

ANTIMONY

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

Domestic Production and Use: In 2016, no marketable antimony was mined in the United States. A mine in Nevada that had extracted about 800 tons of stibnite ore from 2013 through 2014 was placed on care-and-maintenance status in 2015 and had no reported production in 2016. 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 2016, based on the average New York dealer price for antimony, was about \$26 million. Recycling supplied about 17% of estimated domestic consumption, and the remainder came mostly from imports. The value of antimony consumption in 2016, based on the average New York dealer price, was about \$152 million. The estimated distribution of domestic 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:	2012	2013	2014	2015	2016^e
Production:					
Mine (recoverable antimony)	—	—	—	—	—
Smelter:					
Primary	W	W	W	W	W
Secondary	3,050	4,410	4,230	3,850	4,000
Imports for consumption:					
Ore and concentrates	380	342	365	320	200
Oxide, unwrought, powder, waste and scrap ¹	22,300	24,300	23,800	22,500	22,000
Exports:					
Ore and concentrates	106	36	41	31	30
Oxide, unwrought, powder, waste and scrap ¹	4,710	3,980	3,240	3,190	3,000
Consumption, apparent ²	20,600	24,700	24,900	23,300	23,000
Price, metal, average, cents per pound ³	565	463	425	327	300
Stocks, yearend	1,430	1,470	1,400	1,260	1,200
Employment, plant, number (yearend) ^e	24	24	27	27	27
Net import reliance ⁴ as a percentage of apparent consumption	85	82	83	83	83

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 (2012–15): Metal: China, 67%; India, 18%; Hong Kong, 4%; and other, 11%. Ore and concentrate: Italy, 67%; China, 23%; India, 7%; and other, 3%. Oxide: China, 59%; Thailand, 11%; Bolivia, 11%; Belgium, 8%; and other, 11%. Total: China, 60%; Thailand, 9%; Bolivia, 9%; Belgium, 7%; and other, 15%.

Tariff: Item	Number	Normal Trade Relations 12–31–16
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 intermediate products (antimony oxides and sodium antimonate), primarily from Canada and Mexico, and a smelter in Mexico that processed concentrates from Australia and Mexico. USAC sold about 746 tons of antimony (antimony content of metal and oxides) in the first half of 2016, 38% more than that sold in the same period of 2015.⁵ At the end of 2014, a Canadian mining company completed a preliminary feasibility study for the Stibnite Gold Project in the Stibnite-Yellow Pine mining district in Idaho. In 2016, the company began drilling to expand mineral reserves and resources and took steps to initiate the environmental assessment and permitting process.

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The average quarterly antimony metal price continued its downward trend begun in the first quarter of 2014, decreasing to an average of \$2.60 per pound in the first quarter of 2016, its lowest level since 2009. The price began to increase in March 2016 and averaged \$3.03 per pound during the second quarter of 2016. The price increased to \$3.52 per pound in August, owing partially to production cuts in China and reports that China's State Reserve Bureau planned to purchase 10,000 tons of antimony for its National Stockpile during the second half of 2016. Despite the summer price increases, the average price during the first 8 months of 2016 was about 14% less than that during the same period of 2015.

China was the leading global antimony producer. The China Nonferrous Metals Industry Association reported that mine and smelter production declined during the first half of 2016 compared with that in the same period in 2015. Producers reduced production in response to price declines and stricter environmental controls from Provincial and National governments. During the first half of 2016, China produced 48,300 tons of antimony in concentrate and 106,000 tons of antimony contained in oxide and metal, 12% less and slightly less, respectively, than that during the same period of 2015. During the first half of 2016, China imported 25,700 tons of antimony in concentrate, 25% more than that during the same period of 2015. The Government of China set an export quota of 54,400 tons (antimony content) of antimony metal and antimony oxide for 2016, 8% less than that in 2015. In 2016, a company in Oman produced its first antimony metal using test equipment and ordered three furnaces for a 20,000-ton-per-year antimony metal and antimony oxide smelter that was expected to open in late 2017.

Global consumption of primary and secondary antimony was estimated to be about 188,000 tons in 2016, a slight increase from that in 2015, owing primarily to increased consumption for use in heat stabilizers for plastics, flame retardants, and lead-acid batteries. Asia accounted for more than 50% of global antimony consumption in 2016.

World Mine Production and Reserves: Reserves for Australia and China were updated with data from Government sources. Reserves for Mexico are based on company-reported information.

	Mine production ^e		Reserves ⁶
	<u>2015</u>	<u>2016</u>	
United States	—	—	⁷ 60,000
Australia	3,700	3,500	⁸ 160,000
Bolivia	4,200	4,000	310,000
Burma	3,000	3,000	NA
China	110,000	100,000	⁹ 530,000
Mexico	NA	NA	18,000
Russia (recoverable)	9,000	9,000	350,000
South Africa	—	—	27,000
Tajikistan	8,000	8,000	50,000
Turkey	2,500	2,500	NA
Vietnam	1,000	1,000	NA
World total (rounded)	<u>142,000</u>	<u>130,000</u>	<u>1,500,000</u>

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 unwrought metal, powder, and 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 of antimony in oxide, unwrought, powder, waste and scrap – exports of antimony in oxide, unwrought, powder, waste and scrap + adjustments for industry stock changes.

⁵United States Antimony Corp., 2016, Form 10-Q—For the quarterly period ending June 30, 2016: U.S. Securities and Exchange Commission, 23 p. (Accessed September 12, 2016, at http://filings.irdirect.net/data/101538/000165495416001544/uamy_10q.pdf.)

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

⁷Company-reported probable reserves for Stibnite Gold Project in Idaho.

⁸For Australia, Joint Ore Reserves Committee-compliant reserves were 66,000 tons.

⁹China Statistical Yearbook 2015.