Mercury

In our homes, water and environment.

Barnstable County Hazardous Materials Program
In cooperation with the University of Massachusetts Cooperative Extension

800-319-2783 or 508-375-6699

Mercury

Is a silver metal
That when exposed
Becomes airborne and
Washes into lakes, streams
And groundwater when it rains
Where it gathers in the bodies of organisms
And gradually makes its way up the food chain.

Once inside an organism mercury

"bioaccumulates"

meaning that instead of being broken down by an organism's system, it simply builds in concentration.

In humans, mercury contamination affects the brain, spinal cord, kidneys and liver causing impaired speech, vision, hearing, motor skills and rational thought. It is most dangerous for developing fetuses.

The process begins when devices containing mercury–such as thermometers and thermostats–are burned, broken or buried in landfills.

OR when coal, oil and natural gas pollution is emitted from power plants.

The mercury gas molecules attach to water molecules and disperse into our oceans, lakes and streams through rain and snow.

Through natural bacterial processes in the water, mercury is converted into its most toxic form–methyl-mercury, which is eaten by plankton.

Fish consume the plankton and the toxic element begins its way up the food chain, building up in the tissue of wildlife and humans.

History of Mercury

Called “quicksilver,” mercury was originally mined to increase the efficiency of gold mining. It attached to the gold dust being flushed out of mines and separated it from gravel and sediments. Due to their constant exposure to mercury, a miner’s life expectancy was three years.

Another form of mercury–mercurous nitrate–was used in hatmaking in the early 1900’s. The chemical helped mat the rabbit fur that was made into felt. When dipped in an acid solution to harden the felt, chemical reactions turned the mercurous nitrate into elemental mercury. The “Mad Hatters” suffered memory loss, personality changes and other symptoms due to their exposure.

If mercury is so toxic, why use it?

Mercury has unique characteristics which make it effective in electric switches, thermostats and appliance switches. Because it is very conductive and has a high surface tension, the mercury rolls freely inside the glass bulb of a mercury switch.

As it moves within the switch the mercury makes or breaks electrical circuits, which signals the call for lighting, heating, cooling or pumping. Mercury thermostats are recognized and valued by the industry for their accuracy, reliability and long life.

The Barnstable County Hazardous Materials Program

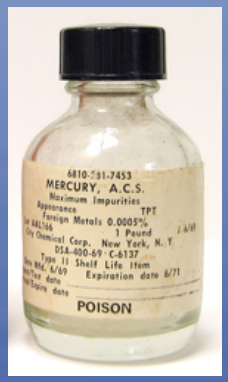
The Barnstable County Hazardous Materials Program has coordinated mercury collection programs on Cape Cod since 2001. Every town on Cape Cod participates by recycling mercury-containing devices at transfer stations and recycling centers.

Residents and businesses can also bring mercury devices (except for bulbs) to Household Hazardous Products Collections held in Cape Cod towns. Participating businesses store mercury-containing items which are then collected by county staff and AmeriCorps Cape Cod members. Marinas, marine repair shops, electric and plumbing suppliers, heating and air-conditioning contractors, among others, participate.

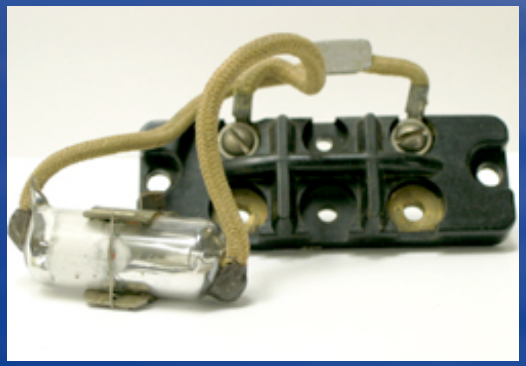
Where is the mercury in your home?

