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Mineral Industry Surveys

For information, contact:
M. Michael Miller, Fluorspar Commodity Specialist
U.S. Geological Survey
983 National Center
Reston, VA 20192
Telephone: (703) 648-7716, Fax: (703) 648-7757
E-mail: mmiller1@usgs.gov

Martha L. Jackson (Data)
Telephone: (703) 648-7944
Fax: (703) 648-7975
E-mail: mjackson@usgs.gov

Internet: http://minerals.usgs.gov/minerals

FLUORSPAR IN THE SECOND QUARTER 2007

Reported fluorspar consumption in the second quarter was 143,000 metric tons (t), an increase of 8% compared with that of the previous quarter and a 6% increase compared with consumption in the second quarter of 2006. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride was 124,000 t, about a 9% increase compared with that of the previous quarter and about 10% higher than that in the second quarter of 2006. Imports of fluorspar were 202,000 t, an increase of 82% compared with those of the previous quarter, and 141% more than was imported in the second quarter of 2006.

In recent years, the import values [cost, insurance, and freight (c.i.f.)] for some acid-grade fluorspar imports have been underreported. Attempts were made to adjust these values in order to better reflect actual market prices, but beginning in 2007 this was no longer deemed practical. As a result, average import values for acid-grade fluorspar will no longer be listed in table 1. Most of the value errors are on Chinese imports, which account for about 60% to 65% of U.S. fluorspar imports. According to Industrial Minerals magazine, March import prices for Chinese acid-grade fluorspar, dry basis, c.i.f. U.S. Gulf of Mexico were $230 to $240 per metric ton. June import prices for the same material were $270 to $280 per metric ton (Industrial Minerals, 2007a, b).

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China, which had introduced an export tax on various minerals (including fluorspar) and metals in the fourth quarter 2006, announced that it was raising the tax rates June 1, 2007. Fluorspar was subject to a 10% rate and now is taxed at a 15% rate. The new taxes are part of a Government policy aimed at reducing exports of high-energy-consuming and highly polluting products, while conserving important resources for domestic use. This is another factor pushing Chinese fluorspar prices in an upward direction. In recent years, Chinese prices have risen significantly as a result of the continuing existence of export license fees, cancellation of the rebate for the value added tax, decreasing export quotas, high ocean freight rates, bottlenecks within China's internal freight network that included severe shortages of railcars and massive port congestion, and now the new export taxes. Export prices for acid-grade flotation concentrates reportedly were at $230 per metric ton, free on board China, in the second quarter 2007 (O'Driscoll, 2007; Mineral PriceWatch, 2007).

South Africa's Sallies Ltd., which experienced various operational and financial problems in 2006 and early 2007, announced the distribution of rights to existing shareholders in order to raise needed capital to improve production and provide cash reserves. This was the third such rights issue in the past 4 years. Funds from the previous issues were used to pay down debt, boost plant capacity, and purchase the Buffalo fluorspar deposit located in Limpopo Province east of Sallies' Witkop Mine (Moodley, 2007).

In an effort to expand its customer base, Sallies is attempting to reenter the North American market and to that end has sent test samples to prospective customers. Sallies canceled its last North American supply contract with Honeywell International Inc. because of a disagreement over payments. Honeywell appealed this decision to the Arbitration Tribunal of the International Chamber of Commerce, Switzerland, but the case still has not been heard. In May, it was announced that the hearing had been postponed to an undetermined date (Seccombe, 2007).

On Sallies' Buffalo property, the company is planning a prefeasibility study to define the fluorspar resources at Buffalo with an eye toward producing 70,000 metric tons per year. It also has sent rare earth mineral samples from the Buffalo tailings to Mintek (South Africa's national mineral research organization) for analysis (Mathews, 2007).

Minemakers Ltd., owners of the Moina fluorspar-polymetallic deposit in Tasmania, Australia, announced that a review of existing data by Delta Minerals Ltd. indicated that, owing to the mixed nature of the mineralization, production of a premium-grade fluorspar product would not be possible. Delta did suggest, however, that there may be demand for a long-term and stable supply of nonpremium grade fluorspar. With this in mind, a flotation testwork program was recommended (Minemakers Ltd., 2007). The announcement did not go into detail, but it is assumed that the difficulty would be in attaining a minimum 97% calcium fluoride content for acid-grade fluorspar.

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TABLE 1
SALIENT FLUORSPAR STATISTICS[1]

(Metric tons, unless otherwise specified)

	2006			2007		
	Second quarter	Third quarter	Fourth quarter	First quarter	Second quarter	Total or average
Imports for consumption:	83,800	165,000	122,000	111,000	202,000	313,000
Average value per ton, c.i.f U.S. port, acid grade	$214 [2]	$211 [2]	$219 [2]	NA [3]	NA [3]	NA [3]
Average value per ton, c.i.f. U.S. port, metallurgical grade	$96	$100	$111	$110	$112	$111
Exports	3,790	3,060	2,300	3,750	3,190	6,940
End of quarter stocks, consumer	78,200	103,000	79,400	88,900	115,000	XX
Imports for consumption of hydrofluoric acid[4]	37,600	37,400	40,400	41,500	41,000	82,500
Imports for consumption of cryolite[4]	945	919	733	1,550	1,270	2,820
Quarterly reported fluorspar consumption	135,000	154,000	91,400	132,000	143,000	275,000

NA Not available. XX Not applicable.

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

[2]Average values per ton have been adjusted by the USGS using published prices and data from industry sources and may not agree with values calculated strictly from U.S. Census Bureau data.

