

ANTIMONY

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

Domestic Production and Use: In 2015, no marketable antimony was mined in the United States. A mine in Nevada, which had the potential to produce antimony and had extracted about 1 metric ton of stibnite ore from 2013 to 2014, was on care-and-maintenance status in 2015 and had no reported production. Primary antimony metal and oxide were produced by one company in Montana using imported feedstock. Secondary antimony production was derived mostly from antimonial lead recovered from spent lead-acid batteries. The estimated value of secondary antimony produced in 2015, based on the average New York dealer price, was about \$30 million. Recycling supplied about 17% of estimated domestic consumption, and the remainder came from imports. The value of antimony consumption in 2015, based on the average New York dealer price, was about \$185 million. The estimated domestic distribution of primary antimony consumption was as follows: nonmetal products, including ceramics and glass and rubber products, 36%; flame retardants, 34%; and metal products, including antimonial lead and ammunition, 30%.

Salient Statistics—United States:	2011	2012	2013	2014	2015^e
Production:					
Mine (recoverable antimony)	—	—	—	—	—
Smelter:					
Primary	W	W	W	W	W
Secondary	2,860	3,050	4,400	4,230	4,000
Imports for consumption, ores and concentrates, oxide, and metal	23,500	22,600	24,700	24,200	23,600
Exports of metal, alloys, oxide, and waste and scrap ¹	4,170	4,710	3,980	3,240	3,100
Consumption, apparent ²	22,300	21,000	25,100	25,200	24,500
Price, metal, average, cents per pound ³	650	565	463	425	344
Stocks, yearend	1,430	1,430	1,470	1,400	1,400
Employment, plant, number (yearend) ^e	24	24	24	27	27
Net import reliance ⁴ as a percentage of apparent consumption	87	85	82	83	84

Recycling: The bulk of secondary antimony is recovered at secondary lead smelters as antimonial lead, most of which was generated by, and then consumed by, the lead-acid battery industry.

Import Sources (2011–14): Metal: China, 68%; India, 14%; Mexico, 4%; and other, 14%. Ore and concentrate: Italy, 64%; China, 20%; India, 12%; and other, 4%. Oxide: China, 63%; Bolivia, 9%; Belgium, 8%; Thailand, 8%; Mexico, 6%; and other, 6%. Total: China, 63%; Bolivia, 8%; Belgium, 7%; Thailand, 6%; and other, 16%.

Tariff: Item	Number	Normal Trade Relations 12–31–15
Ore and concentrates	2617.10.0000	Free.
Antimony oxide	2825.80.0000	Free.
Antimony and articles thereof:		
Unwrought antimony; powder	8110.10.0000	Free.
Waste and scrap	8110.20.0000	Free.
Other	8110.90.0000	Free.

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

Government Stockpile: None.

Events, Trends, and Issues: U.S. Antimony Corp. (USAC) operated a smelter in Montana that produced antimony metal and oxides from imported concentrates, primarily from Canada and Mexico, and a smelter in Mexico that processed concentrates from mines in Mexico and imports from Australia. USAC planned to produce about 2,000 tons of antimony in 2015, more than double that produced in 2014.⁵ In late 2013, an historically productive antimony mine in Nevada was restarted and by yearend 2014, had produced about 800 tons of stibnite (antimony trisulfide) ore for upgrade. In 2015, the company was reorganized and the project was placed on care-and-maintenance status. At the end of 2014, a Canadian mining company completed an independent preliminary feasibility study for the Stibnite Gold Project (formerly known as the Golden Meadows Project) in the Stibnite-Yellow Pine mining district in Idaho. Mining had occurred at project sites intermittently in the past and, according to the study, antimony production at the mines could be about 6,350 tons per year in the first 4 years of operation.

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Antimony metal price declined during 2015, averaging \$3.71 per pound in the first quarter, \$3.45 per pound in the second quarter, and \$3.00 per pound in August. The average price during the first 8 months of 2015 was about 20% less than that during the same period of 2014. Reports indicated that elevated producer stocks in China and lower than expected consumption in Europe contributed to the price decline in 2015. Some consumers were thought to be purchasing smaller quantities of antimony, owing to the possibility that some or all of the 18,660 tons of antimony metal reportedly held in the Fanya Metal Exchange in China could enter the market and lead to price declines.

China was the leading global antimony producer. The National Bureau of Statistics in China reported that mine and smelter production declined during the first half of 2015 when compared with that in the same period in 2014, owing to temporary closures and curtailments. In April, the government in Hunan Province forced one mine and eight smelters to close and consolidate their operations as part of a plan to control pollution and protect resources, contributing to a decline in production. In late September, it was reported that more than 50% of antimony metal production capacity had been idled in Hunan Province. The Government of China set export quotas of 59,400 tons (metal content) of antimony metal and antimony trioxide for 2015, unchanged from that in 2014.

In Oman, a producer, which planned to construct an antimony smelter with a 20,000-ton-per-year capacity for antimony metal and antimony oxide, acquired adequate funding and was proceeding with development. In Russia, a company announced plans to build a new 6,000-ton-per-year primary antimony smelter. Early in 2015, South Africa's only antimony producer was placed into provisional liquidation after it failed to sell its assets, and the future of the mine was uncertain.

Global antimony consumption was estimated to be about 184,000 tons in 2015, a slight increase from that in 2014. Consumption of antimony trioxide was essentially unchanged from that in 2014 but had declined by about 9% from 2010, owing to some consumers opting for substitute materials that were less expensive. Flame retardants were estimated to account for about one-half of global primary antimony consumption, followed by lead-acid batteries and plastics. Asia accounted for more than 50% of global antimony consumption in 2015.

World Mine Production and Reserves: Reserves for Australia were updated with data from Geoscience Australia.

	Mine production ^e		Reserves ⁶
	<u>2014</u>	<u>2015</u>	
United States	—	—	⁷ 60,000
Australia	5,800	5,500	⁸ 140,000
Bolivia	5,500	5,000	310,000
Burma	3,300	3,500	NA
China	120,000	115,000	950,000
Russia (recoverable)	9,000	9,000	350,000
South Africa	1,600	—	27,000
Tajikistan	4,700	4,700	50,000
Turkey	4,500	4,500	NA
Other countries	<u>4,000</u>	<u>4,000</u>	<u>100,000</u>
World total (rounded)	158,000	150,000	2,000,000

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

Substitutes: Selected organic compounds and hydrated aluminum oxide are substitutes as flame retardants. Chromium, tin, titanium, zinc, and zirconium compounds substitute for antimony chemicals in enamels, paint, and pigments. Combinations of calcium, copper, selenium, sulfur, and tin are substitutes for alloys in lead-acid batteries.

^eEstimated. NA Not available. W Withheld to avoid disclosing company proprietary data. — Zero.

¹Gross weight, for metal, alloys, waste, and scrap.

²Domestic mine production + secondary production from old scrap + net import reliance.

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

⁴Defined as imports - exports + adjustments for industry stock changes.

⁵U.S. Antimony Corp., 2015, U.S. Antimony reports all-time record production: Thompson Falls, MT, U.S. Antimony Corp. news release, March 12.

⁶See [Appendix C](#) for resource/reserve definitions and information concerning data sources.

⁷For United States, company-reported probable reserves for Stibnite Gold Project in Idaho.

⁸For Australia, Joint Ore Reserves Committee-compliant reserves were 63,000 tons.