

Mercury is an element that occurs naturally in coal and other fossil fuels. Mercury has three forms: metallic, organic, and inorganic. Metallic mercury, or quicksilver, is a heavy, shiny silvery-white liquid with no odor. It is released into the air as colorless, odorless mercury vapor when heated, for example, when coal and other fossil fuels are burned. Metallic mercury is used in commercial products, such as thermometers and dental fillings. Methylmercury is the most common organic mercury compound found in the environment and is highly toxic. Methylmercury is formed when mercury combines with carbon, and it is mainly found in seafood. Inorganic mercury is formed when mercury combines with other elements, such as chlorine, sulfur, or oxygen. These inorganic compounds, considered the least toxic form of mercury, are often found in food and cosmetics.

HOW DOES MERCURY GET INTO MY BODY?

Mercury may get into the body by drinking water contaminated with mercury or eating foods that contain mercury, such as fish (methylmercury). Larger and older fish tend to have the highest levels of mercury as the level of methylmercury builds up the food chain. You breathe in mercury vapors in the air around spills of metallic mercury, incinerators, and industries that burn mercury-containing fuels. It may also enter your skin if you touch mercury.



WHAT CAN MERCURY DO TO ME?

Methylmercury and metallic mercury vapors are the most harmful forms because they reach the brain more easily. Mercury has been shown to inhibit various enzymes in the nervous system. Young children with developing brains are especially vulnerable. Exposure to high levels of all forms can permanently damage the nervous system, kidneys, developing fetuses, or breastfeeding infants. Symptoms may include irritability, changes in vision or hearing, and memory problems. Short-term exposure to metallic mercury vapors may result in severe lung damage, vomiting, diarrhea, increased blood pressure or heart rate, skin rashes, and eye irritation. If eaten, inorganic mercury can cause gastrointestinal and kidney damage.

WHAT ARE THE ENVIRONMENTAL REGULATIONS FOR MERCURY?

The Environmental Protection Agency (EPA) limits inorganic mercury in public drinking water to 2 parts per billion. Private well owners should test their water to ensure their systems are within EPA regulations. The Occupational Safety and Health Administration (OSHA) limits organic mercury in workplace air to 0.01 milligrams per cubic meter (mg/m^3) during an 8-hour workday and 40-hour week. OSHA has also set a ceiling concentration of 0.1 mg/m^3 for metallic mercury and 0.04 mg/m^3 for organic mercury that must not be exceeded during any part of the workday. The Food and Drug Administration limits methylmercury in seafood to 1 part per million.

WHAT CAN I DO?

- Carefully dispose of mercury-containing products (e.g., thermometers, fluorescent light bulbs, or medicine).
- Do not vacuum up spilled mercury because it will vaporize and increase your exposure. If a large amount of mercury has been spilled, contact your local fire department and emergency response personnel.
- Keep all mercury-containing products away from children.
- If you are pregnant, do not eat certain types of seafood, including tilefish and swordfish.
- Regularly test private water wells for mercury and consider installing a water treatment system if needed.
- If you work in an occupation that may expose you to mercury, be aware that you may carry it home. Shower and change clothes before going home.
- Concerned about mercury in your body? Visit a health care provider for testing and follow-up.

If you have questions or concerns about mercury, please contact the
Division of Environmental Health Epidemiology at dehe@pa.gov or 717-787-3350.

August 2023

1. <https://www.atsdr.cdc.gov/ToxProfiles/tp46.pdf>
2. <https://www.epa.gov/mercury/basic-information-about-mercury>
3. https://www.cdc.gov/biomonitoring/Mercury_FactSheet.html