



2008 Minerals Yearbook

TALC AND PYROPHYLLITE [ADVANCE RELEASE]

TALC AND PYROPHYLLITE

By Robert L. Virta

Domestic survey data and tables were prepared by Robin C. Kaiser, statistical assistant, and the world production table was prepared by Glenn J. Wallace, international data coordinator.

In 2008, production decreased to 706,000 metric tons (t) valued at \$21.8 million from 769,000 t valued at \$24.4 million in 2007. Sales of talc decreased to 667,000 t valued at \$83.3 million from 720,000 t valued at \$82.0 million in 2007. U.S. apparent consumption decreased to 655,000 t in 2008 from 719,000 t in 2007. Exports of talc decreased to 244,000 t in 2008 from 271,000 t in 2007, and imports decreased to 193,000 t in 2008 from 221,000 t in 2007. U.S. production and sales of pyrophyllite decreased slightly in 2008 (data are withheld to avoid disclosing proprietary information). World production of talc and pyrophyllite declined to 7.51 million metric tons (Mt) in 2008 from 7.68 Mt in 2007. The decline in the U.S. and world economies resulted in reduced sales to most of the industries on which talc is dependent, resulting in lower production and sales in most major industrial countries.

Legislation and Government Programs

In 2008, the U.S. Department of Defense authorized the disposal of 867 t of block and lump talc and 1,050 t of ground talc, which was the entire uncommitted inventory, from the National Defense Stockpile (NDS). There were no sales from the NDS in 2008.

Production

Talc.—Domestic production data were obtained through a voluntary survey of U.S. mining companies conducted by the U.S. Geological Survey (USGS). Survey forms were sent to eight companies that mined talc, and responses were received from seven companies. Responses accounted for about 99% of the production data presented in table 1. Data for the nonrespondent were estimated from preliminary reported data based on 9 months of production in 2008, reported prior-year data adjusted according to employment and consuming industry trends, and data obtained from associated milling operations.

In 2008, five companies operating eight mines in five States mined soapstone (an impure massive variety of talc), steatite (a massive talc ore rock), and talc. All were open pit mining operations. The producers were, in decreasing order of production, Luzenac North America (a member of Luzenac Group), American Talc Co., Specialty Minerals Inc. (Barretts, MT, operation), Gouverneur Talc Co., Inc. (a subsidiary of R.T. Vanderbilt Co., Inc.), and Protech Minerals Inc. Two companies, Cal-Talc, Inc. and Alberene Soapstone Co., worked from stockpiles in 2008. The four leading domestic producers collectively accounted for more than 99% of the U.S. tonnage mined.

In 2008, U.S. mine production decreased to 706,000 t valued at \$21.8 million compared with 769,000 t valued at \$24.4 million in 2007 (table 1). Production decreased in Montana, New York, and Vermont and remained unchanged in California

and Texas. The largest decline in production was in Vermont. Montana led all States in the tonnage of talc produced, followed by Texas, Vermont, New York, and California.

Gouverneur Talc permanently stopped mining talc at its operation in Gouverneur, NY, in the first quarter of 2008. The company operated from stocks for the remainder of the year to fill customer orders. Gouverneur Talc began mining and processing talc in New York in 1948. As part of the reclamation process, the company's largest open pit mine will be allowed to fill with water to become a lake. Tailings generated through mining will be contoured, covered with soil, and reseeded (R.T. Vanderbilt Co., Inc., 2008; Watertown Daily Times, 2009).

Pyrophyllite.—Domestic production data of pyrophyllite (a hydrous aluminum silicate with a structure similar to talc) were acquired through a voluntary USGS survey of the two U.S. companies. Both companies responded to the survey.

Standard Mineral operated two mines in North Carolina. Piedmont Minerals Co. Inc. operated one mine in North Carolina. For the past 2 years, pyrophyllite composed only a small fraction of the active portion of the andalusite, pyrophyllite, and sericite deposit mined by Piedmont Minerals. Consequently, the company did not produce any pyrophyllite products in 2007 and 2008. U.S. production of pyrophyllite decreased slightly from that of 2007.

