

# 2020 Minerals Yearbook

## **ANTIMONY [ADVANCE RELEASE]**

### **ANTIMONY**

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In 2020, no marketable antimony was mined in the United States. Primary antimony metal production decreased by 33% to 254 metric tons (t) in 2020 (table 1). Primary antimony metal and antimony trioxide were produced by one company in Montana by processing imported antimony intermediate products. Secondary antimony production increased by 3% to an estimated 4,250 t and was recovered almost entirely as a component of lead alloys from recycled lead-acid batteries at secondary lead smelters (table 1). Secondary antimony was used in the manufacture of new lead-acid batteries.

Reported industrial domestic consumption of primary antimony equaled 5,500 t in 2020, a 5% decrease from the reported consumption in 2019. In 2020, apparent consumption of antimony [defined as primary and secondary antimony smelter production plus imports of unwrought antimony and antimony oxide (antimony content) minus exports of unwrought antimony and antimony oxide (antimony content)] was 23,400 t, 12% less than that in 2019 (table 1).

Antimony was mined commercially as a principal product or was recovered as a byproduct during the smelting of basemetal ores in 14 countries in 2020. China, the world's leading producer of antimony, accounted for an estimated 55% of world mine production, followed by Russia (23%) and Tajikistan (12%). Estimated global mine production decreased by 7% to 111,000 t in 2020 compared with the revised production in 2019 (tables 1, 8).

#### **Production**

*Mine.*—In 2020, no marketable antimony was mined in the United States. In December 2020, Midas Gold Corp. announced the completion of the feasibility study for the Stibnite Gold Project in Idaho. Highlights of the feasibility study published by the company showed potential total recoverable antimony of 34,500 t in the first 4 years of operation, and 53,500 t during the 15-year mine life (Midas Gold Corp., 2020).

Primary Smelter.—The United States had only one primary antimony smelter, operated by U.S. Antimony Corp. (USAC) (Thompson Falls, MT) in Montana. The smelter processed intermediate antimony products from Canada and Mexico, recovered precious metals, and produced antimony trioxide and metal. The company also operated mines and a smelter in Mexico. The company produced antimony metal for bearings, lead-acid batteries, and ordnance; antimony oxide as a raw material primarily for flame retardants; and sodium antimonite primarily for glass in cathode ray tubes and other applications. In 2020, USAC reported selling about 370 t of antimony (antimony content) (234 t sold in the United States, 136 t in Mexico), a 48% decrease compared with 711 t sold in 2019 (361 t sold in the United States, 350 t in Mexico) (U.S. Antimony Corp., 2021, p. 1–3, 6–9, 16).

Secondary Antimony.—Antimony recovered from scrap was an important part of the total domestic antimony supply. Recovery, however, was limited to the quantity contained in end-of-life batteries. Since 2001, a typical automotive leadacid battery has contained a maximum of 0.6% antimony. All of the secondary antimony in the United States was produced at secondary lead smelters from scrap battery grids and other battery parts, and from bearing metal, type metal, and other antimonial lead scrap. Domestic production data were compiled from a U.S. Geological Survey (USGS) canvass of these facilities. In 2020, 10 secondary lead smelters were surveyed, 8 responded, and antimony production at the other 2 smelters was estimated based on previous responses. An estimated 4,250 t of secondary antimony was recovered, a 3% increase from that in 2019 (table 1).

#### Consumption

Of the 134 companies to which a USGS antimony consumption survey was sent, 104 companies responded. Consumption data were estimated for the remaining 30 firms. Reported consumption of primary antimony was 5,500 t, a 5% decrease from that in 2019 (tables 1, 2). The reported consumption of primary antimony in the United States in 2020 was divided among three main groups of products: flame retardants (antimony trioxide), 40%; metal products (lead-antimony alloys), 36%; and nonmetal products, 24% (table 3). Lead-antimony alloys were used primarily in the production of lead-acid batteries, and for ammunition, antifriction bearings, cable sheaths, corrosion-resistant pumps and pipes, roof sheet solder, and tank linings. Antimony oxide was used primarily in conjunction with a halogen to form flame-retardant systems, and for coatings, fiberglass, paints, paper, plastics, rubber, and textile goods. Antimony oxide also was used as a catalyst for the production of polyester resins for fibers and film, as a catalyst for the production of polyethylene pterathalate in plastic bottles, as a color fastener in paint, and as a phosphorescent agent in fluorescent light bulbs.

