

MERCURY

(Data in metric tons of mercury content unless otherwise noted)

Domestic Production and Use: Mercury has not been produced as a principal mineral commodity in the United States since 1992, when the McDermitt Mine, in Humboldt County, NV, closed. In 2013, mercury was recovered as a byproduct from processing gold-silver ore at several mines in Nevada; however, production data were not reported. Secondary, or recycled, mercury was recovered by retorting end-of-use mercury-containing products that mainly included batteries, compact and traditional fluorescent lamps, dental amalgam, medical devices, and thermostats, as well as mercury-contaminated soils. The mercury was either packaged for permanent storage or processed and refined for domestic resale. Secondary mercury production data were not reported. It was estimated that less than 50 metric tons per year of mercury was consumed domestically. The leading domestic end users of mercury were the chlorine-caustic soda, electronics, and fluorescent-lighting industries. Owing to mercury toxicity and concerns for the environment and human health, overall mercury use has declined in the United States. Mercury has been released to the environment from numerous sources, including mercury-containing car switches when automobiles are scrapped for recycling, coal-fired powerplant emissions, and incinerated mercury-containing medical devices. Mercury is no longer used in batteries and paints manufactured in the United States. Some button-type batteries, cleansers, fireworks, folk medicines, grandfather clocks, pesticides, and some skin-lightening creams and soaps may contain mercury. Until December 31, 2012, domestic- and foreign-sourced mercury was refined and then exported for global use, primarily for small-scale gold mining in many parts of the world. Beginning January 1, 2013, export of elemental mercury from the United States was banned, with some exceptions, under the Mercury Export Ban Act of 2008.

Salient Statistics—United States:	2009	2010	2011	2012	2013^e
Production:					
Mine (byproduct)	NA	NA	NA	NA	NA
Secondary	NA	NA	NA	NA	NA
Imports for consumption (gross weight), metal	206	294	110	249	60
Exports (gross weight), metal	753	459	133	103	(1)
Price, average value, dollars per flask, free market ^{2, 3}	610	1,076	1,850	1,850	1,850
Net import reliance ⁴ as a percentage of apparent consumption	E	E	E	E	NA

Recycling: In 2013, six companies in the United States accounted for the majority of secondary mercury production. Mercury-containing automobile convenience switches, barometers, compact and traditional fluorescent lamps, computers, dental amalgam, medical devices, thermostats, and some mercury-containing toys were collected by as many as 50 smaller companies and shipped to the refining companies for retorting to reclaim the mercury. In addition, many collection companies recovered mercury when retorting was not required. The increased use of nonmercury substitutes has resulted in a shrinking reservoir of mercury-containing products for recycling.

Import Sources (2009–12): Chile, 47%; Peru, 23%; Argentina, 15%; Canada, 7%; and other, 8%.

Tariff: Item	Number	Normal Trade Relations 12–31–13
Mercury	2805.40.0000	1.7% ad val.

Depletion Allowance: 22% (Domestic), 14% (Foreign).

Government Stockpile: An inventory of 4,436 tons of mercury was held in storage at the Hawthorne Army Depot, Hawthorne, NV. About 1,200 tons of mercury also was held by the U.S. Department of Energy, Oak Ridge, TN. Sales of mercury from the National Defense Stockpile remained suspended.

Stockpile Status—9–30–13⁵

Material	Uncommitted inventory	Authorized for disposal	Disposal plan FY 2013	Disposals FY 2013
Mercury	4,436	—	—	—

MERCURY

Events, Trends, and Issues: The average monthly price of one flask of domestic mercury and free market mercury was unchanged at \$1,850 throughout the year. Imports decreased significantly in 2013 because imports were not reported from countries, such as Argentina, Canada, Chile, and Peru, where foreign companies have stored mercury for 2 to 3 years before exporting it to the United States. Imports have fluctuated since 2000 on a 2- or 3-year cycle.

Global consumption of mercury was estimated to be less than 2,000 tons per year, and approximately 50% of this consumption was as mercury compounds used as catalysts in the coal-based manufacture of vinyl chloride monomer in China. Conversion to nonmercury technology for chloralkali production and the ultimate closure of the world's mercury-cell chloralkali plants may release a large quantity of mercury to the global market for recycling, sale, or, owing to export bans in Europe and the United States, storage. With the conversion of one mercury cell plant in Tennessee to membrane technology and the closure of a mercury cell chlorine-caustic soda unit in Georgia in 2012, only 2 mercury cell chlorine-caustic soda plants operated in the United States in 2013.

Byproduct mercury production is expected to continue from large-scale domestic and foreign gold-silver mining and processing, as is secondary production of mercury from an ever-diminishing supply of mercury-containing products. The volume of byproduct mercury entering the global supply from foreign gold-silver processing may fluctuate dramatically from year to year because mercury is frequently stockpiled in exporting countries until sufficient material is available for export. Domestic mercury consumption will continue to decline as nonmercury-containing products, such as digital thermometers, are substituted for them.

World Mine Production and Reserves:

	Mine production		Reserves ⁶
	2012	2013 ^e	
United States	NA	NA	—
Chile (byproduct)	52	50	NA
China	1,350	1,350	21,000
Kyrgyzstan	250	250	7,500
Mexico (reclaimed)	21	20	27,000
Peru (exports)	40	40	NA
Russia	50	50	NA
Tajikistan	30	30	NA
Other countries	20	20	38,000
World total (rounded)	1,810	1,810	94,000

World Resources: China, Kyrgyzstan, Mexico, Peru, Russia, Slovenia, Spain, and Ukraine have most of the world's estimated 600,000 tons of mercury resources. Mexico reclaims mercury from Spanish Colonial silver mining waste. In Peru, mercury production from the Santa Barbara Mine (Huancavelica) stopped in the 1990s; however, Peru continues to be an important source of byproduct mercury imported into the United States. Spain, once a leading producer of mercury from its centuries-old Almaden Mine, stopped mining in 2003. In the United States, there are mercury occurrences in Alaska, Arkansas, California, Nevada, and Texas; however, mercury has not been mined as a principal mineral commodity since 1992. The declining consumption of mercury, except for small-scale gold mining, indicates that these resources are sufficient for another century or more of use.

Substitutes: For aesthetic or human health concerns, natural-appearing ceramic composites substitute for the dark-gray mercury-containing dental amalgam. "Galistan," an alloy of gallium, indium, and tin, or alternatively, digital thermometers, now replaces the mercury used in traditional mercury thermometers. At chloralkali plants around the world, mercury-cell technology is being replaced by newer diaphragm and membrane cell technology. Light-emitting diodes that contain indium substitute for mercury-containing fluorescent lamps. Lithium, nickel-cadmium, and zinc-air batteries replace mercury-zinc batteries in the United States; indium compounds substitute for mercury in alkaline batteries; and organic compounds have been substituted for mercury fungicides in latex paint.

^eEstimated. E Net exporter. NA Not available. — Zero.

¹Less than ½ unit.

²Some international data and dealer prices are reported in flasks. One metric ton (1,000 kilograms) = 29.0082 flasks, and 1 flask = 76 pounds, or 34.5 kilograms, or 0.035 ton.

³Platts Metals Week average mercury price quotation for the year. Actual prices may vary significantly from quoted prices.

⁴Defined as imports – exports + adjustments for Government and industry stock changes.

⁵[See Appendix B for definitions.](#)

⁶[See Appendix C for resource/reserve definitions and information concerning data sources.](#)