



MERCURY THERMOMETERS

A WASHINGTON TOXICS COALITION FACT SHEET · MAY 2002 · PAGE 1

What is the problem with Mercury Thermometers?

The small, silvery ball of mercury in a thermometer is very toxic if released into the environment and can cause serious health problems for humans and wildlife. When mercury is released, it evaporates into the air, and eventually makes its way back to the earth, often into rivers and lakes, where microorganisms transform it into highly toxic methylmercury.

Once mercury is released into the environment it stays there for a long time and it builds up in the food chain,



In August 2001, the American Academy of Pediatrics encouraged parents to remove mercury thermometers from their homes and concluded that efforts should be made to reduce exposure to mercury to the extent possible to pregnant women and children as well as the general population. The digital thermometer in the bottom of the photo contains no mercury.

particularly in certain fish. One gram of mercury, like that in a thermometer, is enough to contaminate the fish in a 20-acre lake to the point where they are unsafe for human consumption (Minnesota Pollution Control Agency 1999). The U.S. Environmental Protection Agency estimated that in the year 2000, 17 tons of elemental mercury from thermometers was disposed of as municipal solid waste (USEPA 1997).

What are the health effects of mercury exposure?

Mercury contamination is of particular concern to pregnant women and young children. Mercury can be passed through the placenta and breast milk, where it affects fetal and child development by preventing the brain and nervous system from developing normally. The National Academy of Sciences (NAS) estimates that 60,000 of the infants that are born each year in the United States are at risk of neurological problems caused by exposure to mercury in the womb. (NAS 2002). High fish-consuming groups around the world are at the greatest risk.

In addition to pregnant women, mercury poses a great threat to women of childbearing age and to people who eat large amounts of contaminated fish. In April 2001, the Washington State Department of Health issued a fish consumption advisory that warned women of childbearing age and children under six not to eat any shark, swordfish, tilefish, king mackerel, or tuna steaks. The advisory also recommends a weekly limitation on the amount of canned tuna consumed by women of childbearing age and children (Washington State Department of Health, 2001).

What happens if a mercury thermometer breaks?

Every year there are 15,000 calls to poison control centers about broken mercury thermometers (Health Care Without Harm, 2001). If your mercury thermometer breaks, it is very important for the mercury to be cleaned up properly. Follow these steps:

- Increase ventilation in the room with outside air and close the room off from the rest of the house. If available, use fans for a minimum of one hour to help ventilate the room.
- Pick up the mercury with an eyedropper or scoop up beads with a piece of heavy paper (e.g., playing cards, index cards).
- Place the mercury, contaminated instruments (dropper/heavy paper) and any broken glass in a plastic zipper bag. Place this zipper bag in a second zipper bag and then in a third zipper bag (triple bag),

tightly sealing each bag. Place the bags in a wide-mouth, sealable plastic container.

- Call your local health department for the nearest hazardous waste disposal site. (In King County residents can call the Hazards Line (206) 296-5692 and businesses can call the Business Waste Line (206) 296-3976 for information on proper mercury disposal.)

If it is not cleaned up, the mercury will evaporate at room temperature, potentially reaching dangerous levels in indoor air. The risks increase if you clean up the mercury spill with a vacuum cleaner, if the mercury is heated, or if the spill takes place in a small, poorly ventilated room.

A recent statement by the American Medical Association indicated that non-mercury fever thermometers are just as good as mercury thermometers and far safer.

Alternatives to Mercury Thermometers

There are a variety of cost-effective, mercury-free alternatives available at local pharmacies. These alternatives include digital, glass gallium-tin, and glass alcohol thermometers. A recent statement by the American Medical Association indicated that non-mercury fever thermometers are just as good as mercury thermometers and far safer.

Mercury Solutions

The state Department of Ecology (Ecology) launched a visionary policy in 1998 to phase out mercury, dioxin and other persistent pollutants. This plan puts the state down the right path for protecting public health and the environment. As part of the plan, Ecology has targeted mercury as the first pollutant on which to take concrete actions to reduce and eliminate releases into the environment.

To gain momentum for state action on mercury, we are working with local communities to pass ordinances or regulations that will phase out and eliminate mercury from the environment. You can contribute to this effort by getting your local government to ban the sale of mercury thermometers.

What you can do:

1. Support a ban on the sale of mercury thermometers in King County. Send a letter to Councilmember

Carolyn Edmonds, Chairperson of the King County Board of Health, King County Courthouse, 516 Third Avenue Room 1200, Seattle, WA 98104-3272, e-mail: carolyn.edmonds@metrokc.gov.

2. Initiate a thermometer ban in your own city or county. Contact the Washington Toxics Coalition for support on getting this done. Please call Brandie Smith at (206) 632-1545 ext.18 or visit our website at www.watoxics.org.

3. If you have a mercury exchange program in your area, please participate by bringing your mercury thermometer to the designated area and exchanging it for a non-mercury thermometer. If there is no exchange program, please call your local hazardous waste department for instructions on proper disposal.

References

Health Care Without Harm. 2001. Thermometer Fact Sheet.

Minnesota Pollution Control Agency, Michigan Department of Environmental Quality, Wisconsin Department of Natural Resources. 1999. Mercury Brochure, *Mercury in the Environment*. (Brochure was developed with a grant from the U.S. Environmental Protection Agency).

National Academy of Sciences, National Research Council. July 2000. *Toxicological Effects of Methylmercury*.

U.S. Environmental Protection Agency. 1997. *Mercury Study Report to Congress*. Vol. 2, pp. 4-19, p. ES-3.

Washington State Department of Health. April 12, 2001. News Release: *State Issues "Fish Consumption Advisory: " Too Much Mercury*.