Consumption

Domestic consumption data for talc and pyrophyllite were developed by the USGS from a voluntary survey of U.S. mills. Survey forms were sent to 9 companies operating 12 mills in 6 States for talc and 2 companies operating 2 mills in 1 State for pyrophyllite. Responses from eight companies accounted for more than 99% of the talc data presented in table 2. The remaining data were estimated from preliminary reported data based on 9 months of production in 2008, and reported prior-year data were adjusted according to employment and consuming industry trends. Both pyrophyllite producers responded to the survey.

Talc.—Sales and use were 667,000 t of talc valued at \$83.3 million in 2008, a decrease from 720,000 t valued at \$82.0 million in 2007 (table 1). U.S. producers reported that talc sold domestically and not exported decreased to 536,000 t in 2008 from 681,000 t in 2007. Paint was the leading market, followed by ceramics (mainly ceramic tiles), paper, other (unspecified) applications, roofing, plastics, rubber, and cosmetics, in decreasing order of consumption (table 2). Sales to the domestic plastics industry increased, while sales to other markets decreased in 2008. The largest declines were in sales for ceramics and paper applications. Domestic sales listed in table 2 for ceramic uses in 2007 probably includes 60,000 to 80,000 t of talc sold to ceramics markets in Mexico. Consequently, domestic

sales of talc for ceramic uses probably declined to 109,000 t in 2008 from an estimated 140,000 t, rather than 209,000 t, in 2007. Declining U.S. paper production in 2008 contributed to reduced sales of talc for paper applications in 2008.

Sales of talc to manufacturers of ceramics, paint, roofing, and tile generally were tied to the housing industry. Construction starts for new privately owned housing decreased to 904,000 units in 2008 from 1.36 million units in 2007 (U.S. Census Bureau, 2009b). The value of all construction (residential and commercial) decreased to \$1.07 trillion in 2007 from \$1.14 trillion in 2006 (U.S. Census Bureau, 2009a).

Shipments of architectural paint (a major paint market for talc) decreased to 2.57 billion liters (679 million gallons) in 2008 from 2.86 billion liters (756 million gallons) in 2007 (U.S. Census Bureau, 2009c). Ceramic tile is a major market for talc. U.S. producers sell their talc to domestic tile manufacturers, whose tile competes with imported ceramic tile. The U.S. International Trade Commission (2009) reported that imports of ceramic tile under Harmonized Tariff Schedule of the United States (HTS) codes 6907.10.00, 6908.10.10, 6908.10.20, and 6908.10.50 decreased in quantity to 10.3 million square meters valued at \$108 million in 2008 from 19.9 million square meters valued at \$154 million in 2007.

Most of the 193,000 t of imported talc listed in table 5 was not included in the domestic end-use data listed in table 2. An estimated end-use breakdown of sales of imports in 2008 is plastics, 128,000 t; cosmetics, 25,000 t; paint, 15,000 t; ceramics and refractory products, 8,000 t; paper, 5,000 t; rubber, 3,000 t, and other (unspecified), 9,000 t.

Combining domestic sales by U.S. producers with sales of imported talc, markets in the United States were, in decreasing order of consumption, plastics, paint, ceramics, paper, other (unspecified), roofing, cosmetics, and rubber.

Pyrophyllite.—In 2008, domestic consumption of pyrophyllite decreased slightly from that of 2007; data are withheld to avoid disclosing company proprietary data. Pyrophyllite was used in refractory products, paint, ceramics, and unspecified applications, in decreasing order of consumption. Refractory uses accounted for more than 50% of domestic pyrophyllite sales.

Prices

In 2008, the unit value of crude talc was estimated to be \$31 per metric ton, which was slightly less than that in 2007. Nearly all talc sold in the United States was sold only after crushing and grinding. Following sorting to remove waste, primary crushing, and screening, the unit value of the unmilled talc would likely range from \$50 to \$60 per ton. The average reported unit value of processed talc was \$125 per ton in 2008, an increase from the unit value of \$114 per ton in 2007. Producers increased prices for talc during 2008 to cover the increased costs of mining and processing talc. The unit value of crude pyrophyllite was unchanged in 2008, but the unit value for processed pyrophyllite increased from that of 2007.