In 2020, apparent consumption of antimony equaled 23,400 t, 12% less than that in 2019 (table 1). The worldwide end-use distribution of antimony in 2019 was estimated to be flame retardants, 49%; batteries, 32%; plastics, 9%; and other, 10% (Roskill Information Services Ltd., 2020, p. 28).

#### **Prices**

In 2020, the average antimony price was \$2.67 per pound (minimum 99.65%, cost, insurance, and freight), a 32% decrease from that in 2019. The average annual price increased by 19% to \$3.98 per pound in 2017 from that in 2016 and was relatively stable from 2017 through 2019. The decrease in 2020 was likely a consequence of reduced antimony demand owing to the global coronavirus disease 2019 (COVID-19) pandemic (table 1).

#### Foreign Trade

Domestic imports for consumption of antimony in 2020 were much more than exports; this has been the case in the recent past (table 1). Imports for consumption of antimony oxide (antimony content) in 2020 totaled 15,000 t, a decrease of 13% from those in 2019. Imports for consumption of unwrought antimony (gross weight) in 2020 totaled 5,520 t, a decrease of 17% from those in 2019. The leading suppliers of unwrought antimony to the United States were Burma (31%), India (28%), and China (18%) (table 7). Imports for consumption of antimony oxide (antimony content) in 2020 equaled 15,000 t, a decrease of 13% from those in 2019 (table 6). The leading suppliers of antimony oxide to the United States were China (79%) and Belgium (10%). Exports of antimony oxide (antimony content) in 2020 equaled 1,230 t, a decrease of 22% from those in 2019; China (20%), Japan (19%), and Mexico (16%) were the leading destinations (table 5). Exports of unwrought antimony (gross weight) totaled 393 t, an increase of 6% from those in 2019; Mexico and Canada were the leading destinations, accounting for 33% and 25% of unwrought antimony shipments, respectively (table 4).

#### **World Review**

In 2020, global mine production of antimony decreased by 7% to 111,000 t from 120,000 t (revised) in 2019 (table 8). China (55%), Russia (23%), and Tajikistan (12%) were estimated to be the leading global producers of mined antimony. Globally, consumption of primary and secondary antimony was estimated to be about 166,000 t in 2020, 9% less than that in 2019 (Roskill Information Services Ltd., 2020, p. 28).

Australia.—Mandalay Resources Corp. (Canada) operated the Costerfield gold-antimony mine in Victoria. In 2020, the mine produced 3,900 t of antimony in concentrate, a 92% increase from 2,030 t in 2019. The significant increase in production was attributed to the Youle deposit, which contained higher grade ores, becoming the primary source of ore in 2020 (Mandalay Resources Corp., 2020, p. 16; 2021, p. 15–16).

China.—In 2020, China continued to be the dominant producer of mined antimony, accounting for an estimated 55% of global mine production (table 8). Antimony mine production was estimated to be about 61,000 t in 2020, essentially unchanged from that in 2019 (table 8). The largest and highest grade deposits are in southern China, specifically in Guangxi Zhuang Autonomous Region and Hunan and Yunnan Provinces. China was also the leading global producer of antimony metal and oxides, the leading importer of antimony contained in ore and concentrates, and the leading exporter of antimony metal and oxide.

*Oman.*—Strategic & Precious Metals Processing LLC (SPMP) [a joint venture among Oman Investment Authority (40%), Tri-Star Resources Plc (40%), and DNR Industries Ltd. (20%)] continued development of the Oman Antimony Roaster project in Sohar. The facility was expected to produce 20,000 metric tons per year of antimony (gross weight) and about 1,400 kilograms per year of associated gold. Operations had been projected to commence in 2018 but were pushed back

multiple times until production started in July 2019 (Prabhu, 2017, 2018, 2019). However, cost overruns and technical problems caused the smelter to operate well below capacity. In 2020, the members of the joint venture reached an agreement to continue to fund the smelter development (Prabhu, 2020).

#### Outlook

In recent years, lead-acid battery manufacturers have initiated research and development programs that could ultimately lead to significant changes in lead-acid battery design. This research has already yielded performance improvements that could make lead-acid batteries viable options for future generation hybrid vehicles. These batteries might use less lead per battery than conventional lead-acid batteries and could reduce or eliminate the use of antimony in lead-acid battery alloys. Consumption of antimony for batteries in North America has declined over the past few decades as many newer starting, lighting, and ignition battery designs, such as sealed "maintenance-free" batteries, are manufactured with alloys of lead with calcium, selenium, or tin instead of antimony owing to performance and price advantages. Lead-antimony alloys are still expected to be used in deep cycle batteries for motive power in boats, forklifts, golf carts, and some standby batteries.

