

MERCURY

(Data in metric tons, mercury content, unless otherwise specified)

Domestic Production and Use: Mercury has not been produced as a principal mineral commodity in the United States since 1992. In 2024, 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. The U.S. Environmental Protection Agency (EPA) reported in their 2023 triennial report that domestic production¹ of mercury in 2021 was 103 tons compared with 45 tons produced in 2018 as reported in the EPA's 2020 triennial report. About 182 tons of mercury were stored by manufacturers or producers in 2021 compared with 82 tons of mercury stored in 2018. The reported domestic consumption of mercury and mercury in compounds in products was 13 tons in 2021 compared with 16 tons in 2018. On December 3, 2019, the U.S. Department of Energy (DOE) selected a site near Andrews, TX, to store as much as 6,800 tons of mercury.

The leading domestic end uses of mercury and mercury compounds were relays, sensors, switches, and valves, 65%; dental amalgam, 27%; formulated products (buffers, catalysts, fixatives, and vaccination uses), 7%; and bulbs, lamps, and lighting, 1%. A large quantity of elemental mercury (about 163 tons) is used domestically in manufacturing processes such as catalysts or as a cathode in the chlorine-caustic soda (chloralkali) process. Almost all the mercury is reused in the process. The leading manufacturing processes that use mercury are mercury-cell chloralkali plants. In 2024, only one mercury-cell chloralkali plant operated in the United States.

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. Effective January 1, 2020, exports of five mercury compounds were added to that ban.

Salient Statistics—United States:

	2020	2021	2022	2023	2024^e
Production ¹	NA	103	NA	NA	NA
Imports for consumption, metal (gross weight)	3	1	2	4	—
Exports, metal (gross weight)	—	—	—	—	—
Consumption, reported	NA	13	NA	NA	NA
Price, average unit value of imports, dollars per kilogram	26	29	33	22	NA
Net import reliance ² as a percentage of apparent consumption	NA	NA	NA	NA	NA

Recycling: In 2024, eight facilities operated by six companies in the United States accounted for most of the secondary mercury produced and were authorized by the DOE to temporarily store mercury until the DOE's long-term facility opens. Mercury-containing automobile convenience switches, barometers, compact and traditional fluorescent bulbs, computers, dental amalgam, medical devices, and thermostats were collected by 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. With the rapid replacement of compact and traditional fluorescent lighting by light-emitting-diode (LED) lighting, more mercury was being recycled.

Import Sources (2020–23): Canada, 73%; and China, 27%.

Tariff:	Item	Number	Normal Trade Relations 12–31–24
	Mercury	2805.40.0000	1.7% ad valorem.
	Amalgams	2843.90.0000	3.7% ad valorem.

Depletion Allowance: 22% (domestic), 14% (foreign).

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Events, Trends, and Issues: Owing to mercury toxicity and concerns for the environment and human health, overall mercury use has declined in the United States and worldwide. According to the United Nations Environment Programme (UNEP) Global Mercury Partnership 2017 report, the top five leading sources of anthropogenic mercury emissions were artisanal and small-scale gold mining (37.7%), stationary combustion of coal (21.3%), nonferrous-metal production (14.7%), cement production (10.5%), and waste from products (6.6%). Mercury is no longer used in most 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. Mercury compounds were used as catalysts in the coal-based manufacture of vinyl chloride monomer in China. In some parts of the world, mercury was used in the recovery of gold in artisanal and small-scale mining operations. 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, long-term storage.

Byproduct mercury production is expected to continue from large-scale domestic and foreign gold-silver mining and processing. Domestic mercury consumption will continue to decline owing to increased use of LED lighting and consequent reduced use of conventional fluorescent tubes and compact fluorescent bulbs and continued substitution of non-mercury-containing products in control, dental, and measuring applications.

World Mine Production and Reserves:

	Mine production ^o		Reserves ³
	2023	2024	
United States	NA	NA	Quantitative estimates of reserves were not available. China, Kyrgyzstan, and Peru have the largest reserves.
China	1,000	1,000	
Kyrgyzstan	6	6	
Morocco	2	2	
Norway	20	20	
Peru (exports)	NA	30	
Tajikistan	100	100	
World total (rounded) ⁴	1,130	1,200	

World Resources:³ 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 Spain, once a leading producer of mercury, mining at its centuries-old Almaden Mine stopped in 2003. In the United States, mercury occurrences are in Alaska, Arkansas, California, Nevada, and Texas. The declining consumption of mercury, except for small-scale gold mining, indicates that these resources are sufficient for centuries of use.

Substitutes: Ceramic composites substitute for the dark-gray mercury-containing dental amalgam. "Galinstan," 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 are being used instead of mercury fungicides in latex paint.

^oEstimated. NA Not available. — Zero.

¹Includes byproduct and secondary elemental mercury production and mercury compounds.

²Defined as imports – exports.

³See Appendix C for resource and reserve definitions and information concerning data sources.

⁴Excludes U.S. production.