

# Mineral Industry Surveys

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## BISMUTH IN THE THIRD QUARTER 2007

According to U.S. Geological Survey estimates, bismuth consumption in the United States for the third quarter of 2007 was 224 metric tons (t), which was 52% below that of the second quarter 2007 and 55% below that of the third quarter 2006. Industry observers believe the trend toward lower consumption in each successive quarter of 2007 reflects the reluctance of users to pay the much higher bismuth prices prevailing during the year. The estimated consumption breakdown for bismuth in the third quarter was 44% for chemicals, 37% for metallurgical additives, 18% for fusible alloys, and 1% for other uses (table 2). Imports of bismuth totaled 1,650 t in the first 8 months of 2007, a slight increase from the 1,600 t during the comparable period of 2006.

The New York dealer price for bismuth, as published in *Platts Metals Week*, started July at \$18.00 to \$18.50 per pound and slowly declined during the third quarter, ending September at \$15.00 to \$16.00 per pound.

Two of the major international producers of bismuth refined products agreed to merge their operations to become the world's leading refiner of bismuth metals. MCP Aramayo Ltd. (Farnham, United Kingdom) and Sidech s.a. (Tilly, Belgium) agreed to combine their operations under the aegis of a new organization called MCP Group SA, with headquarters in Belgium. Both firms also produced other minor metals such as indium, gallium, selenium, and tellurium, but had long been dominant in bismuth. The new organization will have production facilities in Belgium, China, France, Germany, the United Kingdom, and the United States. Company officials were

optimistic that the merger would result in annual sales of about \$400 million (*Platts Metals Week*, 2007).

In Bolivia, the Government reportedly was studying the feasibility of restarting the Telamayo smelter, which closed in 1990 (*Mining Journal*, 2007).

Sterlite Industries India Ltd. (Tami Nadu, India) announced plans to enter the bismuth market with the startup of two bismuth bisulfate production units by the end of 2007. The plants are located in Tuticorin and Silvassa, each associated with existing Sterlite copper refineries. The new plants' combined production capacity was anticipated to be 250 to 300 metric tons per year (t/yr) of bismuth bisulfate, a raw material used in the production of bismuth, that would eventually yield about 100 t/yr of refined bismuth. Current world production of bismuth bisulfate is estimated at about 500 t/yr. Sterlite's project was one of three or four similar projects being developed by other copper producers that have bought technology from Utah-based BC Advanced Technologies for the recovery of bismuth from the copper refinery circuit (*Metal Bulletin*, 2007).

### References Cited

- Metal Bulletin*, 2007, Sterlite prepares first foray into bismuth market: *Metal Bulletin*, September 17, p. 12.  
*Mining Journal*, 2007, Minor metals settle in May: *Mining Journal*, June 1, p. 8.  
*Platts Metals Week*, 2007, MCP, Sidech merge to become leading minor metals producer: *Platts Metals Week*, v. 78, no. 37, September 10, p. 13.

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

(Kilograms unless otherwise specified)

	2006	2007			
		First quarter	Second quarter	Third quarter	Year to date
Consumption	2,050,000 <sup>r</sup>	571,000 <sup>r</sup>	466,000 <sup>r</sup>	224,000	1,260,000
Exports <sup>2</sup>	311,000	180,000 <sup>3</sup>	112,000 <sup>r,3</sup>	53,200 <sup>3,4</sup>	345,000
Imports for consumption	2,300,000	738,000 <sup>3</sup>	575,000 <sup>r,3</sup>	333,000 <sup>3,4</sup>	1,650,000
Price per pound, dealer, average of period	\$5.04 <sup>r</sup>	\$9.35	\$16.73	\$17.13	\$14.40
Stocks, end of period, consumer	155,000	134,000	133,000 <sup>r</sup>	118,000	XX

<sup>r</sup>Revised. XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Comprises bismuth metal and the bismuth content of alloys and waste and scrap.

<sup>3</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>4</sup>Import and export data for September 2007 were not available at time of publication.