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- U.S. Antimony Corp., 2021, Form 10–K—2020: U.S. Securities and Exchange Commission, 65 p., March 31. (Accessed May 29, 2022, at https://www.nasdaq.com/market-activity/stocks/uamy/sec-filings.)

#### GENERAL SOURCES OF INFORMATION

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Antimony. Ch. in Mineral Commodity Summaries, annual.

Antimony. Mineral Industry Surveys, quarterly.

Antimony (Sb). Ch. in Metal Prices in the United States Through 2010, Scientific Investigations Report 2012–5188, 2013.

#### Other

Antimony. Ch. in Mineral Facts and Problems, U.S. Bureau of Mines Bulletin 675, 1985.

TABLE 1 SALIENT ANTIMONY STATISTICS<sup>1</sup>

(Metric tons, antimony content, unless otherwise specified)

		2016	2017	2018	2019	2020
United States:						
Smelter production:	_					
Primary <sup>2</sup>		664	621	331	377	254
Secondary		3,810	4,370	4,090	4,140	4,250 e
Exports:						
Ore and concentrates	gross weight	12	46	38	9	10
Unwrought antimony <sup>3</sup>	do.	446	643	497	370	393
Antimony oxide <sup>4</sup>		1,330	1,600	1,750	1,570	1,230
Waste and scrap	gross weight	177	11	9	14	11
Imports for consumption:						
Ore and concentrates		119	61	96	121	105
Unwrought antimony <sup>5</sup>	gross weight	7,110	6,810	6,320	6,670	5,520
Antimony oxide <sup>4</sup>		16,100	17,800	19,200	17,300	15,000
Waste and scrap	gross weight	41	16	202	17	6
Apparent consumption of antimony <sup>6</sup>		25,900	27,400	27,700	26,500	23,400
Reported industrial consumption, primary antimony		6,860	6,550	6,260	5,810	5,500
Price, average <sup>7</sup>	dollars per metric ton	8,030	8,318	8,410	6,695	5,895
Price, average <sup>7</sup>	dollars per pound	3.35	3.98	3.88	3.90	2.67
World, mine production <sup>8</sup>		149,000 <sup>r</sup>	141,000 <sup>r</sup>	153,000 <sup>r</sup>	120,000 <sup>r</sup>	111,000

<sup>&</sup>lt;sup>r</sup>Revised. do. Ditto.

<sup>&</sup>lt;sup>1</sup>Table includes data available through November 17, 2021. Data are rounded to no more than three significant digits, except prices.

<sup>&</sup>lt;sup>2</sup>Contains residual antimony from primary antimony consumption and antimony produced at the primary antimony facility. Source: U.S. Antimony Corp., 2020, Antimony, gold & silver, zeolite production information: Thompson Falls, MT, U.S. Antimony Corp. (Accessed August 21, 2021, via https://www.nasdaq.com/market-activity/stocks/uamy/sec-filings).

<sup>&</sup>lt;sup>3</sup>Includes unwrought antimony powders and antimony articles.

<sup>&</sup>lt;sup>4</sup>Antimony content data were calculated by the U.S. Geological Survey using an average of 83% antimony content of "crude" antimony trioxide and finished antimony trioxide senarmontite.

<sup>&</sup>lt;sup>5</sup>Includes unwrought antimony powders and antimony articles.

<sup>&</sup>lt;sup>6</sup>Defined as primary and secondary antimony smelter production plus imports of unwrought antimony and antimony oxides minus exports of unwrought antimony metal and antimony oxides.

<sup>&</sup>lt;sup>7</sup>Minimum 99.65% antimony, cost, insurance, and freight. Source: Argus Metals International.

<sup>&</sup>lt;sup>8</sup>May include estimated data.

