

# Mineral Industry Surveys

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## FLUORSPAR IN THE THIRD QUARTER 2011

Reported fluorspar consumption in the third quarter was 123,000 metric tons (t), an increase of about 23% compared with that of the previous quarter and 9% more than that consumed in the third quarter of 2010. Stocks at the end of the first quarter increased by 3% compared with those at the end of the previous quarter and were 45% higher than those at the end of the third quarter of 2010. Fluorspar imports exceeded 206,000 t in the third quarter, an increase of about 64% compared with those of the previous quarter.

Over the past five quarters, quarterly imports of hydrofluoric acid (HF) have been relatively stable, ranging from a low of 33,200 t to a high of 36,500 t. HF prices have risen, however, as a result of acid-grade fluorspar price increases (table 5).

### Industry News

Complaints about China's export policies by the United States, the European Union, and Mexico were supported by the World Trade Organization (WTO) ruling (issued in July 2011), which was made after an 18-month investigation of Chinese quotas, export duties, and license requirements on fluorspar and eight other industrial raw materials. The restrictions had stoked tensions between China and its trading partners, who said the world's fastest-growing major economy adopted unfair commerce and currency policies. On September 2, China appealed the WTO ruling that its export restrictions were inconsistent with WTO rules. The ruling by a WTO panel dismissed China's claim that its export duties and quotas on the nine raw materials helped protect its environment and scarce resources. The WTO panel has 3 months to rule on China's appeal (United Press International, Inc., 2011).

Sallies Ltd. (Pretoria, South Africa) released its yearend results for the fiscal year ending June 30, 2011. The company restarted fluorspar production at its Witkop Mine in March 2011 and by the end of June had produced 32,000 wet metric tons of acid-grade fluorspar and had exported 11,100 wet metric tons at average prices in excess of \$387 per dry metric ton. Witkop's production reportedly was sold through the end of December 2011. Future production was expected to be about 135,000 metric tons per year (Sallies Ltd., 2011)

In September 2011, Firebird Global Fund II (New York, NY) announced the sale of its majority holding in Sallies to Fluormin Plc (London, United Kingdom). This was the culmination of the deal announced in late 2010 between Firebird and Maghreb Minerals Plc, which subsequently changed its name to Fluormin. Sallies became part of Fluormin, which also owned a minority share in Kenya Fluorspar Co. (Nairobi, Kenya), and a 49% share of FluorOne Trading Ltd. FluorOne was set up in 2011 and was expected to be involved in all aspects of fluorspar trading of material (whether produced by the Fluormin group of companies or from other firms) and planned to market all fluorspar production from the Witkop Mine. Because Fluormin controls more than 35% of Sallies, it is obligated to extend a mandatory offer to remaining shareholders (Fluormin Plc, 2011, p. 4–5).

Newfoundland Fluorspar Exploration Ltd. (Saskatoon, Saskatchewan, Canada), which has several exploration projects on Newfoundland Island in Canada, carried out a diamond-drilling program on its properties near St. Lawrence, Newfoundland and Labrador. The area is contiguous with the past-producing St. Lawrence fluorspar mines that Canada Fluorspar Inc. (Markham, Ontario, Canada) reportedly intends to reopen in 2013. Six holes were planned, for a total of about 1,200 meters. Three of the holes were intended to verify grade and thickness of the Mount Margaret Vein (discovered in 1972). Two exploration holes were planned—one near the Mount Margaret Vein and another at Little St. Lawrence. One deep hole was to be drilled to test the projected extension of the Tarefare Vein onto the company's property. Tarefare is the largest known vein in the St. Lawrence area and was estimated to contain more than 50% of Canada Fluorspar's indicated fluorspar resources. The vein is open to the north and is projected to plunge beneath Newfoundland Fluorspar's property.

### Fluorochemical News

Increased raw material costs (for fluorspar or HF) have been given as the reason for price increases for fluoropolymers. For example, Arkema Inc. (Colombes, France) announced that prices for its Kynar® fluoropolymers would increase by 7% to

10%, effective November 1, 2011, or as soon as contracts allowed (Arkema Inc., 2011).

Honeywell International Inc. (Morristown, NJ) announced an expansion of its fluorochemical manufacturing plant in Baton Rouge, LA. The expansion project will include the construction of a new production line to manufacture hydrofluoroolefin 1234ze (HFO-1234ze), which was developed to replace existing fluorocarbons with high global warming potentials. HFO-1234ze has been approved for use in aerosols and as a foam-blowing agent. The company's investment was considered critical to the viability of its Baton Rouge facility, as production of the site's primary product has decreased substantially in 2011 and was expected to continue to do so as a result of current environmental regulations (Honeywell International Inc., 2011).

## References Cited

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

(Metric tons, unless otherwise specified)

	2010		2011			
	Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter	First–third quarter
Imports for consumption	146,000	131,000	181,000	126,000	206,000	514,000
Exports	3,430	4,420	5,520	6,250	6,650	18,400
End of the period stocks, consumer	97,400	131,000	140,000	137,000	141,000	141,000
Imports for consumption of hydrofluoric acid	36,500	35,000	34,400	35,100	33,200	103,000
Imports for consumption of cryolite	1,650	1,190	1,900	2,090	3,140	7,120
Quarterly reported fluor spar consumption	112,000	106,000	124,000	99,900	123,000	346,000

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

TABLE 2  
CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE<sup>1</sup>  
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

