of Pediatric Nurse Practitioners, Michigan Coalition for Children and Families, Michigan Environmental Council, Michigan League of Conservation Voters Education Fund, Michigan Nurses Association, Science and Environmental Health Network, Voices for Earth Justice.

**Our Mission:** Through education, outreach, and advocacy, we seek to protect Michigan's children from adverse impacts caused by exposure to widespread hazardous chemicals.

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