

## ANTIMONY

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

**Domestic Production and Use:** There was no domestic mine production of antimony in 2006. The only domestic source of antimony, a silver mine that produced antimony as a byproduct, closed early in 2001 with no output in that year. Primary antimony metal and oxide was produced by one company in Montana, using foreign feedstock. The estimated distribution of antimony uses was as follows: flame retardants, 40%; transportation, including batteries, 22%; chemicals, 14%; ceramics and glass, 11%; and other, 13%.

<b>Salient Statistics—United States:</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006<sup>e</sup></b>
Production:					
Mine (recoverable antimony)	—	—	—	—	—
Smelter:					
Primary	W	W	W	W	W
Secondary	5,350	5,600	3,650	3,670	3,400
Imports for consumption	28,500	26,700	33,500	29,200	28,300
Exports of metal, alloys, oxide, and waste and scrap <sup>1</sup>	4,250	3,680	3,810	2,140	2,900
Shipments from Government stockpile	4,630	2,070	—	—	—
Consumption, apparent <sup>2</sup>	34,200	29,400	36,800	31,400	27,600
Price, metal, average, cents per pound <sup>3</sup>	88	108	130	161	225
Stocks, yearend	5,060	6,320	2,830	2,130	3,300
Employment, plant, number <sup>e</sup>	35	30	30	10	10
Net import reliance <sup>4</sup> as a percentage of apparent consumption	84	81	90	88	88

**Recycling:** Traditionally, the bulk of secondary antimony has been recovered as antimonial lead, most of which was generated by and then consumed by the battery industry. Changing trends in that industry in recent years, however, have generally reduced the amount of secondary antimony produced; the trend to low-maintenance batteries has tilted the balance of consumption away from antimony and toward calcium as an additive.

**Import Sources (2002-05):** Metal: China, 67%; Mexico, 14%; Peru, 7%; and other, 12%. Ore and concentrate: China, 74%; Austria, 14%; Mexico, 2%; and other, 10%. Oxide: China, 42%; Mexico, 40%; Belgium, 15%; and other, 3%. Total: China, 48%; Mexico, 35%; Belgium, 9%; and other, 8%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12-31-06</b>
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:** None.

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**Events, Trends, and Issues:** In 2006, antimony production from domestic source materials was derived entirely from the recycling of lead-acid batteries. Recycling supplied only a minor portion of estimated domestic consumption. In recent years, the number of primary antimony smelters has been reduced, as smelters in New Jersey and Texas were closed in 2004. Only one domestic smelter in Montana continues to make antimony products.

The price of antimony started the year at about \$1.85 per pound and rose steadily to about \$2.63 per pound by mid-May. From there the price softened over the next 2 months to settle at about \$2.38 per pound by mid-July, then increased to about \$2.60 per pound by mid-September.

During 2006, antimony use in the United States and most antimony-consuming countries declined. On the supply side, major world producers, especially in China, continued to experience production constraints. The net result was a continuation of a world supply deficit, helping to fuel price rises.

**World Mine Production, Reserves, and Reserve Base:** Reserve estimates for the United States were revised to zero because there has been no U.S. production since 2000.

	Mine production		Reserves <sup>5</sup>	Reserve base <sup>5</sup>
	<u>2005</u>	<u>2006<sup>e</sup></u>		
United States	—	—	—	90,000
Bolivia	3,100	5,000	310,000	320,000
China	120,000	110,000	790,000	2,400,000
Guatemala	1,000	1,000	NA	NA
Russia (recoverable)	3,000	3,300	350,000	370,000
South Africa	5,000	5,700	44,000	200,000
Tajikistan	2,000	2,000	50,000	150,000
Other countries	<u>3,300</u>	<u>3,500</u>	<u>150,000</u>	<u>330,000</u>
World total (rounded)	137,000	131,000	1,700,000	3,900,000

**World Resources:** U.S. resources of antimony 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.

<sup>e</sup>Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data. — Zero.

<sup>1</sup>Gross weight, for metal, alloys, waste, and scrap.

<sup>2</sup>Domestic mine production + secondary production from old scrap + net import reliance.

<sup>3</sup>New York dealer price for 99.5% to 99.6% metal, c.i.f. U.S. ports.

<sup>4</sup>Defined as imports - exports + adjustments for Government and industry stock changes.

<sup>5</sup>[See Appendix C for definitions.](#)