

Mineral Industry Surveys

For information, contact:

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

Samir Hakim (Data)
Telephone: (703) 648-7955
Fax: (703) 648-7792
E-mail: shakim@usgs.gov

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

FLUORSPAR IN THE FOURTH QUARTER 2011

Reported fluorspar consumption in the fourth quarter was 108,000 metric tons (t), a decrease of 12% compared with that of the previous quarter and slightly more than that consumed in the fourth quarter of 2010. Fourth quarter stocks increased by nearly 15% compared with those of the previous quarter and were about 24% higher than those of the fourth quarter of 2010. Fluorspar imports in the fourth quarter exceeded 213,000 t, an increase of about 3% compared with that of the previous quarter but nearly 63% higher than that imported in the fourth quarter of 2010.

The following yearend totals are compared with those of 2010. In 2011, reported fluorspar consumption was essentially unchanged, but apparent consumption (imports minus exports and adjusted for changes in stocks) increased by 170,000 t, or about 34%, to 672,000 t. Total fluorspar imports increased by 188,000 t, or 35%, to a total of 727,000 t. This is the largest quantity imported into the United States in the past 30 years. As has been the case in recent years, Mexico was the leading supplier of fluorspar to the United States accounting for 78% of total fluorspar imports. China was a distant second with 16%, followed by South Africa with 5%. Imports of hydrofluoric acid (HF) decreased slightly to 132,000 t. Imports of aluminum fluoride were 41,000 t, an increase of 8% compared with those of 2010.

Industry News

Mexichem S.A.B. de C.V. (Tlalnepantla, Mexico) announced that it had received permission from the Mexican antitrust commission to acquire Mexico's second leading fluorspar producer Fluorita de Mexico S.A. de C.V. (Mexico City, Mexico). Fluorita de Mexico, which reportedly has more than 13 million metric tons of reserves, mines high-purity low-arsenic fluorspar in the State of Coahuila, Mexico. This acquisition gives Mexichem access to low-arsenic fluorspar that would supplement Mexichem's production of high-arsenic fluorspar from its mine in San Luis Potosi, Mexico. Mexichem intended to invest in the modernization of Fluorita de Mexico's facilities and to increase its annual production (Mexichem S.A.B. de C.V., 2011).

Indian firms Gujarat Mineral Development Corp. (GMDC) (Ahmedabad, Gujarat), Gujarat Fluorochemicals Ltd. (Noida, Uttar Pradesh), and Navin Fluorine International Ltd. (Mumbai, Maharashtra) entered into a joint venture to construct a fluorspar flotation mill in India with a capacity to produce 40,000 metric tons per year of flotation concentrate. GMDC will supply the fluorspar and hold a 50% stake, while the other two companies will each hold 25% shares. Gujarat Fluorochemicals and Navin produce fluorocarbon refrigerants and fluoropolymers (Economic Times, The, 2012).

Canada Fluorspar Inc. (Markham, Ontario, Canada) and Arkema Inc. (Colombes, France) closed the second phase of the strategic agreement between the two companies to restart fluorspar production from the St. Lawrence fluorspar mines in Newfoundland and Labrador, Canada. Under the terms of the agreement, Arkema will contribute \$60 million and Canada Fluorspar \$14 million into a newly formed general partnership, Newspar. Canada Fluorspar also will provide to the partnership the mining rights and permits for the Blue Beach and Tarefare Mines on the Burin Peninsula, and the associated nearby mill facilities and tailings pond. On closing, Canada Fluorspar and Arkema will each have a 50% interest in Newspar (Southern Gazette, The, 2011).

Fluorochemical News

Arkema Daikin Advanced Fluorochemicals Co. Ltd. (Changshu, Jiangsu, China) announced a 30% increase in production capacity (effective late 2012) at its hydrofluorocarbon 125 (HFC-125) plant in Changshu. HFC-125 is a key component in refrigerant blends such as R-410A, which is a blend of HFC-125 and hydrofluorocarbon 32 used as a substitute for hydrochlorofluorocarbon 22 (HCFC-22). HCFC-22 is being phased out as part of the Montreal Protocol on Substances that Deplete the Ozone Layer. The increased HFC-125 capacity will supply the company's new R-410A production plant, which is due to come onstream by the end of the second quarter 2012. These projects are in response to increased demand for air-conditioning systems in China and Southeast Asia (Arkema Inc., 2011).

References Cited

Arkema Inc., 2011, Extension of Forane® 125 production capacity and construction of a refrigerant blend unit on Changshu site: Arkema Inc. news release, October 11, 1 p. (Accessed March 26, 2012, at http://www.arkema.com/pdf/EN/press_release/2011/cp_extention_125_changshu_oct_2011_va.pdf.)

Economic Times, The, 2012, GMDC gets Gujarat government's nod for 3 joint ventures: Times Internet Ltd., January 4, 1 p. (Accessed January 5, 2012, at

http://articles.economictimes.indiatimes.com/2012-01-04/news/30588745_1_gujarat-mineral-development-corporation-gmdc-jv-partner.)

