



What is mercury?

Mercury is a toxic element. Although mercury occurs naturally, the levels in our air, water, land, food and bodies have increased, due in part, to use and releases from mercury-containing products.

Once released into the environment, mercury and its compounds can build up in fish, wildlife and humans. Even small amounts of mercury and its compounds can impact human health and the environment .

Mercury uses and alternatives

The use of mercury in products can lead to releases of the metal during manufacture, usage, recycling and disposal. Mercury is used worldwide in many products, such as batteries, fever thermometers, blood pressure devices, thermostats, medical equipment, dental amalgam, lamps, electronics, paints, fungicides, household appliances and switches. Transitioning away from mercury-added products to mercury-free alternatives is an opportunity to reduce the amount of mercury that gets into the environment and our bodies. For many products, effective mercury-free alternatives are available.

In 2008, UNEP published a report entitled, "Report on the Major Mercury-Containing Products and Processes, their Substitutes and Experience in Switching to Mercury-Free Products and Processes."

This brochure condenses the information in the 2008 report into a concise reference guide on mercury products and their alternatives.

UNEP GLOBAL MERCURY PARTNERSHIP

The overall goal of the partnership is to protect human health and the global environment from the release of mercury and its compounds by minimizing and, where feasible, ultimately eliminating global, anthropogenic mercury releases to air, water and land. In order to contribute to this overall goal, the partnership area on mercury in products strives to phase out and eventually eliminate mercury in products and to eliminate releases during manufacturing and other industrial processes via environmentally sound production, transportation, storage and disposal procedures.

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LIST OF ALTERNATIVES TO MERCURY-ADDED PRODUCTS



This brochure was developed by the United Nations Environment Programme (UNEP) Global Mercury Partnership Area on Products to:

- provide a concise list of mercury-free alternatives to mercury-containing products;
- encourage the reduction or elimination of mercury in products where effective substitutes exist.

LIST OF ALTERNATIVES TO MERCURY-ADDED PRODUCTS

Product category	Specific use/application	Mercury-free alternatives
Batteries	Button cell, silver oxide	Mercury-free units
	Button cell, zinc air	
	Alkaline manganese (manganese dioxide)	
	Mercuric oxide	
	Button cell, mercuric oxide	
Electrical/ electronic devices	Button cell, zinc carbon	Capacitive, electrolytic, mechanical, metallic ball, potentiometer, solid-state Alloy, capacitance, conductivity, magnetic dry reed, mechanical, metallic ball, optical, pressure transmitter, sonic/ultrasonic, thermal Mechanical, solid-state Mechanical, solid-state Dry magnetic reed, electromechanical, hybrid (electromechanical & solid-state), silicon controlled rectifier, solid-state Electronic ignition system Digital, snap-switch
	Tilt/vibration switch	
	Float switch	
	Pressure switch	
	Temperature switch	
	Displacement relay	
	Wetted reed relay	
	Contact relay	
	Flame sensor	
Thermostat		
Measuring devices	Sphygmomanometer	Aneroid, oscillometrics Digital, Liquid-in-glass Bi-metal, digital, infrared, liquid-in-glass Digital, spirit-filled Aneroid, digital Aneroid, digital, meedle/bourdon Ball-actuated, digital Digital, optical Spirit-filled
	Fever Thermometer	
	Non-fever Thermometer	
	Hygrometer/Psychrometer	
	Barometer	
	Manometer	
	Flow Meter	
	Pyrometer	
	Hydrometer	
Lamps/lighting	Linear fluorescent	Linear LED LED, LED downlight Halogen, LED, mercury-free units LED No known mercury-free alternatives
	Compact fluorescent	
	High intensity discharge	
	Backlight units for LCD displays	
	Mercury short arc	
	Neon	
Dental amalgam	Dental cements and fillings	Composite, glass ionomer, resin ionomer
Paints	Interior/exterior paints (phenylmercuric acetate, biocide)	Non-mercury preservative/microbial
Pesticides	Agricultural applications (organomercurial compounds, biocide)	Non-mercury based pesticides
Cosmetics	Skin care products (creams, soaps, lotions)	Non-mercury preservative/microbial