## TABLE 2 REPORTED INDUSTRIAL CONSUMPTION OF PRIMARY ANTIMONY IN THE UNITED STATES $^{\rm I}$

(Metric tons, antimony content)

Class of material consumed	2019	2020
Metal	1,480	1,340
Oxide	3,690	3,430
Other <sup>2</sup>	645	731
Total	5,810	5,500

<sup>&</sup>lt;sup>1</sup>Table includes data available through August 31, 2021. Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3 REPORTED INDUSTRIAL CONSUMPTION OF PRIMARY ANTIMONY IN THE UNITED STATES, BY PRODUCT  $^{\rm I}$ 

(Metric tons, antimony content)

Product	2019	2020
Metal products:		
Antimonial lead	W	W
Bearing metal and bearings	7	7
Solder	<del></del> 17	19
Other <sup>2</sup>	2,070	1,970
Total	2,100	1,990
Nonmetal products:	-	
Ammunition primers	(3)	(3)
Ceramics and glass	<del></del>	189
Pigments	(3)	(3)
Plastics	245	317
Other <sup>4</sup>	854 <sup>r</sup>	783
Total	1,290	1,290
Flame retardants:		
Adhesives	<del></del> 72	33
Plastics	1,900	1,740
Pigments	<del></del>	
Rubber	78	85
Textiles	382	354
Total	2,430	2,220
Grand total	5,810	5,500

<sup>&</sup>lt;sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Metal products: Other." -- Zero.

<sup>&</sup>lt;sup>2</sup>Includes residues and sulfide, excludes rubber products.

<sup>&</sup>lt;sup>1</sup>Table includes data available through August 31, 2021. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Includes ammunition, cable covering, castings, sheet and pipe, and type metal.

<sup>&</sup>lt;sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "Nonmetal products: Other."

<sup>&</sup>lt;sup>4</sup>Includes ammunition primers, pigments, and miscellaneous products; excludes rubber products.

TABLE 4  $\mbox{U.s. EXPORTS OF UNWROUGHT ANTIMONY AND WASTE AND SCRAP, } \\ \mbox{BY COUNTRY OR LOCALITY}^{1}$ 

	201	9	2020		
	Gross weight Value		Gross weight	Value	
Country or locality	(metric tons)	(thousands)	(metric tons)	(thousands)	
Unwrought antimony: <sup>2</sup>					
Australia	(3)	\$16	1	\$1	
Brazil	26	82	7	23	
Canada	51	243	97	443	
Chile	7	20	3	8	
China	25	226	53	272	
Czechia	7	20	10	3	
Eswatini	(3)	16		-	
France	- 		3	18'	
Germany	6	104	5	20	
Guatemala	3	48		-	
Hong Kong	5	14	7	2	
Israel	22	140	3	10	
Italy	4	11	3	10	
Japan	4	13	14	92	
Kazakhstan	- 		2	2	
Korea, Republic of	12	38	2	4	
Malaysia	- 		3	10	
Malta	(3)	15		_	
Mexico	164	1,030	130	1,06	
Panama	- 		1	2	
Philippines	2	16	8	2:	
Poland	11	33		-	
Saudi Arabia			2	4	
Singapore	(3)	3	2	4′	
Spain	4	14	10	32	
Sweden	1	6	4	1	
Switzerland			5	1:	
Taiwan	10	30	15	40	
Thailand	(3)	6	1	4	
United Kingdom	(3)	6		-	
Venezuela	3	37	2	22	
Vietnam	1	4		-	
Total	370	2,190	393	2,500	
Waste and scrap:4		·		ŕ	
Chile			11	4:	
India	5	21		_	
Mexico	9	40		_	
Total	14	61	11	45	

<sup>--</sup> Zero.

 $<sup>^{1}</sup>$ Table includes data available through August 2, 2021. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Schedule B of the United States codes 8810.10.0000 and 8110.90.0000. Includes unwrought antimony powders, and antimony articles.

<sup>&</sup>lt;sup>3</sup>Less than ½ unit.

<sup>&</sup>lt;sup>4</sup>Schedule B code 8110.20.0000. Includes antimony waste and scrap.

