

IMERC Fact Sheet

Formulated Mercury-Added Products

This Fact Sheet summarizes the use of mercury-added chemical products that are sold as a consistent mixture of chemicals. These include laboratory chemicals, cleaning products, coating materials, acids, alkalis, bleach, stains, reagents, preservatives, fixatives, buffers, and dyes.¹ It includes the total amount of mercury in all chemical products that were sold in the U.S. in 2001, 2004, 2007, and 2010.

The information in the Fact Sheet is based on data submitted to the state members of the [Interstate Mercury Education and Reduction Clearinghouse \(IMERC\)](#) including Connecticut, Louisiana, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. The data is available online through the [IMERC Mercury-Added Products Database](#).

Types of Formulated Mercury Products

Manufacturers report the mercury content of their formulated products as a concentration in parts per million (ppm). The state agencies permit them to report the mercury amount in individual formulated products as an exact number or as a range.



Thimerosal-Preserved Vaccine
Photo Source: Center for Disease Control



Mercury Compounds
Photo Source: Cuoco & Cormier

Mercury content for preservatives and reagents and mercury compounds typically ranges from greater than 0 to greater than 250 ppm, with some chemical products containing a mercury concentration of greater than 100,000 ppm.

¹ This Fact Sheet does not cover mercury-added pharmaceuticals and personal care products that are regulated by the Food and Drug Administration (FDA).

Mercury Use in Formulated Products

Formulated mercury-added products can be grouped into two categories: preservatives and reagents (i.e., thimerosal); and mercury compounds (i.e., mercuric chloride, mercuric nitrate, mercuric oxide, and others).²

Thimerosal is a mercury-added organic compound that is widely used as a preservative in pharmaceuticals, including vaccines, and other formulated products to prevent bacterial contamination.³ Mercury compounds, such as mercury chloride and mercuric nitrate, are used in chemical reagents, in the leather tanning process, as a catalyst for vinyl chloride, in electroplating, and in various laboratory experiments and applications. Mercury compounds may also be found in school science laboratories and are sometimes used for various chemistry experiments in high schools and colleges/universities.

Table 1 presents the amount of mercury sold in formulated products in 2001, 2004, 2007, and 2010.⁴ Thirty-two manufacturers have reported mercury use in their formulated products to the IMERC-member states.

Table 1: Total Mercury Sold in Formulated Products (pounds)			
2001	2004	2007	2010
2,400 (1.20 tons)	2,076 (1.04 tons)	2,907 (1.45 tons)	2,738 (1.37 tons)

[Note: 453.6 grams = 1 pound; all numbers are rounded to the nearest whole number.]

In 2001, approximately 1.2 tons of mercury was sold in formulated products, which increased approximately 14 percent to 1.37 tons in 2010. The latest trends analysis shows that, between 2007 and 2010, mercury use in formulated products decreased by 0.08 tons, or approximately 17 percent. This product category remains one of the smallest tracked by the IMERC states.

² Manufacturers are not required to notify their total bulk elemental mercury sales to IMERC under the IMERC-member state notification requirements because it is not classified as a mercury-added product. Therefore, data on the use of elemental mercury is not included in this Fact Sheet.

