

# Mineral Industry Surveys

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## FLUORSPAR IN THE FOURTH QUARTER 2012

Reported fluorspar consumption in the fourth quarter was 65,800 metric tons (t), a decrease of 40% compared with that of the previous quarter and 39% less than was consumed in the fourth quarter of 2011. Most of the decrease was the result of a longer-than-planned shutdown of the E.I. du Pont de Nemours and Co.'s hydrofluoric acid (HF) plant in La Porte, TX, for scheduled maintenance during the fourth quarter. This also resulted in a large increase in stocks, which ended the fourth quarter at about 234,000 t, an increase of 36% compared with those of the previous quarter. Fluorspar imports in the fourth quarter were about 139,000 t, a decrease of 27% compared with the revised figure for the previous quarter. Fourth quarter HF imports were 29,200 t, a decrease of 9% compared with the revised figure for the previous quarter.

### Industry News

Fluormin plc (London, United Kingdom) reported that, considering the current economic environment and that the prevailing fluorspar price had fallen below its production costs, the company had placed its South African Witkop Mine on care-and-maintenance status effective October 12, 2012. Witkop's high production costs are largely the result of low fluorspar ore grade, and the company has begun exploration work in an attempt to identify near term higher-grade ore (Sharecast.com, 2013).

Minerales y Productos Derivados, S.A., which is majority owner of the Vergenoeg fluorspar mine in South Africa, announced that expansions at Vergenoeg had increased its

acidspars capacity to 300,000 metric tons per year (t/yr). In addition, a new processing plant was constructed that increased Vergenoeg's production capacity of metspar powder and briquettes to 30,000 t/yr (Lismore, 2012).

Berkh Uul JSC (Ulaanbaatar, Mongolia) announced the receipt of a National Instrument (NI) 43-101 compliant resource report on its Delgerkhan fluorspar deposit in Mongolia. The results were based on a drilling program designed to confirm historic drilling results in order to bring the resource into NI 43-101 compliant format. Applying a 10% cutoff grade, results showed an indicated resource of 6.62 million metric tons (Mt) grading 33.7% calcium fluoride (CaF<sub>2</sub>) and an inferred resource of 3.02 Mt grading 33% CaF<sub>2</sub>. The deposit was partially open at depth and additional exploration potential exists along strike. Berkh Uul mined fluorspar until 2008 when operations were shut down, but the company hopes to reopen the Delgerkhan Mine (Berkh Uul JSC, 2012).

### References Cited

- Berkh Uul JSC, 2012, Berkh Uul JSC announces receipt of a NI 43-101 compliant resource report for its Delgerkhan fluorspar deposit: Ulaanbaatar, Mongolia, Berkh Uul JSC news release, October 8. (Accessed March 4, 2013, at <http://mse.mn/news/show/id/475>.)
- Lismore, Siobhan, 2012, Miners to deliver 440,000 tpa acidspars with expansions: Industrial Minerals, November 7. (Accessed March 5, 2013, at <http://www.indmin.com/>.)
- Sharecast.com, 2013, Fluormin disposes of Buffalo Fluorspar project and stake in Kenya Fluorspar: Sharecast.com, February 26. (Accessed March 1, 2013, at [http://www.sharecast.com/cgi-bin/sharecast/story.cgi?story\\_id=20721391](http://www.sharecast.com/cgi-bin/sharecast/story.cgi?story_id=20721391).)

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

(Metric tons, unless otherwise specified)

	2011		2012				
	4th quarter	1st quarter– 4th quarter	1st quarter	2d quarter	3d quarter	4th quarter	1st quarter– 4th quarter
<b>Fluorspar:</b>							
Imports for consumption	213,000	727,000	151,000	141,000	189,000 <sup>r</sup>	139,000	620,000
Exports	5,630	24,100	6,040	5,350	6,720	5,670	23,800
End of the period stocks, consumer	162,000	162,000	164,000	156,000	171,000	234,000	234,000
Reported consumption	108,000	456,000	127,000	114,000	109,000	65,800	416,000
<b>Other compounds, imports for consumption:</b>							
Aluminum fluoride	12,500	41,200	14,200	11,600	14,500	9,720	50,000
Cryolite	2,440	9,560	2,170	1,800	1,760	2,400	8,140
Hydrofluoric acid	29,800	132,000	35,300	36,500	32,000 <sup>r</sup>	29,200	133,000

<sup>r</sup>Revised.