	Hydrofluoric acid and other uses <sup>2</sup>			Total	Stocks, end of period <sup>3</sup>
	Metallurgical				
2010:					
First quarter:					
More than 97% calcium fluoride		107,000	2,720	110,000	93,400
Not more than 97% calcium fluoride		--	6,010	6,010	13,400
Total		107,000	8,730	116,000	107,000
Second quarter:					
More than 97% calcium fluoride		102,000	2,720	105,000	95,200
Not more than 97% calcium fluoride		--	7,120	7,120	12,400
Total		102,000	9,840	112,000	108,000
Third quarter:					
More than 97% calcium fluoride		102,000	2,720	105,000	85,000
Not more than 97% calcium fluoride		--	7,120	7,120	12,400
Total		102,000	9,840	112,000	97,400
Fourth quarter:					
More than 97% calcium fluoride		96,700	2,720	99,500	112,000
Not more than 97% calcium fluoride		--	6,510	6,510	19,000
Total		96,700	9,230	106,000	131,000
Grand total		409,000	37,600	446,000	131,000
2011:					
First quarter:					
More than 97% calcium fluoride		114,000	2,990	117,000	123,000
Not more than 97% calcium fluoride		--	6,960	6,960	17,700
Total		114,000	9,950	124,000	140,000
Second quarter:					
More than 97% calcium fluoride		89,500	2,990	92,500	121,000
Not more than 97% calcium fluoride		--	7,340	7,340	16,300
Total		89,500	10,300	99,900	137,000
Third quarter:					
More than 97% calcium fluoride		112,000	2,990	115,000	113,000
Not more than 97% calcium fluoride		--	8,100	8,100	28,800
Total		112,000	11,100	123,000	141,000
Grand total		315,000	31,400	346,000	141,000

-- Zero.

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

<sup>2</sup>May include cement, enamel, glass and fiberglass, steel castings, hydrofluoric acid, and welding rod coatings.

<sup>3</sup>Stocks include some distributor stocks and consumer stocks for hydrofluoric acid.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE <sup>1,2</sup>

	2010				2011							
	Third quarter		Fourth quarter		First quarter		Second quarter		Third quarter		First-third quarter	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Containing more than 97% calcium fluoride:												
China	10,400	\$3,230	20,200	\$7,000	25,000	\$9,450	26,300	\$13,400	27,600	\$16,900	78,900	\$39,800
Mexico	90,100	15,700	79,400	13,900	90,500	15,900	61,600	11,900	121,000	17,400	273,000	45,200
Mongolia	--	--	10,200	2,900	--	--	--	--	--	--	--	--
South Africa	9,900	2,380	--	--	15,600	4,000	6,670	1,700	17,200	5,420	39,400	11,100
United Kingdom	554	66	3	4	1	5	1	5	414	49	416	59
Other	118	15	134	17	1	7	--	--	--	--	1	7
Total	111,000	21,400	110,000	23,800	131,000	29,300	94,600	27,000	166,000	39,800	392,000	96,100
Containing not more than 97% calcium fluoride:												
Mexico	35,400	3,540	21,100	2,160	50,400	5,060	31,500	3,800	40,200	4,130	122,000	13,000
Other	1	3	--	--	--	--	--	--	--	--	--	--
Total	35,400	3,540	21,100	2,160	50,400	5,060	31,500	3,800	40,200	4,130	122,000	13,000
Grand total	146,000	24,900	131,000	25,900	181,000	34,400	126,000	30,800	206,000	44,000	514,000	109,000

-- Zero.

<sup>1</sup>Imports for consumption include imports of immediate entry and warehouse withdrawals.

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

Source: U.S. Census Bureau.

TABLE 4  
IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID<sup>1</sup>

	2010				2011							
	Third quarter		Fourth quarter		First quarter		Second quarter		Third quarter		First-third quarter	
	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)	Quantity (metric tons)	Value <sup>2</sup> (thousands)
Canada	4,080	\$13,500	2,950	\$10,500	1,850	\$6,040	4,940	\$13,000	5,860	\$14,200	12,600	\$33,300
China	1,790	2,230	1,690	2,230	1,370	1,920	1,280	2,080	1,010	1,770	3,670	5,770
Germany	76	255	61	219	45	162	83	239	69	141	197	542
Japan	228	545	286	663	244	595	358	755	212	501	814	1,850
Mexico	30,200	38,000	29,800	37,200	30,700	43,700	28,200	40,700	25,900	37,200	84,800	121,000
Other	143	331	159	348	175	274	204	407	205	469	584	1,150
Total	36,500	54,800	35,000	51,100	34,400	52,700	35,100	57,200	33,200	54,200	103,000	164,000

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

<sup>2</sup>Cost, insurance, and freight at U.S. ports.

Source: U.S. Census Bureau.

TABLE 5  
END OF QUARTER FLUORSPAR PRICES<sup>1</sup>

(Dollars per metric ton)

	2010		2011		
	Third quarter	Fourth quarter	First quarter	Second quarter	Third quarter
Acid spar:					
Chinese, dry basis, cost, insurance, and freight (c.i.f.) Gulf port, filtercake	350-380	370-400	440-460	550-650	550-650
Chinese, free on board (f.o.b.) China, wet filtercake	275-300	300-320	400-420	500-600	500-600
Mexican, f.o.b. Tampico, filtercake	260-290	260-290	330-360	400-450 <sup>r</sup>	400-450
Mexican, f.o.b. Tampico, arsenic <5 parts per million	280-320	290-320	350-370	450-480	500-550
South African, f.o.b. Durban, filtercake	250-280	290-310	330-335	330-335	330-335
Metspar, Mexican, f.o.b. Tampico	170-200	170-200	180-220	220-270	230-270

<sup>r</sup>Revised.

<sup>1</sup>Source: Industrial Minerals magazine (London).