Mexichem S.A.B. de C.V., 2011, Mexichem Fluor announces the acquisition of "Fluorita de Mexico": Mexichem S.A.B. de C.V. news release, December 27. (Accessed March 27, 2012, at http://www.mexichem.com/English/detalle_noticia.php?id=124.)

Southern Gazette, The, 2011, More progress on reactivation of fluorspar mines: Transcontinental Inc., October 18. (Accessed March 26, 2012, at <http://www.southern gazette.ca/News/2011-10-18/article-2779389/More-progress-on-reactivation-of-fluorspar-mines-/1>.)

TABLE 1
SALIENT FLUORSPAR STATISTICS¹

(Metric tons, unless otherwise specified)

	2010	2011				
	Fourth quarter	First quarter	Second quarter	Third quarter	Fourth quarter	First-fourth quarter
Imports for consumption	131,000	181,000	126,000	206,000	213,000	727,000
Exports	4,420	5,520	6,250	6,650	5,630	24,100
End of the period stocks, consumer	131,000	140,000	137,000	141,000	162,000	162,000
Imports for consumption of hydrofluoric acid	35,000	34,400	35,100	33,200	29,800	132,000
Imports for consumption of cryolite	1,190	1,900	2,090	3,140	2,440	9,560
Quarterly reported fluorspar consumption	106,000	124,000	99,900	123,000	108,000	454,000

¹Data 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 RANGE¹
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

	Hydrofluoric acid and other uses ²	Metallurgical	Total	Stocks, end of period ³
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
Fourth quarter:				
More than 97% calcium fluoride	97,000	2,990	100,000	145,000
Not more than 97% calcium fluoride	--	8,000	8,000	17,500
Total	97,000	11,000	108,000	162,000
Grand total	412,000	42,400	454,000	162,000

-- Zero.

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

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

³Stocks include some distributor stocks and consumer stocks for hydrofluoric acid.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE^{1,2}

	2010		2011									
	Fourth quarter		First quarter		Second quarter		Third quarter		Fourth quarter		First-fourth quarter	
	Quantity (metric tons)	Value (thousands)										
Containing more than 97% calcium fluoride:												
China	20,200	\$7,000	25,000	\$9,450	26,300	\$13,400	27,600	\$16,900	40,300	\$20,300	119,000	\$60,000
Mexico	79,400	13,900	90,500	15,900	61,600	11,900	121,000	17,400	128,000	19,900	401,000	65,100
Mongolia	10,200	2,900	--	--	--	--	--	--	--	--	--	--
South Africa	--	--	15,600	4,000	6,670	1,700	17,200	5,420	--	--	39,400	11,100
United Kingdom	3	4	1	5	1	5	414	49	4	15	420	74
Other	134	17	1	7	--	--	--	--	--	--	1	7
Total	110,000	23,800	131,000	29,300	94,600	27,000	166,000	39,800	169,000	40,200	560,000	136,000
Containing not more than 97% calcium fluoride,												
Mexico	21,100	2,160	50,400	5,060	31,500	3,800	40,200	4,130	44,600	4,350	167,000	17,300
Grand total	131,000	25,900	181,000	34,400	126,000	30,800	206,000	44,000	213,000	44,600	727,000	154,000

-- Zero.

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

²Data 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 ACID¹

	2010		2011									
	Fourth quarter		First quarter		Second quarter		Third quarter		Fourth quarter		First-fourth quarter	
	Quantity (metric tons)	Value ² (thousands)										
Canada	2,950	\$10,500	1,850	\$6,040	4,940	\$13,000	5,860	\$14,200	2,640	\$7,400	15,300	\$40,700
China	1,690	2,230	1,370	1,920	1,280	2,080	1,010	1,770	1,400	2,260	5,060	8,030
Germany	61	219	45	162	83	239	69	141	66	162	263	704
Japan	286	663	244	595	358	755	212	501	335	813	1,150	2,660
Mexico	29,800	37,200	30,700	43,700	28,200	40,700	25,900	37,200	25,300	39,600	110,000	161,000
Other	159	348	175	274	204	407	205	469	108	348	692	1,500
Total	35,000	51,100	34,400	52,700	35,100	57,200	33,200	54,200	29,800	50,600	132,000	215,000

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

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

Source: U.S. Census Bureau.

TABLE 5
END OF QUARTER FLUORSPAR PRICES¹

(Dollars per metric ton)

	2010	2011			
	Fourth quarter	First quarter	Second quarter	Third quarter	Fourth quarter
Acidspar:					
Chinese, dry basis, cost, insurance, and freight (c.i.f.) Gulf port, filtercake	370-400	440-460	550-650	550-650	550-650
Chinese, free on board (f.o.b.) China, wet filtercake	300-320	400-420	500-600	500-600	450-500
Mexican, f.o.b. Tampico, filtercake	260-290	330-360	400-450	400-450	400-450
Mexican, f.o.b. Tampico, arsenic <5 parts per million	290-320	350-370	450-480	500-550	540-550
South African, f.o.b. Durban, filtercake	290-310	330-335	330-335	330-335	380-450
Metspar, Mexican, f.o.b. Tampico	170-200	180-220	220-270	230-270	230-270

¹Source: Industrial Minerals magazine (London).