The average free alongside ship unit value of all exports decreased to \$192 per ton in 2008 from \$197 per ton in 2007 (table 4). The unit value for milled talc (HTS code 2526.20.00.00) exports increased to \$189 per ton in 2008 from

\$187 per ton in 2007. The average free alongside ship unit value for exports of unmilled talc (HTS code 2526.10.00.00) decreased to \$327 per ton in 2008 from \$677 per ton in 2007. The high unit value in 2008 and previous years resulted from the inclusion of high-value, low-tonnage specialty shipments, which had been processed under the export code for unmilled talc.

The average customs unit value for imports of unground talc (HTS code 2526.10.00.00) was \$207 per ton in 2008, an increase from \$187 per ton in 2007. The average customs value for ground talc was \$262 per ton in 2007, a slight decrease from \$264 per ton in 2007. The average customs value for cut or sawed talc (HTS code 6815.99.20.00) was \$1,044 per ton, an increase from \$953 per ton in 2007. The average unit value for all talc imports was \$292 per ton in 2008 compared with \$290 per ton in 2007 (table 5).

Published prices for talc ranged from \$92 to \$245 per ton (table 3). Prices for pyrophyllite from the Republic of Korea, free on board, were \$130 per ton for fiberglass and refractory manufacturing, \$27 to \$44 per ton for ceramic grade, and \$110 to \$150 per ton for filler grade. The price for filler grades from Australia was \$342 per ton (Industrial Minerals, 2008b). Quoted prices should be used only as a guideline because actual prices depend on the contract terms between seller and buyer.

Foreign Trade

The following section summarizes significant trade statistics on talc. Detailed statistics, by country and U.S. port districts, are available from the U.S. International Trade Commission on its Interactive Tariff and Trade Dataweb Website (U.S. International Trade Commission, 2009). U.S. talc imports reported by the Ministry of the Economy [Mexico] (2008) were used because of apparent underreporting of talc exports to Mexico by the U.S. Census Bureau.

Talc exports decreased in tonnage to 244,000 t valued at \$46.0 million in 2008 from 271,000 t valued at \$50.6 million in 2007. By tonnage, Mexico was the leading importer of talc from the United States, followed by Canada (table 4). These two countries accounted for 59% of U.S. exports. About 97% of talc exports were milled.

Total talc imports reported by the U.S. Census Bureau decreased to 193,000 t valued at \$56.4 million in 2008 from 221,000 t valued at \$64.1 million in 2007. By tonnage, China was the leading source for imported talc, followed by Canada (table 5). Imports from Japan were likely pyrophyllite rather than talc.

World Review

World production of talc and pyrophyllite was estimated to be 7.51 Mt in 2008, a decrease from the 7.68 Mt produced in 2007. China was the world's leading producer of talc, followed by the United States, India, Finland, and France (crude). The Republic of Korea was the leading producer of pyrophyllite, followed by Japan and Brazil. Brazil, China, Finland, France, India, Japan, the Republic of Korea, and the United States together produced 81% of the world's talc and pyrophyllite (table 6).

China is the leading producer and supplier of talc to global markets. Its global share, however, may decrease because

domestic demand for talc has led to export restrictions, some talc operations are nearing exhaustion, and some new talc operations may encounter quality control issues. Conversely, India may increase its share of global markets owing to a planned expansion of production by Golcha Group to 800,000 t from 700,000 t in 2009 (Industrial Minerals, 2008a).

