

ANTIMONY

(Data in metric tons of antimony content, unless otherwise noted)

Domestic Production and Use: One silver mine in Idaho produced antimony as a byproduct, and an additional very small amount of antimony was recovered as a byproduct of the smelting of lead and silver-copper ores. Primary antimony metal and oxide was produced by five companies at processing plants that used foreign feedstock and a small amount of domestic feed material. Two plants were in Texas, and three other plants were in Idaho, Montana, and New Jersey. The estimated value of primary antimony metal and oxide produced in 2000 was \$58 million. Secondary antimony was recovered, mostly in alloy form, at lead smelters; its value, based on the price of antimony metal, was about \$3 million. The estimated distribution of antimony uses was as follows: flame retardants, 55%; transportation, including batteries, 18%; chemicals, 10%; ceramics and glass, 7%; and other, 10%.

Salient Statistics—United States:	1996	1997	1998	1999	2000^e
Production: Mine (recoverable antimony) ¹	242	356	498	449	340
Smelter: Primary	25,600	26,400	24,000	23,800	22,400
Secondary	7,780	7,550	7,710	8,220	2,500
Imports for consumption	37,600	39,300	34,600	36,800	39,400
Exports of metal, alloys, ² oxide, and waste and scrap ²	4,450	3,880	4,170	3,660	2,570
Shipments from Government stockpile	4,300	2,930	4,160	5,790	5,500
Consumption, apparent ³	45,000	46,600	42,700	36,500	44,900
Price, metal, average, cents per pound ⁴	147	98	72	63	68
Stocks, yearend	11,000	10,800	10,600	10,700	11,000
Employment, plant, number ^e	100	100	80	75	75
Net import reliance ⁵ as a percent of apparent consumption	82	83	81	82	94

Recycling: Traditionally, the bulk of secondary antimony has been recovered as antimonial lead, most of which was generated and then also consumed by the battery industry. However, changing trends in this industry in recent years have caused lesser amounts of secondary antimony to be produced.

Import Sources (1996-99): Metal: China, 83%; Mexico, 6%; Hong Kong, 4%; Kyrgyzstan, 2%; and other, 5%. Ore and concentrate: China, 31%; Australia, 20%; Mexico, 7%; Austria, 5%; and other, 37%. Oxide: China, 43%; Mexico, 14%; South Africa, 13%; Bolivia, 12%; and other, 18%. Total: China, 59%; Mexico, 11%; South Africa, 7%; Bolivia, 6%; and other, 17%.

Tariff: Item	Number	Normal Trade Relations 12/31/00
Ore and concentrates	2617.10.0000	Free.
Antimony and articles thereof, including waste and scrap	8110.00.0000	Free.
Antimony oxide	2825.80.0000	Free.

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

Government Stockpile: Government stockpile sales of antimony continued for the eighth year, after being resumed in 1993 for the first time since 1988. Public Law 103-160 provided authorization for the sales. During the year, the Defense Logistics Agency (DLA) held monthly sales for antimony using a negotiated bid process. The DLA announced that its Annual Materials Plan for fiscal year 2001 permitted the disposal of up to 5,000 metric tons of antimony, the same amount allotted in 2000. Antimony was stockpiled in eight DLA depots, with the largest inventories stored in New Haven, IN, and Somerville, NJ.

Stockpile Status—9-30-00⁶

Material	Uncommitted inventory	Committed inventory	Authorized for disposal	Disposal plan FY 2000	Disposals FY 2000
Antimony	10,332	1,109	10,332	5,000	5,000

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Events, Trends, and Issues: In 2000, antimony production from domestic source materials was derived mainly from the recycling of lead-acid batteries. Recycling plus U.S. mine output supplied only a minor portion of estimated domestic demand.

The price of antimony metal continued to decline during the first half of 2000. Prices started the year at \$0.65 per pound, and, by spring, declined to \$0.55 per pound. In late summer, the price rebounded with the price rising to \$0.70 per pound. Industry observers attributed the price increase to more stringent enforcement of smuggling laws and newly enacted export controls by the Government of China.

Environmental and ecological problems associated with the treatment of antimony raw materials were minimal, because all domestic processors of raw materials now avoid sulfide-containing materials.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ⁷	Reserve base ⁷
	1999	2000 ^e		
United States	449	340	80,000	90,000
Bolivia	4,800	5,000	310,000	320,000
China	100,000	100,000	900,000	1,900,000
Kyrgyzstan	100	200	120,000	150,000
Russia	4,000	3,000	350,000	370,000
South Africa	6,000	6,000	240,000	250,000
Tajikistan	1,800	1,500	50,000	60,000
Other countries	<u>4,900</u>	<u>5,000</u>	<u>25,000</u>	<u>75,000</u>
World total (may be rounded)	122,000	121,000	2,100,000	3,200,000

World Resources: U.S. resources are mainly in Alaska, Idaho, Montana, and Nevada. Principal identified world resources are in Bolivia, China, Mexico, Russia, and South Africa. Additional antimony resources may occur in Mississippi Valley-type lead deposits in the Eastern United States.

Substitutes: Compounds of chromium, tin, titanium, zinc, and zirconium substitute for antimony chemicals in paint, pigments, and enamels. Combinations of cadmium, calcium, copper, selenium, strontium, sulfur, and tin can be used as substitutes for hardening lead. Selected organic compounds and hydrated aluminum oxide are widely accepted substitutes as flame-retardants.

^eEstimated.

¹Data for 1996-99 from the United States Securities and Exchange Commission 10-K report. Estimate for 2000 based upon 10-Q reports for the first two quarters.

²Gross weight.

³Domestic mine production + secondary production from old scrap + net import reliance.

⁴New York dealer price for 99.5% to 99.6% metal, c.i.f. U.S. ports.

⁵Defined as imports - exports + adjustments for Government and industry stock changes.

⁶See Appendix B for definitions.

⁷See Appendix C for definitions.