

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. In 2015, 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 from batteries, compact and traditional fluorescent lamps, dental amalgam, medical devices, and thermostats, as well as mercury-contaminated soils. 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 (chloralkali), electronics, and fluorescent-lighting manufacturing industries. Only two mercury cell chloralkali plants operated in the United States in 2015. 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:	2011	2012	2013	2014	2015^e
Production:					
Mine (byproduct)	NA	NA	NA	NA	NA
Secondary	NA	NA	NA	NA	NA
Imports for consumption (gross weight), metal	110	249	38	49	15
Exports (gross weight), metal	133	103	(¹)	—	—
Price, average value, dollars per flask, free market ^{2, 3}	1,850	1,850	1,850	1,850	1,850
Net import reliance ⁴ as a percentage of apparent consumption	E	E	NA	NA	NA

Recycling: In 2015, 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 mercury substitutes has resulted in a shrinking reservoir of mercury-containing products for recycling. Minimizing the use of mercury in products that still require mercury has further reduced the amount of secondary mercury available for recovery.

Import Sources (2011–14): Chile, 32%; Argentina, 29%; Canada, 19%; Germany, 13%; and other, 7%.

Tariff: Item	Number	Normal Trade Relations 12–31–15
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—9–30–15⁵

Material	Inventory	Disposal Plan FY 2015	Disposals FY 2015
Mercury	4,436	—	—

Events, Trends, and Issues: The average annual and monthly prices of one flask of domestic or free market mercury remained at \$1,850 per flask. Imports decreased and were significantly below the average annual imports for the past 10 years.

Owing to mercury toxicity and concerns for the environment and human health, overall mercury use has declined in the United States. Mercury continues to be released to the environment from numerous sources, including mercury-containing car switches when automobiles are scrapped without recovering them for recycling, coal-fired powerplant emissions, and incineration of mercury-containing medical devices. In 2010, the total anthropogenic emission of

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mercury to the atmosphere was estimated at 1,960 t. 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 skin-lightening creams and soaps may still contain mercury. 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.

Globally, the number of operating primary mercury mines was uncertain; however, most were located in China, Kyrgyzstan, or Russia. 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 quantity 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 producing countries until sufficient material is available for export. Domestic mercury consumption will continue to decline because increasing use of compact fluorescent bulbs, which use a small amount of mercury, will be more than offset by reduced use of conventional fluorescent tubes; increased use of light-emitting-diode (LED) lighting; and continued substitution of nonmercury-containing products, such as digital thermometers, in measuring, control, and dental applications.

World Mine Production and Reserves: Data on reserves of mercury are out of date, not available, or not disclosed owing to the hazardous nature of the mineral. Chile is included with "Other countries".

	Mine production		Reserves ⁶
	2014	2015 ^e	
United States	NA	NA	Quantitative estimates of reserves are not available. China, Kyrgyzstan, and Peru are thought to contain the largest reserves.
China	1,600	1,600	
Kyrgyzstan	75	70	
Mexico (exports)	500	500	
Peru (exports)	40	40	
Russia	50	50	
Tajikistan	30	30	
Other countries	73	70	
World Total (rounded)	2,350	2,340	

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. In Spain, once a leading producer of mercury, mining at its centuries-old Almaden Mine stopped 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, replaces the mercury used in traditional mercury thermometers, and digital thermometers have replaced traditional thermometers. At chloralkali plants around the world, mercury-cell technology is being replaced by newer diaphragm and membrane cell technology. LEDs 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 stock changes.

⁵See [Appendix B](#) for definitions.

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