

BARITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: Barite sales by domestic producers totaled about 500,000 tons in 2005 valued at about \$18 million, a decrease in production of about 6% from 2004. The majority of production came from three major mines in Nevada followed by a significantly smaller sales volume from a single mine in Georgia. In 2005, an estimated 2.8 million tons of ground barite was sold by crushers and grinders from five States from domestic production and imports. Nearly 95% of the barite sold in the United States was used as a weighting agent in gas and oil well drilling fluids. Shipments from Nevada crushers and grinders went mostly to the Colorado and Wyoming gas drilling industry. These two States produced about 13% of total U.S. natural gas in 2005. Between late October 2004 and late October 2005, the combined rig count in these two States increased from 143 to 174. The imports to the Louisiana and Texas ports went primarily to offshore drilling operations in the Gulf of Mexico and to onshore operations in Texas, Louisiana, New Mexico, and Oklahoma. The Gulf of Mexico and these four States account for about 70% of natural gas production in the United States and represent the major regional market for barite.

Barite is used as a filler, extender, or weighting agent in products such as paints, plastics, and rubber. Some specific uses include its use in brake and clutch pads for automobiles, automobile paint primer for metal protection and gloss, and to add weight to rubber mudflaps on trucks and to the cement jacket around petroleum pipelines under water. In the metal casting industry, barite is part of the mold-release compounds. Because barite significantly blocks X-ray and gamma-ray emissions, it is used as aggregate in high-density concrete for radiation shielding around X-ray units in hospitals, nuclear powerplants, and university nuclear research facilities. Ultrapure barite consumed as liquid is used as a contrast medium in medical X-ray examinations. It is the raw material for barium chemicals, such as barium carbonate, which is an ingredient in faceplate glass in the cathode-ray tubes of televisions and computer monitors.

Salient Statistics—United States:	2001	2002	2003	2004	2005^e
Sold or used, mine	400	420	468	532	500
Imports for consumption:					
Crude barite	2,470	1,510	1,620	1,960	2,350
Ground barite	6	5	(¹)	5	12
Other	35	31	33	34	20
Exports	45	47	44	70	90
Consumption, apparent ² (crude and ground)	2,870	1,920	2,080	2,460	2,790
Consumption ³ (ground and crushed)	2,670	1,980	2,230	2,440	2,800
Price, average value, dollars per ton, f.o.b. mine	27.60	28.90	29.70	35.10	35.60
Employment, mine and mill, number ^e	340	320	340	340	340
Net import reliance ⁴ as a percentage of apparent consumption	86	78	77	78	82

Recycling: None.

Import Sources (2001-04): China, 89%; India, 8%; and other, 3%.

Tariff: Item	Number	Normal Trade Relations 12-31-05
Crude barite	2511.10.5000	\$1.25/t.
Ground barite	2511.10.1000	Free.
Oxide, hydroxide, and peroxide	2816.40.2000	2% ad val.
Other chlorides	2827.39.4500	4.2% ad val.
Other sulfates	2833.27.0000	0.6% ad val.
Other nitrates	2834.29.5000	3.5% ad val.
Carbonate	2836.60.0000	2.3% ad val.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: The direct impact of Hurricanes Katrina and Rita on barite grinding facilities in the Gulf of Mexico region was relatively small. The majority of the grinding plants in Louisiana and Texas were shutdown (mostly as a result of power outages) for periods ranging from a few days to a week. One Louisiana plant, however, did suffer more extensive damage, but was expected to be repaired and back in production by the end of November. The hurricanes did cause damage to drill rigs operating in the Gulf of Mexico, but nationwide the rig count as of the latter part of October 2005 had risen to 1,480 (an increase of 229 compared with the same time period in 2004). This large increase in drill rigs exploring for oil and gas was the result of high oil and gas prices, which temporarily rose even higher in the aftermath of the hurricanes.

Fueled by the dramatic increase in oil and gas prices, the increase in domestic exploration (especially for natural gas) has followed suit. The total U.S. rig count has increased by more than 70% in the past 3 years, and this increased drilling activity has pushed domestic barite production up by 19% and imports of crude barite up by 56% during the same period. During the same 3-year period, the international rig count (excluding the United States) has increased by 22%.

China is the leading exporter of barite and has for many years been the low-cost supplier in world markets. However, from late 2003 to September 2005, Chinese barite prices increased by more than 40%, and prices of the other major exporting countries (India and Morocco) rose similarly. The factors that pushed up Chinese prices were high ocean freights, port congestion, problems with internal freight logistics, and the lowering of the tax rebate on barite exports.

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ⁵	Reserve base ⁵
	2004	2005 ^e		
United States	532	500	25,000	55,000
Algeria	48	48	9,000	15,000
Brazil	55	55	2,100	5,000
Bulgaria	95	95	NA	NA
China	3,900	3,900	62,000	360,000
France	82	82	2,000	2,500
Germany	110	94	1,000	1,500
India	⁶ 723	1,000	53,000	80,000
Iran	204	210	NA	NA
Korea, North	70	70	NA	NA
Mexico	300	290	7,000	8,500
Morocco	357	360	10,000	11,000
Russia	60	60	2,000	3,000
Thailand	125	210	9,000	15,000
Turkey	120	135	4,000	20,000
United Kingdom	60	60	100	600
Vietnam	101	100	NA	NA
Other countries	<u>296</u>	<u>350</u>	<u>14,000</u>	<u>160,000</u>
World total (rounded)	7,240	7,620	200,000	740,000

World Resources: In the United States, identified resources of barite are estimated to be 150 million tons, and hypothetical resources include an additional 150 million tons. The world's barite resources⁵ in all categories are about 2 billion tons, but only about 740 million tons is identified.

Substitutes: In the drilling mud market, alternatives to barite include celestite, ilmenite, iron ore, and synthetic hematite that is manufactured in Germany. None of these substitutes, however, has had a major impact on the barite drilling mud industry.

^eEstimated. NA Not available.

¹Less than ½ unit.

²Sold or used by domestic mines – exports + imports.

³Domestic and imported crude barite sold or used by domestic grinding establishments.

⁴Defined as imports – exports + adjustments for Government and industry stock changes.

⁵See Appendix C for definitions.

⁶Data are for fiscal year ending March 31 of the year shown.