

## MERCURY

(Data in metric tons of mercury content unless otherwise noted)<sup>1</sup>

**Domestic Production and Use:** Since 1992, mercury has not been mined as a primary mineral commodity in the United States. Byproduct mercury is recovered from gold-processing precipitates and from the calomel collected from pollution control devices at gold smelters, mainly in Nevada, but production data were not reported. Owing to environmental and human health concerns, mercury use is declining, and nonmercury-bearing products are being substituted for mercury-bearing devices. Mercury is mainly used by the chlorine-caustic soda industry as an electrolyte to separate chlorine from caustic soda. Most of that mercury is recycled in-plant, but some mercury is lost during the chlorine-caustic soda production process, and the Chlorine Institute indicates that replacement mercury is purchased annually. Some mercury-containing chlor-alkali waste, as "amalgam" (not chemically defined), may be exported to Canada or Mexico and landfilled. Mercury is no longer used in batteries and paints manufactured in the United States. Globally, mercury is widely used in artisanal gold mining and may also be used in button-type batteries, cleansers, fireworks, folk medicines, pesticides, and skin-lightening creams and soaps.

<b>Salient Statistics—United States:</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005<sup>e</sup></b>
Production:					
Mine	NA	NA	NA	NA	NA
Secondary	NA	NA	NA	NA	NA
Imports for consumption (gross weight)	100	209	46	50	245
Exports (gross weight)	108	201	287	300	276
Price, average value, dollars per flask, free market	155.00	155.00	170.00	400.00	750.00
Net import reliance <sup>2</sup> as a percentage of apparent consumption <sup>e</sup>	E	NA	E	E	E

**Recycling:** In 2005, more than 50 companies were listed as mercury recyclers; however, 5 companies account for the majority of secondary production. Secondary mercury (old scrap) is reclaimed from mercury-containing automobile convenience switches, dental amalgam, mercury vapor and fluorescent lamps, and medical equipment; the secondary reservoir of mercury-containing products, however, is shrinking. Mercury may also be reclaimed from barometers, computers, gym flooring, manometers, thermometers, and thermostats. Some of the approximately 3,000 tons of mercury in use and in stocks in the chlorine-caustic soda industry is recycled in-plant (home scrap).

**Import Sources (2001-04):** Chile, 41%; Australia, 25%; Germany, 18%; Peru, 11%; and other, 5%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations</b>
		<b>12-31-05</b>
Mercury	2805.40.0000	1.7% ad val.

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

**Government Stockpile:** The Defense Logistics Agency held an inventory of 4,436 tons at several sites in the United States, though it has indicated that a consolidated storage is the preferred alternative for this inventory. Sales from the National Defense Stockpile remained suspended. An additional 146 tons of mercury was held by the U.S. Department of Energy at Oak Ridge, TN.

### Stockpile Status—9-30-05<sup>3</sup>

<b>Material</b>	<b>Uncommitted inventory</b>	<b>Committed inventory</b>	<b>Authorized for disposal</b>	<b>Disposal plan FY 2005</b>	<b>Disposals FY 2005</b>
Mercury	4,436	—	4,436	—	—

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**Events, Trends, and Issues:** After several years of relatively stable prices, the average cost of a flask of mercury rose to \$750.00 in 2005 from \$155.00 in 2002. For a brief period during April 2005, the cost of a flask of mercury was as high as \$900.00. This price rise is tied to the global demand for mercury in artisanal mining in response to rising gold prices and to a steadily diminishing supply of mercury that is reclaimed and recycled from end-of-life mercury-containing products that were manufactured during past decades. International, Federal, State, and local governments are concerned about the toxic effects of mercury in the environment. In the United States, legislation such as the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act mandates regulation of production, use, generation, treatment, and disposal of products that contain mercury. Regulations and environmental standards are likely to continue as major factors in domestic mercury supply and demand. Domestic byproduct mercury production is expected to continue from gold processing, as is recycling of mercury from an ever-diminishing supply of mercury-containing products. It is anticipated that domestic mercury consumption will continue to decline as mercury-containing products are phased out and nonmercury-containing products are substituted.

### **World Mine Production, Reserves, and Reserve Base:**

	Mine production		Reserves <sup>4</sup>	Reserve base <sup>4</sup>
	2004	2005 <sup>e</sup>		
United States	NA	NA	—	7,000
Algeria	110	—	2,000	3,000
China	610	500	—	—
Italy	—	—	—	69,000
Kyrgyzstan	300	300	7,500	13,000
Spain	150	150	76,000	90,000
Other countries	170	150	38,000	61,000
World total (rounded)	1,340	1,100	120,000	240,000

**World Resources:** In the United States, there are mercury occurrences in Alaska, Arkansas, California, Nevada, and Texas. World mercury resources are estimated to be nearly 600,000 tons, mainly in China, Kyrgyzstan, Russia, Slovenia, Spain, and Ukraine. These resources are sufficient for another century or more, especially with declining consumption rates. Byproduct mercury may be produced at copper, gold, lead, and zinc mines worldwide; there are, however, no data on the amount of mercury produced.

**Substitutes:** Mercury cells are being replaced by diaphragm and membrane cells in the global production of chlorine and caustic soda. Digital instruments, especially digital thermometers, have replaced mercury instruments in many applications. Dentists now use ceramic composites as substitutes for mercury-containing dental amalgam. Mercury-zinc batteries are being replaced by lithium, nickel-cadmium, and zinc-air batteries. Indium compounds substitute for mercury in alkaline batteries, and organic compounds have been substituted for mercury fungicides in latex paint.

<sup>e</sup>Estimated. E Net exporter. NA Not available. — Zero.

<sup>1</sup>Some 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 0.034 ton.

<sup>2</sup>Defined as imports – exports + adjustments for Government and industry stock changes.

<sup>3</sup>See Appendix B for definitions.

<sup>4</sup>See Appendix C for definitions.