Outlook

The faltering U.S. and world economies in 2008 affected the talc industry as they did most of the metals and minerals industries. Markets vital to the health of the talc industry, such as automotive (fillers and extenders for plastics and rubber), housing (fillers and extenders for adhesives, backing for rugs and vinyl flooring, caulk, joint compounds, paint, and roofing and as a component of ceramic tile bodies), and manufacturing (fillers and extenders for such items as adhesives, caulk, cosmetics, paint, pharmaceuticals, plastics, and rubber and a component in ceramic bodies) declined in 2008 and made no significant recovery by mid-2009. Although many governments instituted economic stimulus programs to improve the stability of banking and finance systems in 2008, most major world economies continued their decline into early 2009. Although there have been a few signs of the stabilization of the U.S. financial system, credit remains limited, and consumer spending in the United States remains low (Dunphy, 2009; Minerals Technologies Inc., 2009, p. 6, 16–17, 22; Rooney, 2009). Given the state of the U.S. and world economies, talc sales and use may decline in 2009 and possibly even in 2010.

With the slowdown in industries that use pyrophyllite to produce ceramics, paint, and refractory products, the pyrophyllite industry may experience a small decline in sales in 2009 and 2010.

References Cited

- Dunphy, Harry, 2009, IMF—Economic woes could linger: Associated Press, April 16. (Accessed June 11, 2009, at <http://www.manufacturing.net/article.aspx?id=194478>.)
- Industrial Minerals, 2008a, Plastic fantastic for talc: Industrial Minerals, no. 494, November, p. 79.
- Industrial Minerals, 2008b, Prices: Industrial Minerals, no. 495, December, p. 89.
- Minerals Technologies Inc., 2009, Form 10-K—2008: Securities and Exchange Commission, 34 p.
- Ministry of the Economy [Mexico], 2008, Anuario estadístico de la minería Mexicana—Ampliada 2007 [Statistical yearbook of Mexican mining—2007]: Mexico City, Mexico, Ministry of the Economy, 537 p. (Accessed March 5, 2009, at http://www.economia-dgm.gob.mx/dgpm/doctos/anuario/Anuario_2007.pdf.)
- R.T. Vanderbilt Co., Inc., 2008, R.T. Vanderbilt to discontinue NYTAL® and CERAMITALC® product line, cease talc production by end of 2008: Norwalk, CT, R.T. Vanderbilt Co., Inc. press release, January 8, 1 p. (Accessed March 23, 2009, at http://www.rtvanderbilt.com/pr_talc_production_cease.pdf.)
- Rooney, Ben, 2009, Bernanke sees 'signs' decline is easing: CNNMoney.com, April 14, 1 p. (Accessed June 11, 2009, at <http://money.cnn.com/2009/04/14/news/economy/Bernanke/index.htm>.)
- U.S. Census Bureau, 2009a, Annual value of construction put in place 2002–2008: U.S. Census Bureau, April 1, 2 p. (Accessed June 11, 2009, at <http://www.census.gov/const/C30/total.pdf>.)
- U.S. Census Bureau, 2009b, New privately owned housing units started: U.S. Census Bureau, March 16, 1 p. (Accessed March 13, 2009, at <http://www.census.gov/const/startsan.pdf>.)
- U.S. Census Bureau, 2009c, Paint, varnish, and lacquer—Fourth quarter 2008: U.S. Census Bureau MQ325F(08)-4, March, 4 p. (Accessed May 25, 2009, at <http://www.census.gov/cir/www/325/mq325f/mq325f084.xls>.)
- U.S. International Trade Commission, 2009, Interactive tariff and trade dataweb: U.S. International Trade Commission. (Accessed February 28, 2009, at <http://dataweb.usitc.gov/>.)
- Watertown, Daily Times, 2009, Closed surface mine to be reborn as lake: Watertown [NY] Daily Times, April 19. (Accessed April 20, 2009, at <http://www.wdt.net/article/20090419/NEWS05/304199943>.)

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

- Talc. Ch. in United States Mineral Resources, Professional Paper 820, 1973.
- Talc and Pyrophyllite. Ch. in Mineral Commodity Summaries, annual.
- Talc Resources of the Conterminous United States. Open-File Report 95–586, 1995.
- USGS Study of Talc Deposits and Associated Amphibole Asbestos Within Mined Deposits of the Southern Death Valley Region, California, A. Open-File Report 2004–1092, 2004.
- U.S. Talc—Baby Powder and Much More. Fact Sheet 065–00, 2000.

