



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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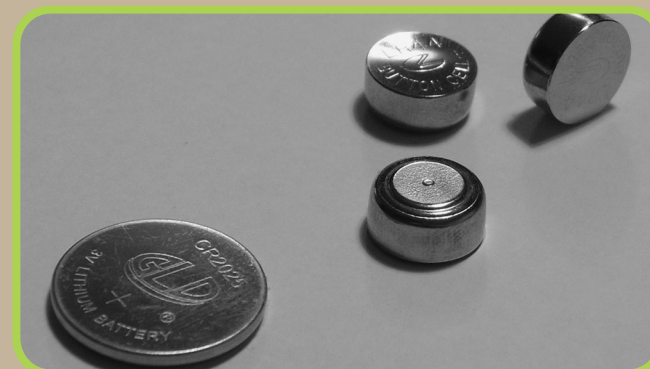
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For further information, please visit:
www.unep.org/hazardoussubstances

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



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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	
	Button cell, zinc carbon	
Electrical/ electronic devices	Tilt/vibration switch	Capacitive, electrolytic, mechanical, metallic ball, potentiometer, solid-state
	Float switch	Alloy, capacitance, conductivity, magnetic dry reed, mechanical, metallic ball, optical, pressure transmitter, sonic/ultrasonic, thermal
	Pressure switch	Mechanical, solid-state
	Temperature switch	Mechanical, solid-state
	Displacement relay	Dry magnetic reed, electromechanical, hybrid (electromechanical & solid-state), silicon controlled rectifier, solid-state
	Wetted reed relay	
	Contact relay	
	Flame sensor	Electronic ignition system
	Thermostat	Digital, snap-switch
Measuring devices	Sphygmomanometer	Aneroid, oscillometrics
	Fever Thermometer	Digital, Liquid-in-glass
	Non-fever Thermometer	Bi-metal, digital, infrared, liquid-in-glass
	Hygrometer/Psychrometer	Digital, spirit-filled
	Barometer	Aneroid, digital
	Manometer	Aneroid, digital, meedle/bourdon
	Flow Meter	Ball-actuated, digital
	Pyrometer	Digital, optical
	Hydrometer	Spirit-filled
Lamps/lighting	Linear fluorescent	Linear LED
	Compact fluorescent	LED, LED downlight
	High intensity discharge	Halogen, LED, mercury-free units
	Backlight units for LCD displays	LED
	Mercury short arc	No known mercury-free alternatives
	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

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