

Mercury Containing Devices/Products

Mercury is used in a wide variety of devices and products. These items release mercury into the environment when broken or improperly disposed. If spilled, mercury absorbs into many materials while slowly evaporating into the air over time, allowing for exposure. Knowing what products and items contain mercury and handling them properly will limit the risk of mercury exposure. Common products often have a simple and environmentally friendly alternative.



Thermometers - Mercury is used in thermometers because it expands and contracts evenly with temperature changes. Alternatives include the elec-

Luminaries (light bulbs)

Fluorescent, HID (High intensity discharge) lamps such as Mercury Vapor, High Pressure Sodium and Metal Halide, and Neon all contain mercury in a metallic as well as vapor form. Mercury is released when bulbs are broken or incinerated. Alternatives to older model fluorescent lamps are labeled as low-mercury lamps and often can be recognized by their green end caps or green lettering. Low-mercury lamps contain less mercury which is also released when improperly managed.



Batteries

Before 1980, most batteries used in homes contained mercury. Current mercury containing batteries are "button" shaped and are used in hearing aids, watches and other items requiring a small battery. In the last decade, the United States battery industry achieved a 99 percent reduction in mercury by using alternative materials. Silver oxide, zinc-air and alkaline batteries are the best alternatives for replacing batteries produced before 1994.



Paints

Latex paint produced before 1992 had large amounts of mercury to prevent fungus growth. Mercury vapors were rele



Medical products - Dental amalgam restorative materials (fillings)

Dental amalgam is the end result of mixing approximately equal parts of elemental liquid mercury (43 to 54 percent) and an alloy powder (57 to 46 percent) composed of silver, tin, copper, and sometimes smaller amounts of zinc, palladium or indium. Besides dental amalgam, there are many other restorative materials that are used in dentistry. Advances in technology have resulted in improvements that have expanded the use of these alternatives.

Medical products - Mercury may be present in fixatives, stains and chemicals that biomedical laboratories stock.

The following compounds used in biomedical laboratories contain mercury:

- B-5 (mercuric chloride)
- Helly's (mercuric salts)
- Zenkens (mercuric salts)
- Mercuric bichloride/acetic acid
- Mercuric chloride
- Mercuric oxide
- Mercuric bromide
- Hematoxylin Stain (Harris)
- Thimerosal
- Mercurochrome (merbromin)

There are alternatives to these uses of mercury products.

Pharmaceuticals - Thimerosal (about 48% mercury) has been used in antiseptic creams and as preservatives in pharmaceutical solutions including contact lens solutions. While most antiseptics are now free of Thimerosal, it can be present in older medications and creams. Mercurochrome is a skin antiseptic used to treat cuts and abrasions. It is not commonly used. Mercury-free alternatives include Neosporin and Mycin. Talk to your pharmacist about alternatives.

The US Food and Drug Administration offer a list of [Mercury In Drug And Biologic Products](#)



Instruments - Barometers are instruments used to measure pressure in the atmosphere; most of the older devices contain liquid mercury. A Bourdon tube gauge is an alternative to mercury-containing barometers. If you are unsure if your barometer contains mercury, a silvery substance in the tube is likely mercury. **Hygrometers** measure the moisture content in air. A psychrometer is the most common type of hygrometer. Psychrometers are best described as dual thermometers, one with a wet base and the other with a dry base. Hygrometers look like industrial thermometers with the distinct attachment of a cotton bulb. Sling psychrometers are designed to be twirled in the air to measure ambient moisture. Hygrometers/ psychrometers are found in workplaces where ambient moisture measurements are used for predicting weather and atmospheric conditions. **Hydrometers**