 ${\bf TABLE~5} \\ {\bf U.S.~EXPORTS~OF~ANTIMONY~OXIDE,~BY~COUNTRY~OR~LOCALITY}^{1}$ 

		2019			2020			
	Antimony			Antimony				
	Gross weight	content <sup>2</sup>	Value	Gross weight	content <sup>2</sup>	Value		
Country or locality	(metric tons)	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)		
Australia	52	43	\$252	27	22	\$135		
Belgium	- 			21	17	95		
Brazil	116	96	565	83	68	354		
Canada	45	37	200	119	98	489		
Chile	4	3	33	18	15	97		
China	31	25	98	299	248	1,620		
Colombia	20	17	148	48	40	263		
Costa Rica	76	63	384					
France	179	149	491	48	40	152		
Germany	90	74	424	20	17	118		
Guatemala	1	1	3	4	4	11		
Hong Kong	25	21	66					
India	<del></del>			2	1	12		
Indonesia	34	28	222	17	14	99		
Ireland	(3)	(3)	3					
Italy	47	39	337	22	18	156		
Japan	677	562	3,830	274	228	1,490		
Korea, Republic of	8	7	22	6	5	16		
Malaysia	50	41	173	17	14	59		
Mexico	192	159	1,140	234	194	1,300		
Netherlands				42	35	156		
New Zealand	(3)	(3)	5					
Poland				(3)	(3)	6		
Saudi Arabia				14	11	66		
Singapore	79	65	268	44	37	138		
Taiwan	39	32	98	13	11	33		
Thailand	17	14	58	7	6	27		
Trinidad and Tobago	4	4	35	28	23	92		
Turkey	102	85	637	68	56	384		
United Kingdom	1	1	15	1	1	16		
Total	1,890	1,570	9,500	1,480	1,230	7,380		

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Table includes data available through August 2, 2021. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Schedule B of the United States codes 2825.80.0000 (antimony oxides). Antimony content data were calculated by the U.S. Geological Survey using an average of 83% antimony content of "crude" antimony trioxide and finished antimony trioxide senarmontite.

<sup>3</sup>Less than ½ unit.

 ${\it TABLE~6}\\ {\it U.s.~imports~for~consumption~of~antimony,~by~class~and~country~or~locality}^1$ 

		2019			2020			
		Antimony			Antimony			
	Gross weight	content	Value	Gross weight	content	Value		
Country or locality	(metric tons)	(metric tons)	(thousands)	(metric tons)	(metric tons)	(thousands)		
Antimony ore and concentrates: <sup>2</sup>								
Belgium				11	11	\$79		
Bosnia and Herzegovina	1	1	\$11	5	4	28		
China	91	62	488	53	38	286		
Germany	1	(3)	5					
India	40	27	261	17	16	113		
Italy	36	30	238	35	31	211		
Mexico				3	3	17		
Netherlands	(3)	(3)	5					
Total	169	121	1,010	125	105	735		
Antimony oxide: <sup>4</sup>								
Belgium	2,040 <sup>r</sup>	1,690 <sup>r</sup>	14,300 <sup>r</sup>	1,830	1,520	11,100		
Bolivia	1,180	977	6,900	986	818	4,680		
Canada	45	37	226	98	82	515		
China	15,600	12,900	77,400	14,200	11,800	62,700		
France	446	370	3,170	267	222	1,610		
Germany	3	3	24					
Hong Kong	80	66	503					
India	6	5	47	5	4	30		
Italy	1	1	5					
Japan	755	627	4,030	443	368	2,090		
Korea, Republic of	80	66	390	55	46	235		
Mexico	302	251	1,180	171	142	641		
Singapore	1	1	7					
Thailand	280	232	840					
United Kingdom	(3)	(3)	4	2	1	22		
Total	20,800	17,300	109,000	18,000	15,000	83,600		

<sup>&</sup>lt;sup>r</sup>Revised. -- Zero.

<sup>&</sup>lt;sup>1</sup>Table includes data available through August 2, 2021. Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Harmonized Tariff Schedule of the United States (HTS) code 2617.10.0000 (antimony ores and concentrates).

<sup>&</sup>lt;sup>3</sup>Less than ½ unit.

<sup>&</sup>lt;sup>4</sup>HTS code 2825.80.0000 (antimony oxides). Antimony content data were calculated by the U.S. Geological Survey using an average of 83% antimony content of "crude" antimony trioxide and finished antimony trioxide senarmontite.

