Metallic Mercury - ToxFAQs™

What is metallic mercury?

Metallic mercury, also called elemental mercury, is a naturally occurring element with a chemical symbol Hg. At room temperature it is a heavy, shiny, silver-white, odorless liquid that commonly forms beads and can evaporate into air to become metallic mercury vapor. If metallic mercury is heated, it becomes metallic mercury gas.

Mercury is used in a several industries and products. It is primarily used in the manufacture of electronics, fluorescent lighting, and production of chlorine-caustic soda. It may be a part of dental fillings, although uses in dentistry are being phased-out. Metallic mercury is also used in alternative medicine and some religious and cultural practices, particularly in Latin American, Indian, Caribbean, and Vietnamese communities. Other uses of metallic mercury (batteries, thermometers) have been eliminated or drastically reduced, including use of metallic mercury in school science labs.

What happens to metallic mercury in the environment?

Metallic mercury can be found in the air, water, or soil due to natural processes and through industrial releases to air and water. Industrial releases to air have steadily decreased over the past few decades. Mercury does not break down in the environment. In air, mercury may spread far from where it was released. In water, mercury can evaporate into the air. In soil, it can adhere (stick) to soil and sediments (dirt deposits at the bottom of bodies of water).

How can I be exposed to metallic mercury?

Exposure to metallic mercury in the environment does occur, but the levels are expected to be low and not cause health effects. However, higher exposures may occur near old mines that contain metallic mercury or near industries using metallic mercury. The most common way for the general public to be Levels of metallic mercury in the environment are low and unlikely to cause health effects. Exposure to higher levels may cause effects to the nervous system.

exposed to metallic mercury is inside of homes when compact fluorescent lightbulbs (CFLs) or a glass thermometer breaks. Exposure comes from breathing in the metallic mercury vapor or gas that forms when the spilled metallic mercury evaporates. When pregnant women are exposed, mercury can pass from the mother's blood to the developing fetus. Mercury can also be found in breast milk, so infants can be exposed through breast feeding. Workers may be exposed in industries that use metallic mercury.

How can metallic mercury affect my health?

Exposure to metallic mercury most commonly effects the nervous system. Laboratory animals, workers, and the general population that are exposed to mercury may exhibit tremors; incoordination; problems with vision, learning, hearing, and memory; headache, and mood changes. In people exposed to very high amounts of metallic mercury vapor, breathing problems and death have occurred. Children are more sensitive to the health effects of metallic mercury than adults because children's nervous systems are still developing. Some children exposed to high levels of mercury vapor can develop a reversible condition called acrodynia, in which the palms of the hands and soles of the feet become reddened and tender, before beginning to peel. Children with acrodynia may also have mood swings, increased irritability, difficulty sleeping, and muscle or joint pain.

Agency for Toxic Substances and Disease Registry Office of Innovation and Analytics, Toxicology Section





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Can metallic mercury cause cancer?

The <u>U.S. Department of Health and Human Services (DHHS)</u> has not evaluated the potential of metallic mercury to cause cancer in humans.

The <u>U.S. Environmental Protection Agency (EPA)</u> has not classified the potential of metallic mercury to cause cancer in humans.

The <u>International Agency for Research on Cancer (IARC)</u> has not classified the potential of metallic mercury to cause cancer in humans.

Can I get a medical test to check for metallic mercury?

Mercury can be measured in your blood, urine, hair, or toenails. However, since most metallic mercury leaves the body in the urine, testing the urine for mercury is the best way to check for exposure. This test cannot predict whether you will have health problems. If you think you have been exposed to metallic mercury, call your doctor, nurse, or poison control center.

How can I protect my family from metallic mercury exposure?

Most people don't need to take any special steps to avoid exposure to metallic mercury in their daily lives. Contact with spills of metallic liquid mercury should be avoided. If metallic mercury is spilled, sprinkled, mixed with soap, or in an open container inside of a home or confined area, children should be removed from the area and the spill should be cleaned up as soon as possible. Keep children from playing in areas near hazardous waste or old mining sites to avoid coming in contact with metallic mercury.

What should I do if I break a thermometer or compact flurorescent light in my home?

Do not use a broom or vaccuum cleaner to pick up the mercury. Remove children and pets from the area. If there is a mercury bead, roll it onto a sheet of paper or suck it up with an eye dropper. Place mercury contaminated items in a plastic bag or airtight container. Call your local health or santitation departments for further instructions. For more information, please refer to ATSDR's <u>Don't Mess with Mercury</u>, EPA's <u>Cleaning Up a Broken CFL</u>, or EPA's <u>Mercury</u> websites.

For more information:

Call **CDC-INFO** at 1-800-232-4636, or submit your question online at <u>https://wwwn.cdc.gov/dcs/ContactUs/Form</u>

Go to ATSDR's Toxicological Profile for Mercury: <u>https://www.atsdr.cdc.gov/ToxProfiles/tp46.pdf</u>

Go to ATSDR's Toxic Substances Portal: https://wwwn.cdc.gov/TSP/index.aspx

Find & contact your ATSDR Regional Representative at <u>http://www.atsdr.cdc.gov/DRO/dro_org.html</u>