Other

- Ceramic Industry.
Engineering and Mining Journal.
Mining Engineering.
Paint and Coatings Industry.
Talc. Ch. in Industrial Minerals and Rocks (7th ed.), Society for Mining, Metallurgy, and Exploration Inc., 2006.
Talc and Pyrophyllite. Ch. in Mineral Facts and Problems, U.S. Bureau of Mines Bulletin 675, 1985.
Talc Industry—An Overview, The. U.S. Bureau of Mines Information Circular 9220, 1989.
Using the Geologic Setting of Talc Deposits as an Indicator of Amphibole Asbestos Content. Environmental Geology, 2004.

TABLE 1
SALIENT TALC AND PYROPHYLLITE STATISTICS¹

(Thousand metric tons and thousand dollars)

	2004	2005	2006	2007	2008
United States:					
Mine production, crude:					
Quantity:					
Talc	833	856	895	769	706
Pyrophyllite	W	W	W	W	W
Value:					
Talc	23,200	24,400	27,400	24,400	21,800
Pyrophyllite	W	W	W	W	W
Sold by producers, crude and processed:					
Quantity:					
Talc	854	826	900	720	667
Pyrophyllite	W	W	W	W	W
Value:					
Talc	74,800	71,300	81,300	82,000	83,300
Pyrophyllite	W	W	W	W	W
Exports, talc: ²					
Quantity	294 ^r	270 ^r	253 ^r	271 ^r	244
Value	44,900 ^r	45,000 ^r	46,800 ^r	50,600 ^r	46,000
Imports for consumption, talc:					
Quantity	226	237	314	221	193
Value	58,400	55,600	66,700	64,100	56,400
Apparent consumption ³	765 ^r	823 ^r	956 ^r	719 ^r	655
World, production	7,850 ^r	7,960 ^r	7,790 ^r	7,680 ^r	7,510 ^e

^eEstimated. ^rRevised. W Withheld to avoid disclosing company proprietary data.

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

²Excludes powder—talcum (in package), face, and compact.

³Production plus imports minus exports plus adjustments in Government and industry stocks. Does not include pyrophyllite.

TABLE 2
END USES FOR TALC
PRODUCED IN THE UNITED STATES¹

(Thousand metric tons)

	2007	2008
Ceramics ²	209 ³	109
Cosmetics	16	14
Paint	128	124
Paper	143	100
Plastics	31	43
Roofing	51	49
Rubber	26	17
Other ⁴	77	80
Total	681	536

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

²Includes tile.

³May include 60,000 to 80,000 metric tons exported to the Mexican ceramic markets.

⁴Includes art sculpture, asphalt filler, auto body filler, construction caulks, flooring, insecticides, joint compound, and other uses not specified.

TABLE 3
PRICES OF TALC

(Dollars per metric ton)

	Price
New York:	
Paint-grade:	
200 mesh	126
400 mesh	210
Ceramic-grade:	
200 mesh	92
325 mesh	115
Indian, cosmetic-grade	190–195
Chinese, normal (ex-store United Kingdom):	
200 mesh	215–235
350 mesh	220–245

Source: Industrial Minerals, December 2008.

TABLE 4
U.S. EXPORTS OF TALC^{1,2}

(Thousand metric tons and thousand dollars)

Country	2007		2008	
	Quantity	Value ³	Quantity	Value ³
Belgium	4	1,090	3	1,860
Canada ⁴	89 ^r	15,200 ^r	69	12,400
Germany	2	544 ^r	1	118
Japan	3	751 ^r	4	1,110
Mexico ⁵	85 ^r	9,190 ^r	75	7,840 ^e
Singapore	9	3,030	4	1,520
Other ⁶	79 ^r	20,800	88	21,200
Total	271 ^r	50,600 ^r	244	46,000

^eEstimated. ^rRevised.

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

²Excludes powders—talcum (in package), face, and compact.

³Free alongside ship.

