



Mercury-Free Product Alternatives

Safer alternatives are available

A study commissioned by the State of Maine found that viable non-mercury alternatives for mercury containing products are not only available, but also considerably more cost effective when the downstream costs are considered.¹ Some alternatives include: electronic thermostats, aneroid or electronic sphygmomanometers, electric ignition rings, digital thermometers, and various mercury-free preservatives for cosmetics. Many hospitals are taking the lead in eliminating their use of mercury by using safer alternatives, including the Mayo Clinic and a number of other Minnesota hospitals. Minnesota's own Honeywell is also phasing out its use of mercury in thermostats.

The hidden costs of mercury

While the initial purchase cost for some mercury-free alternatives may be higher, the full lifecycle costs are significantly less. Mercury-containing products are more expensive overall due to special disposal needs, breakages and costly spills.

Price comparison of mercury and mercury-free products

Product	Alternative	Cost per item (Mercury-free costs in parentheses)
Mercuric chloride (used as a reagent in laboratory tests and experiments)	Nitric acid	\$154–1,140 (\$49.35-67.65)
Pyrometers	Mercury-free devices are available	\$400 (\$338)
Laboratory thermometers	Digital	\$243 (\$175)
Cosmetics (mercury is used as a preservative or disinfectant)	Mercury-free alternatives are available	Costs are comparable
Eye drops and contact lens solution	Mercury-free alternatives are available	Costs are comparable
Thermostats	Electronic	\$40–80 (\$10–140)

Source: Kuiken, Todd. *Mercury Products Guide: The Hidden Dangers of Mercury*. National Wildlife Federation, August 2002.

Alternatives for Minnesota's mercury-free product needs

Minnesota's 2007 Mercury Product Bill requires safer substitutes for many mercury-containing products currently used in our homes, healthcare systems, and schools. The good news is, there are readily available, cost-effective alternatives for every application. Additional mercury-free alternatives not already listed include:

Mercury-containing products	Source of mercury	Alternative product (general)
Appliances (major and minor)	Tilt switches	Alternative switches are available (ball-type, mechanical, other)
Sphygmomanometers	Mercury indicates pressure levels	Aneroid or electronic alternatives
Gastrointestinal devices	Weighted with mercury	Tubes weighted with tungsten, air or saline solution
Barometers	Mercury contained within device	Digital and other alternatives
Manometers	Mercury contained within device	Alternatives are available

Source: Kuiken, Todd. *Mercury Products Guide: The Hidden Dangers of Mercury*. National Wildlife Federation, August 2002.

References

1. University of Massachusetts Lowell, Lowell Center for Sustainable Production, 2003. *An Investigation of Alternatives to Mercury Containing Products*, prepared for the Maine Department of Environmental Protection.

