

Mineral Industry Surveys

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ANTIMONY IN THE FOURTH QUARTER 2003

Domestic consumption of primary antimony in the fourth quarter was estimated by the U.S. Geological Survey to be about 14% less than that in the third quarter and about 8% less than that in the fourth quarter of 2002. China was the main source for metal imports in the October/November period, while Mexico was the major source for oxide in the same period.

The average weekly New York dealer price of antimony metal published by Platts Metals Week started the quarter at \$1.00 per pound and remained fairly steady throughout the quarter, finishing December at \$1.03 per pound.

In China, the world's largest antimony producer, reports indicated that antimony ingot and trioxide output in 2004 would decline to 90,000 metric tons (t) from around 100,000 t in 2003. This compares with production of more than 130,000 t in 2001. Government restrictions on mining have led to a tight supply of antimony concentrates available for processing to ingot and trioxide (Metal-Pages, 2004a§¹).

In Russia, the Government announced export quotas for 2004. Sarylakh-Surma received a license to export 8,500 t of antimony concentrate (Metal-Pages, 2004b§).

Officials in Kyrgyzstan announced that they expected a surge in antimony production in 2004, despite a decline in 2003. Kyrgyzstan production was 1,300 t in 2003, a decline of 13% from that in 2002. That decline was attributed to China's buying antimony ore from Kyrgyzstan's traditional suppliers,

Kazakhstan, Russia, and Tajikistan. The country's state gold producer, Kyrgyzaltyn JSC, forecasts antimony production for 2004 to increase by 175% to 3,600 t. The Kadamjai Antimony Combine, Kyrgyzstan's principal antimony producer, which has an annual capacity of 20,000 t of antimony, has identified new ore suppliers in Russia and is improving its technology for processing lower grade local ores (Metal-Pages, 2004c§).

Antimony-based catalysts account for about 90% of the world market for catalysts used for producing bottle-grade polyethylene terephthalate (PET). In Japan, however, germanium has been the dominant base for such catalysts because they can endure sterilization. The limited global annual germanium production of less than 100 t has caused concern in Japan and has sparked one firm to develop an alternative. The Teijin Group reportedly is nearing completion of its development work on a titanium-based catalyst for PET production, which could be considered as a substitute for antimony-based catalysts (Metal-Pages, 2004d§).

Internet References Cited

- Metal-Pages, 2004a (January 30), Chinese antimony output expected to fall further, accessed February 2, 2004, at URL <http://www.metal-pages.com>.
Metal-Pages, 2004b (January 26), Export quotas approved, accessed January 27, 2004, at URL <http://www.metal-pages.com>.
Metal-Pages, 2004c (January 22), Sb surge seen in Kyrgyzstan, accessed January 23, 2004, at URL <http://www.metal-pages.com>.
Metal-Pages, 2004d (January 14), Ti could replace Ge for PET, accessed January 23, 2004, at URL <http://www.metal-pages.com>.

¹References that include a section mark (§) are found in the Internet References Cited section.

TABLE 1
SALIENT ANTIMONY STATISTICS ¹

(Metric tons, antimony content, unless otherwise specified)

	2002	2003				
		First quarter	Second quarter	Third quarter	Fourth quarter	Year to date
Production:						
Primary smelter ²	W	W	W	W	W	W
Secondary	5,350	1,150	974	1,100	842	4,070
Imports for consumption:	28,500	7,780	8,050	5,770 ^r	3,060 ³	24,700 ⁴
Ore and concentrate	1,310	149	98	145 ^r	1 ³	393 ⁴
Metal	4,050	1,620	1,430	1,030 ^r	517 ³	4,590 ⁴
Oxide ⁵	23,200	6,010	6,530	4,600 ^r	2,540 ³	19,700 ⁴
Exports:	4,960	1,130	924	1,230 ^r	722 ³	4,000 ⁴
Metal, alloys, and scrap (gross weight)	1,030	69	154	419 ^r	109 ³	751 ⁴
Oxide ⁵	3,930	1,060	770 ^r	806 ^r	613 ³	3,250 ⁴
Consumption of primary antimony	12,900	3,000 ^r	2,720 ^r	2,910 ^r	2,550	11,200
Price: Average cents per pound ⁶	88.39	119.82	119.58	98.48	92.20	107.52
Stocks, end of period ⁷	5,050	5,610 ^r	3,910 ^r	W	W	W

^rRevised. W Withheld to avoid disclosing company proprietary data.

¹Data are rounded to no more than three significant digits, except prices.

²Nearly all primary smelter output is antimony trioxide.

³Data for October and November only.

⁴December data were not available at time of publication.