⁴Probably includes shipments in transit through Canadian ports.

⁵Reported by the ministry of the economy (Mexico) in 2007.

⁶Includes 66 countries in 2007 and 2008.

Source: U.S. Census Bureau, adjusted by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF TALC, BY COUNTRY¹

Country	Not crushed or powdered		Crushed or powdered		Cut and sawed		Total unmanufactured	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
2007:								
Brazil	14	\$24	138	\$35	1,740	\$2,340	1,890	\$2,400
Canada	27	12	59,900	21,400	14,100	11,400	74,000	32,800 ^r
China	105,000	18,800	1,190	428 ^r	2,740	2,630	109,000	21,800
France	--	--	1 ^r	953	--	--	1 ^r	953
Japan	--	--	22,800	1,250	50	108	22,800	1,360
Other ²	33	743	12,300 ^r	1,370	1,440	2,590	13,800 ^r	4,700
Total	105,000	19,600	96,400	25,500	20,000	19,100	221,000	64,100
2008:								
Brazil	363	330	(³)	35	1,210	1,680	1,580	2,040
Canada	7	8	59,400	17,900	11,100	9,320	70,500	27,200
China	97,600	19,700	(³)	190	1,330	1,620	99,000	21,600
France	--	--	(³)	343	--	--	--	343
Japan	--	--	18,300	1,510	58	140	18,300	1,650
Other ²	596	306	2,190	1,010	772	2,320	3,560	3,630
Total	98,600	20,400	79,900	21,000	14,400	15,100	193,000	56,400

^rRevised. -- Zero.

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

²Includes 25 countries in 2007 and 2008.

³Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
TALC AND PYROPHYLLITE: WORLD PRODUCTION, BY COUNTRY AND PRODUCT^{1,2}

(Metric tons)

Country ³	2004	2005	2006	2007	2008 ^c
Argentina:					
Pyrophyllite	12,594	8,470	9,340	9,340 ^r	9,880 ⁴
Steatite ^e	300	300	300	300	300
Talc	7,620	12,603	13,773	14,956 ^r	15,000
Australia: ^{e,5}					
Pyrophyllite	1,000	1,200	1,200	1,200	1,200
Talc	150,000	154,000	130,000	120,000	120,000
Austria, soapstone and talc, crude	136,305 ^r	166,569	159,447	153,409 ^r	150,000
Bhutan, talc	39,797	42,791	45,000 ^e	47,000	43,000
Brazil, talc and pyrophyllite	417,716	413,340 ^r	389,471 ^r	401,204 ^r	405,000 ^p
Canada, pyrophyllite, soapstone, talc	90,000 ^e	70,000 ^r	72,000 ^r	79,000 ^r	70,000 ^p
Chile, talc	2,993	4,201	1,961	2,104 ^r	2,000
China, unspecified ^c	2,200,000	2,300,000	2,400,000	2,000,000 ^r	2,200,000
Colombia, pyrophyllite, soapstone, talc ^c	15,000	15,000	15,000	15,000	15,000
Egypt, pyrophyllite, soapstone, steatite, talc ^c	54,145 ⁴	38,780 ⁴	40,000	40,000	40,000
Finland, talc	492,000	542,000	550,000 ^e	550,000 ^e	550,000
France, talc, crude ^c	402,000	416,000	420,000	420,000	420,000
Guatemala, talc	2,863	1,631	526	1,291 ^r	1,000
Hungary, talc ^e	500	500	500	500	500
India: ^e					
Pyrophyllite	86,000	85,000	86,000	87,000	87,000
Steatite	550,000	545,000	560,000	555,000	560,000
Iran, talc ⁶	187,465	70,600	70,000 ^e	70,000 ^e	70,000
Italy, steatite and talc	111,887	112,781	146,942	140,000 ^e	140,000
Japan:					
Pyrophyllite	405,222	351,111	350,000 ^{r,e}	345,000 ^{r,e}	330,000
Talc	18,253	25,491	25,500 ^{r,e}	26,000 ^{r,e}	25,000
Korea, North, unspecified ^c	50,000	50,000	50,000	50,000	50,000
Korea, Republic of:					
Pyrophyllite	827,895	885,559	677,465	798,054 ^r	780,000
Talc	79,313	83,471	64,118	9,557 ^r	45,000
Macedonia, talc	1,000 ^{r,e}	1,955 ^r	1,025 ^r	1,775 ^r	1,770
Mexico, talc	101,896	64,827	9,834	9,800 ^e	32,410 ⁴
Morocco ^e	2,000	2,000	2,000	2,000	2,000
Nepal, talc ⁷	3,435	5,832	6,648	9,043 ^r	8,000
Norway, soapstone, steatite, talc ^e	28,000	29,000	28,000	28,000	28,000
Pakistan, pyrophyllite	52,483	20,564	24,529 ^r	28,000	26,000
Paraguay, pyrophyllite, soapstone, talc ^e	200	200	200	200	200
Peru:					
Pyrophyllite	14,282	14,300 ^r	14,500 ^r	13,925 ^r	17,984 ⁴
Talc	9,548	9,500 ^r	9,550 ^r	9,171 ^r	11,844 ⁴
Portugal, talc	6,231	5,362	5,517	12,367 ^r	12,500 ^p
Romania, talc	10,000 ^e	10,000 ^e	2,967 ^r	1,513 ^r	1,500
Russia, talc ^e	150,000	160,000	160,000	170,000	160,000
Slovakia, talc ^e	1,500	1,500	1,500	1,500	1,500
South Africa:					
Pyrophyllite	28,987	60,267	74,886	123,573 ^r	80,704 ^{p,4}
Talc	8,141	8,469	10,966	14,281	5,145 ^{p,4}