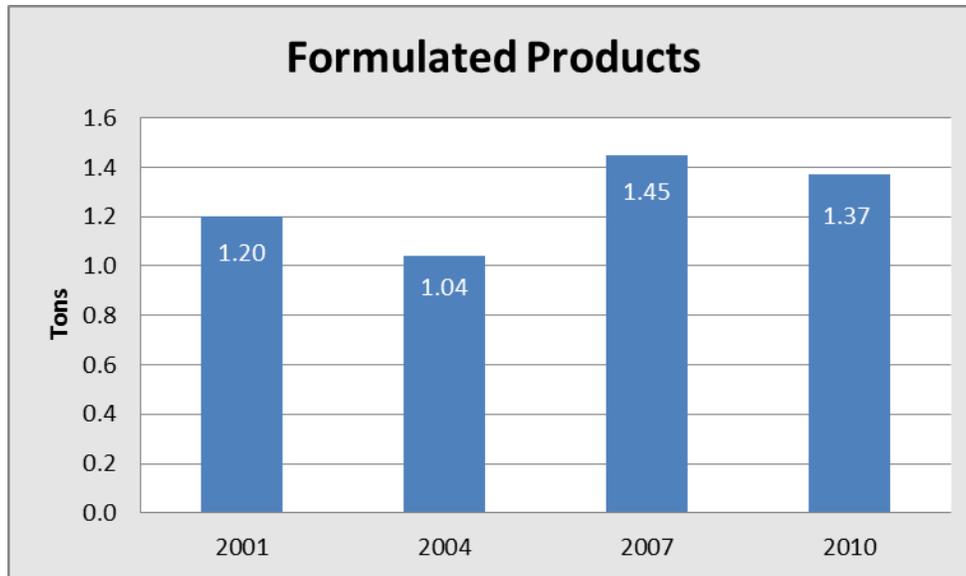
³ Vaccines are pharmaceutical products regulated by the U.S. Food and Drug Administration (FDA). The IMERC-member states exclude these products from their Notification requirements. Therefore, data on mercury use in thimerosal in vaccines is not included in this Fact Sheet.

⁴ More detailed information on the 2001 and 2004 data can be found in the report, *Trends in Mercury Use in Products: Summary of the IMERC Mercury-added Products Database*, June 2008.

(www.newmoa.org/prevention/mercury/imerc/pubs/reports.cfm)

The 2007 data is taken from a NEWMOA presentation, *Trends in Mercury Use in Products: Analysis of the IMERC Mercury-added Products Database*, November 17, 2009.

(www.newmoa.org/prevention/mercury/conferences/sciandpolicy/presentations/Wienert_Session3B.pdf)



As pharmaceutical and chemical manufacturers continue efforts to eliminate thimerosal use as a preservative and educational institutions discontinue use of elemental mercury and mercury compounds in teaching experiments due to state restrictions, mercury use in this product category is likely to decline.

Phase-Outs & Bans on the Sale of Formulated Mercury-added Products

The following IMERC-member states currently have [restrictions on the sale and/or distribution of formulated mercury-added products](#): Connecticut, Louisiana, and Rhode Island. Minnesota bans the sale and distribution of over-the-counter pharmaceutical products and cosmetics (including toiletries and fragrances) that contain mercury. Illinois also bans the sale of mercury-added cosmetics.

In addition, there are 15 states that restrict the use or purchase of mercury in primary and secondary schools (i.e., public elementary, middle, and high schools). The specific laws vary from state to state, but they restrict elemental mercury, mercury compounds, and/or mercury-containing equipment used for instructional purposes (e.g., mercury-added thermometer or barometer). These states include: California, Colorado, Illinois, Indiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New York, Oregon, Rhode Island, Vermont, Washington, and Wisconsin.

As of the 2010 reporting period, the following companies have reportedly stopped selling formulated mercury-added products in the U.S. market:

- Anatrace, Inc.
- Aquarium Pharmaceuticals, Inc.
- Arlington Scientific
- Biokit USA, Inc.
- BioGenex Laboratories, Inc.
- Instrumentation Laboratory

- Jackson ImmunoResearch Laboratories, Inc.
- Poly Scientific R&D
- Rowley Biochemical

Data Caveats

A number of important caveats must be considered when reviewing the data summarized in this Fact Sheet:

- The information may not represent the entire universe of formulated products sold in the U.S. The IMERC-member states continuously receive new information from mercury-added product manufacturers, and the data presented in this Fact Sheet may underestimate the total amount of mercury sold in this product category.
- The information summarizes mercury use in formulated products sold nationwide since 2001. It does not include products sold prior to January 1, 2001 or exported outside of the U.S.
- Reported data includes only mercury that is used in the product, and does not include mercury emitted during mining, manufacturing, or other points in the products' life cycle.