Fact Sheet

Clean Air Council

Mercury Thermometers

The Danger in Your Medicine Cabinet

Why is A Mercury Health Threat?

Mercury is an extremely dangerous neurotoxin and causes severe health problems for humans and wildlife.

Once mercury is airborne it falls in precipitation and contaminates lakes, rivers and other waterbodies. Mercury is absorbed by fish where it accumulates in their body tissue. Many states now have advisories on waterbodies to warn people against eating fish that may be contaminated with mercury.

To date, the recorded health effects of mercury poisoning include impaired memory, delayed development, reflex abnormalities, lung, kidney and liver damage, and even cerebral palsy. The effects are especially great for developing fetuses and nursing infants. Therefore, pregnant women and women of childbearing age are also at risk.

> Mercury from a single thermometer is enough to contaminate a lake to the point where the fish are unsafe to eat!

Where Does Mercury Come From?

Mercury comes from a variety of different sources. Initially mercury is released from volcanoes and geothermal activity, but in recent times various types of human activity have produced large quantities of mercury. Major sources of airborne mercury emissions are electric coal-fired power plants and the incineration of medical waste and other devices containing mercury. Mercury is also dumped onto the land where it contaminates the solid waste stream. Mercury thermometers alone contribute 17 tons of mercury to the solid waste stream each year.

What To Do if A Thermometer Breaks

The small amount of mercury contained in a thermometer may not seem like a health threat. However, even tiny amounts of mercury need to be treated seriously as it is an extremely powerful toxin.

Mercury dissipates extremely quickly and separates into many smaller beads. Hence, if mercury escapes from a broken thermometer it can very easily soak into a carpet or spill into a gap.

If a mercury spill is not cleaned up it will all evaporate and reach potentially dangerous levels in the air. The danger is intensified if the breakage occurs inside a small, poorly ventilated room. The skin is also vunerable when exposed to mercury, resulting in eczema and other skin irritation problems.

If you break a mercury thermometer immediately turn off heaters to minimize the amount of mercury that evaporates. Ventilate the room by opening windows and leaving them open for a least two days where possible. This will help aid the diffusion of any evaporated airborne mercury.

Do not use a vacuum cleaner, broom or mop to clean up a mercury spill. The mercury will contaminate these devices and the heat from the vacuum will evaporate even more mercury into the air. The clean-up of mercury requires a number of other supplies, so assemble the following items: rubber gloves, a flashlight, an eye dropper, tape, a sealable container, and a plastic bag. Before attempting to clean up the spill, remove all jewelry and watches as the mercury will bond to the metal. **Do not touch the mercury** - put on rubber gloves to avoid contact with the skin.

Cleaning a mercury spill from a carpet: Unfortunately as mercury soaks into carpet so readily, the section of carpet contaminated with mercury must be cut out. Seal the section of carpet along with the gloves and other items used to clean the spill in a plastic bag or container labelled ‘mercury waste’.

Cleaning a mercury spill from a hard surface: Mercury beads can be located with a flashlight, the metal beads will reflect in the beam. An eye-dropper can be used to suck up larger beads of mercury. Tape can then be used to pick up the remaining mercury. Seal the contaminated eye dropper as well as the tape and mercury beads in a plastic bag or container labelled ‘mecury waste’.

Cleaning a mercury spill from a sink: Mercury beads remaining in the sink can be removed with an eyedropper. If there is water in the sink the mercury will sink to the bottom, where it can be removed care-

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fully with an eydropper. If mercury leaks down a drain it will get caught in the sink trap. Remove the trap and seal all contents and contaminated materials in a plastic bag or container labelled 'mercury waste'.

Please Note: All materials used in the clean-up should be considerd contaminated. Seal gloves, eyedroppers, tape and any other items that came in contact with the mercury in a plastic bag or container clearly labelled 'mercury waste'.

Disposing of Mercury and Mercury-Containing Devices

Whether disposing of an in-tact mecury thermometer or the remnants of a mercury spill, the mercury and other items should be disposed of at a household hazardous waste collection site. There are a number of drop-off points, as well as household harzardous waste events where mercury waste can be disposed of safely. When disposing of mercury contaminated waste, always ensure the containers are securely sealed.

For general questions and to find a household hazardous waste disposal site near you, contact:

Pennsylvania:
Pennsylvania Department of Environmental Protection (PA DEP) operates a household hazardous waste hotline at 1-800-346-4242 with information on drop-off facilities and collection events or refer to http://www.dep.state.pa.us/dep/deputate/airwaste/wm/HHW/HHW.htm.

Delaware:
Delaware Solid Waste Authority operates a household hazardous waste collection. For a collection schedule call the citizens reponse line at 1-800-404-7080 or refer to www.dswa.com.

New Jersey:
The Association of New Jesey Household Hazadous Waste Coordinators operate a collection program specifically for mercury containing devices. Call 732-745-4170 for more details or refer to www.njhazwaste.com.

Mercury "Round Up" Events

Clean Air Council is working with the Jefferson Health System and the Womens Health and Environmental Network (WHEN) to host mercury thermometer 'round up'events at hospitals across Philadelphia. Last year during Earth Week, 2000 community members and hospital workers **swapped their mercury fever thermometers for a free digital thermometer**. The mercury thermometers were safely disposed of by the Philadelphia Streets Department. In 2002 the Council and WHEN will be holding a thermometer swap from Monday, May 6 through Friday, May 10. Anyone interested in replacing their old mercury thermometers can come to Thomas Jefferson University Hospital (111 South 11th Street) between the hours of 8 am to 6 pm in the 11th Street Lobby of the Gibbon Building.

Safe Alternatives

A number of alternatives to mercury fever thermometers are readily available in pharmacies. These alternatives include digital fever thermometers (which, have the additional advantage of having an easy-to-read digital display), glass alcohol fever thermometers (distinguishable from mercury thermometers as the liquid is red), and the glass gallium-tin fever thermometer (the gallium-tin liquid is also silver but it is not toxic).

These thermometers are comparibly priced to mercury thermometers, just as accurate, and can be used orally, rectally or under the armpit. Flexible forehead thermometers are also available at lower cost, although they not very accurate. Whatever alternative you choose benefits human health, wildlife, and the environment.

What Can You Do?

Contact Us:

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- Replace all mercury fever thermometers (glass thermometers containing a silver liquid) with digital, glass alcohol or glass gallium-tin thermometers. All of these thermometers are currently available in pharmacies at comparible prices.

- Dispose of all mercury fever thermometers at a household hazardous waste drop-off site. To find out where your nearest drop-off site is, contact your state pollution control agency.

- Contact Emily Bertram at 215-567-4004, x226 or by email at ebertram@cleanair.org, to find out about the next "mercury thermometer round-up" taking place at a hospital near you!

- Assemble the necessary supplies and clean a spill up properly if you break a thermometer before you get the chance to dispose of it safely at a household hazarous waste drop-off site. Also be sure to ventilate the room in which the spill occured.

- Refer to: **www.cleanair.org/mercury** for more information about the sources of mercury, mercury in fish as well as mercury health advisories issued in Pennsylvania.

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