[3]Value data appear to be underreported and are too low to make accurate average-value-per-ton calculations for acid-grade imports.

[4]In the past, these data showed imports in fluorspar equivalents, but data are now actual imports for consumption of indicated materials.

TABLE 2

CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE[1]

(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

	Hydrofluoric acid and aluminum fluoride	Metallurgical	Other uses or products[2]	Total	Stocks, end of period[3]
2006:					
First quarter:					
More than 97% calcium fluoride	123,000	4,160	8,080	135,000	93,700
Not more than 97% calcium fluoride	--	8,160	--	8,160	15,600
Total	123,000	12,300	8,080	143,000	109,000
Second quarter:					
More than 97% calcium fluoride	113,000	4,520	8,520	126,000	53,900
Not more than 97% calcium fluoride	--	8,880	--	8,880	24,300
Total	113,000	13,400	8,520	135,000	78,200
Third quarter:					
More than 97% calcium fluoride	133,000	4,520	8,170	146,000	74,500
Not more than 97% calcium fluoride	--	8,250	--	8,250	28,700
Total	133,000	12,800	8,170	154,000	103,000
Fourth quarter:					
More than 97% calcium fluoride	75,000	2,440	6,360	83,800	56,900
Not more than 97% calcium fluoride	--	3,820	3,750	7,570	22,400
Total	75,000	6,260	10,100	91,400	79,400
Grand total	444,000	44,800	34,900	523,000	XX
2007:					
First quarter:					
More than 97% calcium fluoride	114,000	3,630	7,020	124,000	67,900
Not more than 97% calcium fluoride	--	3,920	3,810	7,740	20,900
Total	114,000	7,550	10,800	132,000	88,900
Second quarter:					
More than 97% calcium fluoride	124,000	3,710	7,120	135,000	94,600
Not more than 97% calcium fluoride	--	8,230	--	8,230	20,700
Total	124,000	11,900	7,120	143,000	115,000
Grand total	238,000	19,500	18,000	275,000	XX

XX Not applicable. --Zero.

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

[2]May include cement, enamel, glass and fiberglass, steel castings, and welding rod coatings.

[3]Stocks include distributor stocks (excluding National Defense Stockpile holdings) and consumer stocks for hydrofluoric acid and aluminum fluoride.

TABLE 3

U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE[1, 2]

	2006						2007					
	Second quarter		Third quarter		Fourth quarter		First quarter		Second quarter		Year to date	
	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[3] (thousands)	Quantity (metric tons)	Value[4] (thousands)	Quantity (metric tons)	Value[4] (thousands)	Quantity (metric tons)	Value[4] (thousands)
Containing more than 97% calcium fluoride:												
China	44,000	$10,100	104,000	$22,000	80,000	$17,900	46,200	$9,450	130,000	$23,800	176,000	$33,300
Germany	--	--	--	--	17	13	--	--	--	--	--	--
Japan	--	--	--	--	61	10	--	--	--	--	--	--
Mexico	16,700	2,950	9,860	2,100	17,100	3,270	58,300	9,040	46,600	7,870	105,000	16,900
Mongolia	--	--	27,600	5,600	--	--	--	--	--	--	--	--
South Africa	8,040	1,610	--	--	18,200	4,070	--	--	10,900	1,830	10,900	1,830
United Kingdom	2	4	--	--	347	46	3	6	4	16	7	22
Total	68,800	14,700	141,000	29,700	116,000	25,300	105,000	18,500	187,000	33,500	292,000	52,000
Containing not more than 97% calcium fluoride:												
Mexico	15,000	1,450	24,500	2,430	6,540	728	6,860	751	14,400	1,620	21,300	2,370
Namibia	--	--	--	--	--	--	--	--	278	24	278	24
South Africa	--	--	--	--	--	--	18	5	19	3	37	8
Total	15,000	1,450	24,500	2,430	6,540	728	6,880	756	14,700	1,640	21,600	2,400
Grand total	83,800	16,100	165,000	32,100	122,000	26,000	111,000	19,300	202,000	35,200	313,000	54,400

-- Zero.

[1]Imports for consumption include imports of immediate entry, and warehouse withdrawals.

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

[3]Cost, insurance, and freight at U.S. ports. Values for some countries have been adjusted by the USGS using published prices and data from industry sources.

[4]Value data for imports "containing more than 97% calcium fluoride" are believed to be underreported; insufficient information is available to make accurate adjustments.

Source: U.S. Census Bureau.

TABLE 4

IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID[1]

	2006						2007					
	Second quarter		Third quarter		Fourth quarter		First quarter		Second quarter		Year to date	
	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)	Quantity (metric tons)	Value[2] (thousands)
Canada	11,100	$13,600	10,500	$13,300	8,950	$12,500	9,610	$13,900	9,770	$14,100	19,400	$28,000
China	409	297	803	518	615	438	435	398	540	1,250	975	1,650
Germany	105	238	77	188	31	64	93	214	79	521	172	735
Japan	276	596	407	906	398	819	319	696	212	481	531	1,180
Mexico	25,600	25,300	25,400	25,700	30,200	30,500	31,000	32,000	30,300	31,000	61,300	63,000
Other	113	264	271	478	220	367	77	63	53	47	130	110
Total	37,600	40,300	37,400	41,200	40,400	44,700	41,500	47,200	41,000	47,400	82,500	94,600

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

[2]Cost, insurance, and freight at U.S. ports.

Source: U.S. Census Bureau.