TABLE 2  
ESTIMATED BISMUTH METAL CONSUMED IN THE UNITED STATES, BY USE<sup>1</sup>

(Kilograms)

Use	2006 <sup>r</sup>	2007			
		First quarter <sup>r</sup>	Second quarter	Third quarter	Year to date
Chemicals <sup>2</sup>	510,000	100,000	83,500	98,000	282,000
Bismuth alloys	591,000	188,000	157,000	40,500	385,000
Metallurgical additives	923,000	278,000	220,000 <sup>r</sup>	83,100	581,000
Other	24,000	4,610	6,310	2,550	13,500
Total	2,050,000	571,000	466,000 <sup>r</sup>	224,000	1,260,000

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits, may not add totals shown.

<sup>2</sup>Includes industrial and laboratory chemicals, cosmetics, and pharmaceuticals.

TABLE 3  
U.S. EXPORTS OF BISMUTH METAL, ALLOYS AND WASTE AND SCRAP, BY COUNTRY<sup>1</sup>

(Kilograms, metal content)

Country	2006	2007 <sup>2</sup>					
		First quarter	June	Second quarter	July	August	January-August <sup>3</sup>
Argentina	9,400	--	--	12	5,290	--	5,300
Australia	20	--	--	19	--	319	338
Austria	--	--	--	--	103	--	103
Belgium	--	43,700	--	15,900	--	218	59,900
Brazil	20	3,630	--	--	--	--	3,630
Canada	72,100	25,200	1,390	13,900	1,530	2,600	43,200
Chile	916	--	--	--	--	--	--
China	--	--	--	--	--	1,310	1,310
Costa Rica	--	--	400	400	--	--	400
Czech Republic	--	--	--	1,270	--	--	1,270
Dominican Republic	42,200	2,730	613	2,130	1,340	1,140	7,330
Egypt	--	84	--	--	--	--	84
France	14,400	41	--	--	16,800	--	16,900
Germany	210	117	117	117	4,670	--	4,900
Hong Kong	5,740	--	--	331	--	--	331
India	164	--	151	151	382	--	533
Ireland	324	--	--	--	--	314	314
Israel	2,000	8,730	--	--	--	--	8,730
Italy	--	--	--	--	--	36	36
Japan	15,000	10,800	--	3,220	--	--	14,000
Korea, Republic of	309	--	--	--	--	--	--
Malaysia	--	--	--	100	--	--	100
Mexico	9,400	8,640	--	2,470	3,190	3,470	17,800
Morocco	717	--	--	--	--	--	--
Saudi Arabia	50	--	27	27	--	--	27
Singapore	29,300	4,290	5,960	5,960	2,870	7,640	20,800
Spain	115	--	--	--	--	--	--
Sweden	--	--	--	23	--	--	23
Taiwan	2,030	--	--	--	--	--	--
Thailand	2,690	297	--	--	--	--	297
United Arab Emirates	--	12,400	--	--	--	--	12,400
United Kingdom	6,050	--	--	40,800	--	--	40,800
Vietnam	97,800	59,900	5,390	24,900	--	--	84,700
Total	311,000	180,000	14,000	112,000	36,200	17,000	345,000

-- Zero.

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

<sup>2</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>3</sup>Export data for September 2007 were not available at time of publication.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF BISMUTH METAL, BY COUNTRY<sup>1</sup>

(Kilograms)

Country	2006	2007 <sup>2</sup>					January- August <sup>3</sup>
		First quarter	June	Second quarter	July	August	
Bahamas, The	1,080	--	--	--	--	--	--
Belgium	876,000	318,000	51,500	209,000	76,900	119,000	723,000
Canada	9,100	3,670	--	3,280	--	127	7,070
China	356,000	189,000	24,500	161,000	--	6,860	357,000
France	3	--	--	200	23,100	--	23,300
Germany	295	17,700 <sup>f</sup>	17,000	34,200	--	--	52,000
Hong Kong	74,600	--	--	--	--	--	--
Italy	380	150	--	127	--	--	277
Mexico	552,000	120,000	20,000	78,900	40,000	22,000	261,000
Netherlands	1,080	71	--	16	--	--	87
Peru	17,600	--	--	1,720	--	1,500	3,210
Spain	1,920	--	--	--	--	--	--
United Kingdom	406,000	89,200	49,100	85,800	13,800	29,500	218,000
Total	2,300,000	738,000	162,000	575,000	154,000	179,000	1,650,000

<sup>f</sup>Revised. -- Zero.

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

<sup>2</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>3</sup>Import data for September 2007 were not available at time of publication.

Source: U.S. Census Bureau.