<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>	Metallurgical	Total	Stocks, end of period <sup>3</sup>
<b>2011:</b>				
4th quarter:				
More than 97% calcium fluoride	97,000	2,990	100,000	145,000
Not more than 97% calcium fluoride	--	8,400	8,400	17,500
Total	97,000	11,400	108,000	162,000
1st quarter–4th quarter	412,000	44,000	456,000	162,000
<b>2012:</b>				
1st quarter:				
More than 97% calcium fluoride	115,000	2,990	118,000	142,000
Not more than 97% calcium fluoride	--	8,170	8,170	21,700
Total	115,000	11,200	127,000	164,000
2d quarter:				
More than 97% calcium fluoride	99,700	2,990	103,000	139,000
Not more than 97% calcium fluoride	--	11,500	11,500	16,400
Total	99,700	14,500	114,000	156,000
3d quarter:				
More than 97% calcium fluoride	98,000	2,990	101,000	155,000
Not more than 97% calcium fluoride	--	8,250	8,250	16,500
Total	98,000	11,200	109,000	171,000
4th quarter:				
More than 97% calcium fluoride	55,000	2,990	58,000	219,000
Not more than 97% calcium fluoride	--	7,830	7,830	15,100
Total	55,000	10,800	65,800	234,000
1st quarter–4th quarter	368,000	47,800	416,000	234,000

-- 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>

	2011		2012									
	4th quarter		1st quarter		2d quarter		3d quarter		4th quarter		1st quarter–4th quarter	
	Quantity (metric tons)	Value (thousands)										
Containing more than 97% calcium fluoride:												
China	40,300	\$20,300	28,400	\$17,800	3,740	\$1,850	31,200	\$15,000	17,400	\$8,600	80,800	\$43,300
Germany	--	--	17	18	--	--	--	--	--	--	17	18
Mexico	128,000	19,900	64,500	17,300	85,300	20,400	91,500 <sup>†</sup>	19,300 <sup>†</sup>	61,600	13,800	303,000	70,700
Mongolia	--	--	--	--	--	--	9,910	4,890	--	--	9,910	4,890
South Africa	--	--	21,000	5,670	12,100	3,280	5,320 <sup>†</sup>	1,940 <sup>†</sup>	19,200	7,040	57,600	17,900
Spain	--	--	--	--	12,000	4,440	--	--	--	--	12,000	4,440
United Kingdom	4	15	2	7	2	7	275 <sup>†</sup>	145 <sup>†</sup>	2	8	281	167
Total	169,000	40,200	114,000	40,800	113,000	29,900	138,000 <sup>†</sup>	41,200 <sup>†</sup>	98,200	29,400	464,000	141,000
Containing not more than 97% calcium fluoride:												
China	--	--	9	11	--	--	--	--	262	28	271	39
Mexico	44,600	4,350	36,400	3,830	27,900	2,750	51,200 <sup>†</sup>	4,920 <sup>†</sup>	39,100	3,740	155,000	15,200
Mongolia	--	--	--	--	--	--	--	--	1,050	98	1,050	98
Namibia	--	--	419	37	--	--	--	--	--	--	419	37
Total	44,600	4,350	36,900	3,880	27,900	2,750	51,200 <sup>†</sup>	4,920 <sup>†</sup>	40,400	3,870	156,000	15,400
Grand total	213,000	44,600	151,000	44,700	141,000	32,700	189,000 <sup>†</sup>	46,100 <sup>†</sup>	139,000	33,300	620,000	157,000

<sup>†</sup>Revised. -- 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>

	2011		2012									
	4th quarter		1st quarter		2d quarter		3d quarter		4th quarter		1st quarter–4th quarter	
	Quantity (metric tons)	Value <sup>2</sup> (thousands)										
Canada	2,640	\$7,400	4,560	\$11,700	3,220	\$9,530	1,480 <sup>r</sup>	\$4,990 <sup>r</sup>	1,500	\$5,080	10,800	\$31,300
China	1,400	2,260	1,080	1,570	1,980	2,860	1,560 <sup>r</sup>	2,230 <sup>r</sup>	1,270	1,610	5,890	8,270
Germany	66	162	87	198	37	122	72 <sup>r</sup>	172 <sup>r</sup>	37	117	233	609
Japan	335	813	230	549	316	753	388 <sup>r</sup>	922 <sup>r</sup>	377	922	1,310	3,150
Mexico	25,300	39,600	29,200	47,500	30,800	50,900	28,400 <sup>r</sup>	47,200 <sup>r</sup>	25,900	42,500	114,000	188,000
Spain	38	129	56	173	38	117	19	58	38	116	151	464
Other	70	219	68	342	66	216	58	138	101	322	293	1,020
Total	29,800	50,600	35,300	62,100	36,500	64,500	32,000 <sup>r</sup>	55,700 <sup>r</sup>	29,200	50,600	133,000	233,000

<sup>r</sup>Revised.

<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

(Dollars per metric ton)

	2011	2012			
	4th quarter	1st quarter	2d quarter	3d quarter	4th quarter
Acidspar:					
Chinese, dry basis, cost, insurance, and freight, Gulf port, filtercake	550–650	550–650	480–600	480–600	480–600
Chinese, free on board (f.o.b.) China, wet filtercake	450–500	450–500	450–500	420–440	400–415
Mexican, f.o.b. Tampico, filtercake	400–450	400–450	400–450	400–450	400–450
Mexican, f.o.b. Tampico, arsenic <5 parts per million	540–550	540–550	540–550	540–550	540–550
South African, f.o.b. Durban, filtercake	380–450	380–450	380–450	380–450	380–450
Metspar, Mexican, f.o.b. Tampico	230–270	230–270	230–270	230–270	230–270

Source: Industrial Minerals magazine (London).