TABLE 7 U.S. IMPORTS FOR CONSUMPTION OF UNWROUGHT ANTIMONY, AND WASTE AND SCRAP, BY COUNTRY OR LOCALITY  $^1$ 

	201	9	2020		
	Gross weight	Value	Gross weight	Value	
Country or locality	(metric tons)	(thousands)	(metric tons)	(thousands)	
Unwrought antimony: <sup>2</sup>					
Australia			1	\$74	
Bolivia	148	\$955	70	369	
Burma	543	3,380	1,690	9,300	
Canada	- 79	473	1	93	
Cayman Islands			(3)	34	
Chile			19	92	
China	2,000	13,800	991	6,100	
Dominican Republic			1	33	
France	(3)	9	1	10	
Germany	(3)	35	(3)	32	
Hong Kong	82	527	125	675	
India	1,540	10,300	1,560	8,650	
Japan	172	1,350	37	1,280	
Korea, Republic of	2	15	2	15	
Kyrgyzstan	(3)	13			
Mexico	153	1,160	36	475	
Oman	- 		280	1,520	
Singapore	23	190			
Sweden	2	19			
Tajikistan	82	804			
Thailand	302	1,970	39	222	
Turkey			4	23	
United Kingdom	355	4,680	253	2,920	
Vietnam	1,180	8,150	404	2,240	
Total	6,670	47,800	5,520	34,100	
Waste and scrap:4					
Canada	12	33			
China	<del>-</del>		(3)	9	
Hungary	- 		2	19	
Mexico	- 6	5	4	3	
Total	17	37	6	31	

<sup>--</sup> Zero.

 $<sup>^{1}</sup>$ Table includes data available through August 2, 2021. Data are rounded to no more than three

significant digits; may not add to totals shown.  $^2$ Harmonized Tariff Schedule of the United States (HTS) codes 8810.10.0000 (unwrought antimony powders) and 8110.90.0000 (antimony articles).  $^3$ Less than  $\frac{1}{2}$  unit.

 $<sup>^4\</sup>mathrm{HTS}$  code 8110.20.0000. Includes antimony waste and scrap.

 ${\bf TABLE~8}$  ANTIMONY: WORLD MINE PRODUCTION, BY COUNTRY OR LOCALITY  $^1$ 

(Metric tons, antimony content, unless otherwise specified)

Country or locality	2016	2017	2018	2019	2020
Australia <sup>2</sup>	3,598	3,115	2,173	2,032	3,903
Bolivia	2,669	2,881	3,110	3,000 e	2,600
Burma <sup>e, 3</sup>	2,780	3,060	2,640 <sup>r</sup>	6,100 <sup>r</sup>	2,200
Canada <sup>2</sup>		1	5 <sup>r</sup>	5 <sup>r</sup>	2
China	107,500	97,700	95,300 <sup>r</sup>	60,200 r, e	61,000 e
Ecuador	16 <sup>e</sup>	68 <sup>e</sup>	9 e	1 e	
Guatemala		r, e	r, e	100 r, e	80 e
Honduras	_ 3 e	3 e	12 <sup>e</sup>		
Iran <sup>e</sup>	300 r	600 <sup>r</sup>	600	400 r	400
Kazakhstan <sup>e</sup>	700 <sup>r</sup>	300 <sup>r</sup>	100 <sup>r</sup>	500 <sup>r</sup>	100
Kyrgyzstan	1,030 °	750 <sup>e</sup>	370 <sup>e</sup>		
Laos	242	320	370 <sup>r</sup>	140	
Mexico <sup>e</sup>	1,000 <sup>r</sup>	1,300 <sup>r</sup>	800 r	800 r	700
Pakistan	21	15			17
Russia	11,900	14,400	30,000 <sup>e</sup>	30,000 e	25,000 e
South Africa <sup>2</sup>	350			e	
Tajikistan	14,200 r, e	14,000 <sup>e</sup>	15,240	14,000 r, e	13,000 e
Turkey	2,520	2,500 e	1,840 r, e	1,970 r, e	1,330 e
Vietnam <sup>e, 4</sup>	230	230	240	400 <sup>r</sup>	390
Total	149,000 <sup>r</sup>	141,000 r	153,000 <sup>r</sup>	120,000 r	111,000

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>r</sup>Revised. -- Zero.

<sup>&</sup>lt;sup>1</sup>Table includes data available through November 12, 2021. All data are reported unless otherwise noted; totals may include estimated data. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Antimony content of antimony ore and concentrates, lead concentrates, and lead-zinc concentrates.

<sup>&</sup>lt;sup>3</sup>Data estimated from United Nations Comtrade database for antimony ores and concentrates imported from Burma by China, India, Singapore, and Thailand.

<sup>&</sup>lt;sup>4</sup>Figures were converted to antimony content (using a conversion factor of 40% antimony) from gross weight in metric tons, which was reported as follows: 2016—572; 2017—576; 2018—610; 2019—990; and 2020—968.