

What is Mercury and Why is it a Problem?

Mercury is a naturally occurring element that can be toxic to humans and wildlife. When products containing mercury are broken, or thrown in the trash, outdoors or down drains, the mercury can pollute our environment and contaminate many kinds of fish. You and your family can be exposed to mercury by breathing its fumes, eating contaminated fish or touching spilled mercury.

Mercury easily can move from air to water to land. Once it is released into the environment, mercury persists for long periods of time and does not degrade into harmless chemicals. Mercury enters the air from several sources including:

1. Emissions from coal-fired power plants;
2. Incinerators, Burning municipal and medical waste;
3. Industrial processes, such as making chlorine and
4. Natural processes such as erosion of ores.

Once mercury is released into the air it can deposit back to the earth and make its way directly and indirectly into waterways. Once there, the mercury can change into methyl mercury where it is quickly taken up into higher organisms through the food chain. It reaches the highest levels in predatory fish, and birds and mammals which consume fish. Levels of methyl mercury in fish are typically 100,000 times higher than the level of mercury in the water where they live.

Mercury Health Effects

Depending on the specific chemical form and dose, mercury can be toxic when eaten, inhaled or placed on the skin. At low concentrations, it may seem to have no effect but symptoms may develop later or become noticeable with continued exposure. Signs of toxicity in people include the loss of feeling or a burning sensation in the arms and legs; hearing, vision or memory loss; paralysis; psychological effects; congenital malformations; kidney problems; and, at sufficiently high doses, even death. Toxicity from exposure during pregnancy can cause developmental delays later in children who appear normal at birth. For example, they may take longer than expected to learn how to walk, speak or do both. And, because years can sometimes pass before these signs of mercury poisoning become evident, the need for treatment or other intervention is often recognized too late to be of help.

People may be exposed to mercury from the environment by taking in contaminated foods, water and air. As it turns out, levels of mercury in the ambient air are generally very low and thus do not pose a public health threat. Additionally, none of the state's public water supplies has been found to have unsafe levels of mercury.

Consumption of contaminated freshwater fish, on the other hand, may be a potentially significant exposure pathway. Extensive fish monitoring programs in Massachusetts and other Northeast states have found that in many bodies of water, concentrations of methyl mercury in freshwater fish exceed the levels considered safe for consumption by pregnant women and small children and, in some cases, by the general public.

These disturbing findings have led several states, including ours, to issue statewide health advisories warning pregnant women to limit or avoid native freshwater fish in their diets. (Note: Trout stocked by the Massachusetts Division of Fisheries and Wildlife do not contain elevated levels of mercury when released; thus, eating stocked trout caught during "put-and-take" recreational fishing does not pose a health risk.) To view the Mercury Fish Consumption Advisories for Massachusetts you can visit:

<http://www.state.ma.us/dph/beha/fishlist.htm>

Although government advisories and warnings serve to reduce mercury dangers, people who remain unaware of them or rely on native freshwater fish as a food source remain at risk. In addition to people, certain wildlife including fish-eating birds of prey, such as eagles, and fish-eating mammals, such as minks and otters may also be adversely affected by mercury.

What does this have to do with you?

Mercury is found in many common products such as thermometers, thermostats, fluorescent bulbs and switches. The button batteries found in your calculators, watches, and hearing aids may contain mercury. It is also found in cylindrical batteries made before 1990. Even some topical disinfectants, contact lens solutions and detergents contain mercury.

For example: On average a household thermostat contains between 2 and 6 grams of mercury. A round Honeywell T87 thermostat-the kind most commonly used in homes-contains 2.8 grams of mercury. That is more mercury than is contained in approximately 700 fluorescent light bulbs.

Every time a contractor or resident discards a thermostat in the trash they are placing the environment and public health at risk. Plumbing and building contractors generate the most thermostat waste. While they are generally aware that mercury is hazardous, they did not until recently have the means to dispose of thermostats properly. **If you are having renovations or work done in your home, be sure to pay attention to where these specific items are being disposed of. If you really want to be sure that they are properly discarded offer to get rid of them yourself.**

How you ask? The Town of Northbridge and many other towns in central Massachusetts, in collaboration with Wheelabrator Technologies are offering free collection and disposal of thermostats and thermometers, through the Material Separation Plan. The Executive Office of Environmental Affairs (EOEA) and the Department of Environmental Protection (DEP) require that large incinerators implement Material Separation Plans to remove mercury containing materials from the waste stream.

- You can bring your old mercury thermometers to the Board of Health Office and you will get a new digital thermometer in exchange.
- Bring your old mercury thermostats and button cell batteries to the Board of Health Office they will be disposed of free of charge.
- You can also bring fluorescent light bulbs to the recycling center the third Saturday of the month from 9:00 AM - 1:00 PM. For a complete list of recyclable materials call or visit our website at: <http://www.northbridgema.org/boh.htm>. For more information on Mercury call: 1-866-9mercury or visit the DEP or EOEA websites.