

## ANTIMONY

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

**Domestic Production and Use:** In 2021, 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 2021. 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 2021 was about \$47 million. Recycling supplied about 15% of estimated domestic consumption, and the remainder came mostly from imports. The value of antimony consumption in 2021 was about \$320 million. In the United States, the leading uses of antimony were as follows: flame retardants, 40%; metal products, including antimonial lead and ammunition, 36%; and nonmetal products, including ceramics and glass and rubber products, 24%.

<b><u>Salient Statistics—United States:</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021<sup>e</sup></u></b>
Production:					
Mine (recoverable antimony)	—	—	—	—	—
Smelter:					
Primary	621	331	377	254	460
Secondary	4,370	4,090	4,140	4,250	4,100
Imports for consumption:					
Ore and concentrates	61	96	121	105	29
Oxide	17,800	19,200	17,300	15,000	18,000
Unwrought, powder	6,810	6,320	6,670	5,520	7,700
Waste and scrap <sup>1</sup>	16	202	17	6	11
Exports:					
Ore and concentrates <sup>1</sup>	46	38	9	10	11
Oxide	1,600	1,750	1,570	1,230	1,600
Unwrought, powder	643	497	370	393	770
Waste and scrap <sup>1</sup>	11	9	14	11	130
Consumption, apparent <sup>2</sup>	27,400	27,700	26,400	23,400	28,000
Price, metal, average, dollars per pound <sup>3</sup>	3.77	3.81	3.04	2.67	5.20
Net import reliance <sup>4</sup> as a percentage of apparent consumption	82	84	83	81	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 (2017–20):** Ore and concentrates: China, 42%; Italy, 36%; India, 11%; Mexico, 4%; and other, 7%. Oxide: China,<sup>5</sup> 71%; Belgium, 10%; Bolivia, 6%; Thailand, 5%; and other, 8%. Unwrought metal and powder: China,<sup>5</sup> 37%; India, 24%; Vietnam, 11%; Burma, 9%; and other, 19%. Total metal and oxide: China,<sup>5</sup> 63%; Belgium, 7%; India, 6%; and other, 24%.

<b><u>Tariff:</u></b>	<b><u>Item</u></b>	<b><u>Number</u></b>	<b><u>Normal Trade Relations</u></b>
			<b><u>12–31–21</u></b>
	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:**<sup>6</sup>

<b><u>Material</u></b>	<b><u>FY 2021</u></b>		<b><u>FY 2022</u></b>		
	<b><u>Inventory</u></b> <b><u>as of 9–30–21</u></b>	<b><u>Potential</u></b> <b><u>acquisitions</u></b>	<b><u>Potential</u></b> <b><u>disposals</u></b>	<b><u>Potential</u></b> <b><u>acquisitions</u></b>	<b><u>Potential</u></b> <b><u>disposals</u></b>
Antimony	90.12	1,100	—	1,100	—

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**Events, Trends, and Issues:** China continued to be the leading global antimony producer in 2021 and accounted for 55% of global mine production, followed by Russia, 23%, and Tajikistan, 12%. The supply of antimony raw materials and downstream production of antimony products was constrained in 2021 as a result of environmental audits in China and various temporary mine shutdowns to mitigate the spread of the global COVID-19 pandemic. The raw material shortage combined with the worldwide shipping delays caused a supply shortage of refined antimony on the market, and the antimony price reached a high of \$6.65 per pound in October 2021 compared with the annual average price of \$2.67 per pound in 2020.

**World Mine Production and Reserves:** Reserves for Australia and Burma were revised based on Government and industry reports.

	Mine production		Reserves <sup>7</sup>
	2020	2021 <sup>e</sup>	
United States	—	—	<sup>8</sup> 60,000
Australia	3,900	3,400	<sup>9</sup> 100,000
Bolivia	2,600	2,700	310,000
Burma	2,200	2,000	140,000
Canada	2	2	78,000
China	61,000	60,000	480,000
Guatemala	80	80	NA
Iran	400	400	NA
Kazakhstan	100	100	NA
Kyrgyzstan	—	—	260,000
Mexico	700	700	18,000
Pakistan	17	20	26,000
Russia (recoverable)	25,000	25,000	350,000
Tajikistan	13,000	13,000	50,000
Turkey	1,330	1,300	100,000
Vietnam	390	400	NA
World total (rounded)	111,000	110,000	>2,000,000

**World Resources:**<sup>7</sup> U.S. resources of antimony are mainly in Alaska, Idaho, Montana, and Nevada. Principal identified world resources are in Australia, Bolivia, Burma, 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.

<sup>e</sup>Estimated. NA Not available. — Zero.

<sup>1</sup>Gross weight.

<sup>2</sup>Defined as primary production + secondary production from old scrap + imports of antimony in oxide and unwrought metal, powder – exports of antimony in oxide and unwrought metal, powder + adjustments for Government stock changes.

<sup>3</sup>Antimony minimum 99.65%, cost, insurance, and freight. Source: Argus Media group—Argus Metals International.

<sup>4</sup>Defined as imports of antimony in oxide and unwrought metal, powder – exports of antimony in oxide and unwrought metal, powder + adjustments for Government stock changes.

<sup>5</sup>Includes Hong Kong.

<sup>6</sup>See Appendix B for definitions.

<sup>7</sup>See Appendix C for resource and reserve definitions and information concerning data sources.

<sup>8</sup>Company-reported probable reserves for the Stibnite Gold Project in Idaho.

<sup>9</sup>For Australia, Joint Ore Reserves Committee-compliant or equivalent reserves were 18,000 tons.