

## ANTIMONY

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

**Domestic Production and Use:** There was no antimony mine production in the United States in 2009. 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 others, 13%.

<b>Salient Statistics—United States:</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009<sup>e</sup></b>
Production:					
Mine (recoverable antimony)	—	—	W	—	—
Smelter:					
Primary	W	W	W	W	W
Secondary	3,030	3,520	3,480	3,080	2,900
Imports for consumption	22,700	23,200	21,900	21,900	23,000
Exports of metal, alloys, oxide, and waste and scrap <sup>1</sup>	2,140	2,140	1,950	2,200	2,000
Consumption, apparent <sup>2</sup>	31,400	24,300	23,700	21,500	22,400
Price, metal, average, cents per pound <sup>3</sup>	161	238	257	280	230
Stocks, yearend	2,110	2,120	1,900	1,620	1,750
Employment, plant, number <sup>e</sup>	10	10	10	10	10
Net import reliance <sup>4</sup> as a percentage of apparent consumption	88	86	85	93	93

**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 (2005-08):** Metal: China, 67%; Mexico, 12%; Peru, 8%; and other, 13%. Ore and concentrate: China, 37%; Bolivia, 34%; and other, 29%. Oxide: China, 50%; Mexico, 37%; Belgium, 7%; and other, 6%. Total: China, 51%; Mexico, 34%; Belgium, 4%; and other, 11%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12-31-09</b>
Ore and concentrates	2617.10.0000	Free.
Antimony oxide	2825.80.0000	Free.
Antimony and articles thereof, including waste and scrap	8110.00.0000	Free.

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

**Government Stockpile:** None.

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**Events, Trends, and Issues:** In 2009, antimony production from domestic source materials was derived mostly from the recycling of lead-acid batteries. Recycling supplied only a minor portion of estimated domestic consumption, and the remainder came from imports. 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, continued to make antimony products. This domestic smelter, through its wholly owned Mexican subsidiary, received approval to build an ore-processing plant near its antimony-silver deposit in Mexico. The antimony materials produced here would provide feedstock for the Montana facility.

The price of antimony generally rose during 2009. The price started the year at about \$1.93 per pound and finished August at about \$2.67 per pound.

Several new antimony mine projects were being developed in Australia, Canada, and Laos.

### **World Mine Production and Reserves:**

	Mine production		Reserves <sup>5</sup>
	<u>2008</u>	<u>2009<sup>e</sup></u>	
United States	W	—	—
Bolivia	3,500	4,500	310,000
China	180,000	170,000	790,000
Russia (recoverable)	3,500	3,000	350,000
South Africa	2,800	3,000	44,000
Tajikistan	2,000	2,000	50,000
Thailand	—	—	420,000
Other countries	<u>5,000</u>	<u>4,000</u>	<u>150,000</u>
World total (rounded)	197,000	187,000	2,100,000

**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. 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](#). Reserve base estimates were discontinued in 2009; see [Introduction](#).