See footnotes at end of table.

TABLE 6—Continued
TALC AND PYROPHYLLITE: WORLD PRODUCTION, BY COUNTRY AND PRODUCT^{1,2}

(Metric tons)

Country ³	2004	2005	2006	2007	2008 ^c
Spain, steatite and talc ^c	107,829 ⁴	100,000	100,000	100,000	100,000
Sweden, soapstone and talc	14,000	14,000	14,000	14,000	14,000
Taiwan, talc	411	--	--	--	--
Thailand:					
Pyrophyllite	108,691	177,684	131,843	415,420 ^f	150,000
Talc	12,592	10,270	4,374	3,508 ^f	4,000
Turkey, talc and pyrophyllite	8,233 ^f	8,775 ^f	4,969 ^f	12,722 ^f	12,000
United Kingdom, pyrophyllite, soapstone, talc	3,881	6,000	6,000	6,000 ^e	6,000
United States:					
Pyrophyllite	W	W	W	W	W
Talc	833,000	856,000	895,000	769,000	706,000 ⁴
Uruguay, pyrophyllite, soapstone, talc	1,042	1,131	1,150 ^e	1,150 ^e	1,150
Zimbabwe, talc ^c	--	--	140 ^f	200 ^f	200
Grand total	7,850,000 ^f	7,960,000 ^f	7,790,000 ^f	7,680,000 ^f	7,510,000
Of which:					
Pyrophyllite	1,540,000 ^f	1,600,000 ^f	1,370,000 ^f	1,820,000 ^f	1,480,000
Steatite	550,000	545,000	560,000	555,000	560,000
Talc	2,520,000 ^f	2,490,000	2,430,000 ^f	2,260,000 ^f	2,240,000
Unspecified	3,240,000 ^f	3,330,000	3,430,000 ^f	3,040,000 ^f	3,230,000

^cEstimated. ^pPreliminary. ^rRevised. W Withheld to avoid disclosing company proprietary data; not included in "Total." -- Zero.

¹World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²Table includes data available through April 16, 2009.

³In addition to the countries listed, Nigeria may produce talc, but information is inadequate to estimate output.

⁴Reported figure.

⁵Data based on fiscal year ending June 30 of year stated.

⁶Data based on fiscal year beginning March 21 of year stated.

⁷Data based on fiscal year beginning mid-July of year stated.