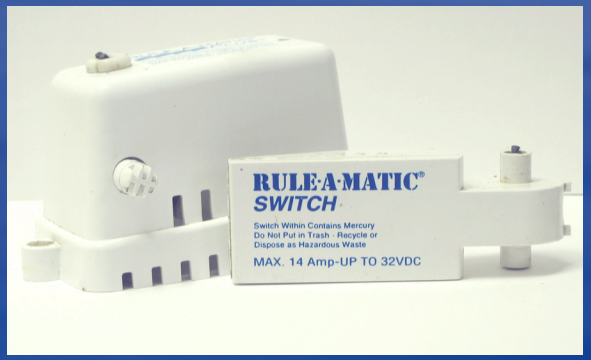
light bulbs

old medicines and ointments

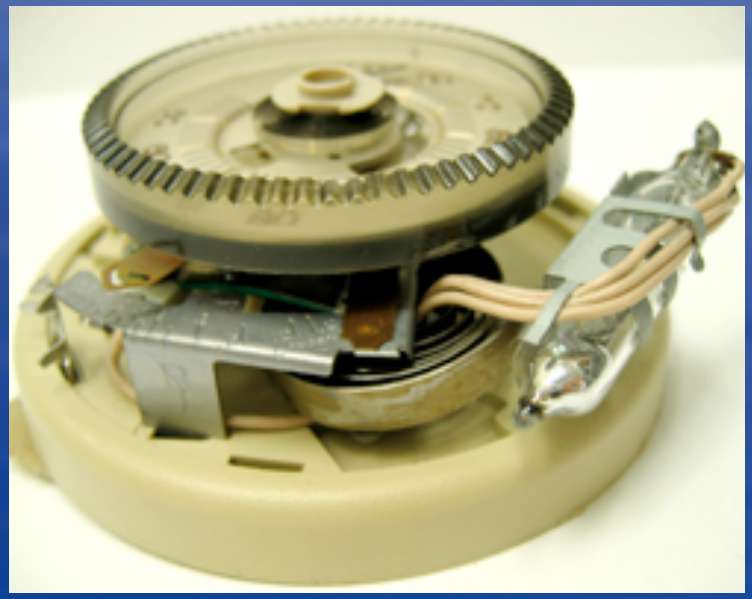


switches for motors, automobiles, appliances, etc.





thermostats



batteries

outdoor and fever thermometers

Old toys

Pesticides

Skin creams

Gas appliances

Household cleaners

Blood pressure gauges

Automotive security systems

Antibacterial soaps and cleansers

High Intensity Discharge (HID) Lamps

Safety valves for heating and cooling systems

Mercuric Oxide batteries (in hearing aids, cameras and watches)

How Much Mercury?

Barometers	500 grams
Thermostats	4.5 grams
Fever thermometers	1 gram
Small switches	4 grams
Large switches	up to 40 grams
Compact lights	17.5 milligrams
HID lamps	35 milligrams
Fluorescent bulbs	5 milligrams/linear ft.
Button cell batteries	9 milligrams
Blood pressure monitors	110 grams

Where does the mercury go?

Disposal of collected materials is paid for through a Materials Separation Plan mandated by the state. It is funded by Maximum Achievable Control Technology (MACT) fees of fifteen dollars paid by towns for each ton of trash brought to SEMASS. Fifty cents per ton of trash is used to fund the mercury reduction program. The mercury is reclaimed by businesses that purify the mercury and sell it to commercial and manufacturing businesses where mercury continues to serve a purpose. This ensures that mercury is used over and over again.

One gram of mercury

is sufficient to trigger a fish advisory in a twenty acre body of water and can render

One ton of fish

Unfit for consumption.

Through the efforts of the Barnstable County Hazardous Materials Program and towns and businesses across the Cape,

Over 400 pounds of mercury have been safely disposed of.

The Difference You Can Make

Recycle mercury devices! On Cape Cod, all towns accept fluorescent bulbs and mercury devices for recycling at town recycling centers.

Mercury devices are also accepted at town Household Hazardous Products Collections. Bring your mercury devices to HHP collections and receive a free digital thermometer in exchange.

If you are familiar with a local business that participates in the program, you can also take them there to be collected and recycled.

Don't remove the mercury bulb from devices!

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