⁵Antimony content is calculated by the U.S. Geological Survey.

⁶New York dealer price for 99.5% to 99.6% metal, c.i.f. U.S. ports.

⁷Producer and consumer stocks.

TABLE 2
INDUSTRY STOCKS OF PRIMARY ANTIMONY IN THE UNITED STATES ¹

(Metric tons, antimony content)

Class of material	2003 ²			
	First quarter	Second quarter	Third quarter	Fourth quarter
Metal	709 ^r	612 ^r	W	W
Oxide	4,650	3,050	W	W
Other ³	248 ^r	252 ^r	W	W
Total	5,610 ^r	3,910 ^r	W	W

^rRevised. W Withheld to avoid disclosing company proprietary data.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Estimated 100% coverage based on reports from respondents who held 78% of the total stocks of antimony at the end of 2002.

³Includes ore and concentrate, sulfide, and residues.

TABLE 3
INDUSTRIAL CONSUMPTION OF PRIMARY ANTIMONY ¹

(Metric tons, antimony content)

Class of material consumed	2002	2003 ²				Total
		First quarter	Second quarter	Third quarter	Fourth quarter	
Metal	W	W	W	W	W	
Oxide	11,000	2,450 ^r	2,340	2,360 ^r	2,140	9,300
Other ³	1,860	549 ^r	379 ^r	543 ^r	410	1,880
Total	12,900	3,000 ^r	2,720 ^r	2,910 ^r	2,550	11,200

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Other."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Estimated 100% coverage based on reports from respondents who consumed 23% of the total antimony in 2002.

³Includes ores and concentrates, sulfide and residues and item indicated by symbol W.

TABLE 4
REPORTED CONSUMPTION OF PRIMARY ANTIMONY, BY CLASS OF MATERIAL PRODUCED¹

(Metric tons, antimony content)

Product	2002	2003 ²				Total
		First quarter	Second quarter	Third quarter	Fourth quarter	
Metal:						
Bearing metals and bearings	W	W	W	W	W	W
Other ³	2,780	897 ^r	640 ^r	894 ^r	651	3,080
Total	2,780	897 ^r	640 ^r	894 ^r	651	3,080
Nonmetal:						
Ceramics and glass	W	W	W	W	W	W
Plastics	W	W	W	W	W	W
Other ⁴	2,710	742 ^r	843 ^r	807 ^r	750	3,140
Total	2,710	742 ^r	843 ^r	807 ^r	750	3,140
Flame-retardants:						
Plastics	6,050	526 ^r	480 ^r	476 ^r	458	1,940
Other ⁵	1,360	838 ^r	756 ^r	732 ^r	694	3,020
Total	7,410	1,360 ^r	1,240 ^r	1,210 ^r	1,150	4,960
Grand total	12,900	3,000 ^r	2,720 ^r	2,910 ^r	2,550	11,200

¹Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Estimated 100% coverage based on reports from respondents who consumed 23% of the total reported antimony consumption in 2002.

⁴Includes ammunition, antimonial lead, bearing metals and bearings, cable coverings, castings, sheet and pipe, and solder.

⁵Includes ammunition primers, pigments, ceramics and glass, and plastics.

⁶Includes adhesives, pigments, rubber, and textiles.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ANTIMONY, BY CLASS AND COUNTRY¹

(Metric tons, antimony content)

Class and country	2002	2003					
		January- June	September	Third quarter	October	November	January- November ²
Ore and concentrate:							
China	715	194	39	136	--	--	330
Other	597	53	--	9	1	--	63
Total	1,310	247	39	145	1	--	393
Metal:							
China	2,590	2,330	81	640	123	177	3,270
Hong Kong	92	21	--	--	--	--	21
Mexico	880	294	15	200	80	81	655
Peru	285	214	72	144	36	--	394
Other	197	189	15	42	--	19	250
Total	4,050	3,050	183	1,030	239	278	4,590
Oxide:							
Belgium	3,060	1,410	212	527	82	60	2,080
China	8,430	5,310	332	1,340	380	412	7,440
Hong Kong	798	829	83	350	--	17	1,200
Mexico	8,110	3,660	614	1,770	600	614	6,640
South Africa	2,620	1,200	130	586	197	162	2,150
Other	178	138	1	26	13	--	178
Total	23,200	12,500	1,370	4,600	1,270	1,270	19,700
Grand total	28,500	15,800	1,590	5,770	1,510	1,540	24,700
Other antimony compounds (gross weight)	101	23	--	23	--	12	59

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes revisions to prior months' data.

Source: U.S. Census Bureau. Antimony content is calculated by the U.S. Geological Survey.