

BARITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: Domestic producers of crude barite sold or used for grinding an estimated 670,000 tons in 2010 valued at about \$36 million, an increase in production of 75% from that of 2009. Most of the production came from four major mines in Nevada followed by a significantly smaller sales volume from a single mine in Georgia. In 2010, an estimated 2.7 million tons of barite (from domestic production and imports) was sold by crushers and grinders in 10 States. Nearly 95% of the barite sold in the United States was used as a weighting agent in gas- and oil-well drilling fluids. The majority of Nevada crude barite was ground in Nevada and Wyoming and then sold primarily to gas-drilling customers in Colorado, New Mexico, North Dakota, Utah, and Wyoming. Crude barite was shipped to a Canadian grinding mill in Lethbridge, Alberta, which supplies the Western Canada drilling mud market. The barite imports to Louisiana and Texas ports mostly went to offshore drilling operations in the Gulf of Mexico and to onshore operations in Louisiana, Oklahoma, and Texas.

Barite is also used as a filler, extender, or weighting agent in products such as paints, plastics, and rubber. Some specific applications include its use in automobile brake and clutch pads and automobile paint primer for metal protection and gloss, and to add weight to rubber mudflaps on trucks and to the cement jacket around underwater petroleum pipelines. 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.

Salient Statistics—United States:	2006	2007	2008	2009	2010^e
Sold or used, mine	589	455	648	383	670
Imports for consumption	2,550	2,600	2,620	1,430	2,100
Exports	72	15	62	49	20
Consumption, apparent ¹ (crude and ground)	3,070	3,040	3,210	1,770	2,800
Consumption ² (ground and crushed)	3,040	2,980	2,840	2,080	2,700
Price, average value, dollars per ton, f.o.b. mine	40.00	45.30	47.60	51.90	54.00
Employment, mine and mill, number ^e	330	330	350	330	350
Net import reliance ³ as a percentage of apparent consumption	81	85	80	78	76

Recycling: None.

Import Sources (2006–09): China, 95%; India, 3%; and other, 2%.

Tariff: Item	Number	Normal Trade Relations 12-31-10
Crude barite	2511.10.5000	\$1.25 per metric ton.
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 of barium	2833.27.0000	0.6% ad val.
Carbonate	2836.60.0000	2.3% ad val.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

Events, Trends, and Issues: In April 2010, the explosion of the Deepwater Horizon drilling rig and subsea blowout of the Macondo oil well in the Gulf of Mexico resulted in the largest offshore oil spill in U.S. history. A 6-month moratorium on deepwater drilling was declared by the Government in late May and lifted in October after the U.S. Department of the Interior introduced new safety standards for operators drilling in water depths greater than 152 meters (500 feet). The drilling moratorium and more stringent regulatory reviews of shallow-water drilling applications reduced offshore drilling operations in the Gulf of Mexico, which resulted in a decrease in barite sales and consumption in the Gulf of Mexico. In mid-April (before the moratorium) there were 55 drilling rigs operating in the Gulf of Mexico, but by mid-July the number had dropped to 12. Deepwater wells require much larger amounts of barite than most onshore wells because of deeper drilling depths and higher pressures, so this small decrease in operating rigs had a significant impact on Gulf of Mexico barite sales. Some experts estimate it could take 2 years for oil and gas production in the Gulf of Mexico to return to pre-spill levels.

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Nationally, the rig count of operating drill rigs increased during 2010 as the oil and gas industry increased exploration activities after oil and gas prices recovered from their lows during the 2008–09 recession. The monthly rig count of operating drill rigs increased by nearly 500 between December 2009 and October 2010, and was led by Texas, with an additional 250 rigs operating; North Dakota, with an additional 66; and Oklahoma, with an additional 45.

Bad weather in China (drought conditions in the winter and early spring, and flooding in the summer and fall) hampered production and shipment of barite during 2010. Much of China's barite resources are in the provinces of Fujian, Guangdong, Guangxi, Guizhou, and Hunan in southern China, which was the region hit hardest by the adverse weather. India, the world's second leading barite producer, also experienced weather-related problems in its barite mining industry as its major barite mine in Andhra Pradesh was flooded by late summer monsoon rains. The lower part of the mine that produced higher quality 4.2 specific gravity product was flooded. China and India normally account for about 70% of world barite supplies, and weather-derived problems were expected to adversely affect world supplies of barite in the latter part of 2010 and apply upward pressure on prices.

World Mine Production and Reserves: The barite reserves estimates for Algeria, China, and Russia have been revised based on new information from those countries.

	Mine production		Reserves ⁴
	2009	2010 ^e	
United States	383	670	15,000
Algeria	60	60	29,000
China	3,000	3,600	100,000
Germany	75	75	1,000
India	1,200	1,000	34,000
Iran	200	250	NA
Kazakhstan	⁵ 95	⁵ 100	NA
Mexico	152	140	7,000
Morocco	⁶ 430	⁶ 460	10,000
Pakistan	42	45	1,000
Russia	63	65	12,000
Turkey	150	150	4,000
United Kingdom	50	50	100
Vietnam	70	90	NA
Other countries	160	160	24,000
World total (rounded)	6,130	6,900	240,000

World Resources: In the United States, identified resources of barite are estimated to be 150 million tons, and undiscovered resources include an additional 150 million tons. The world's barite resources⁴ 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.

¹Sold or used by domestic mines + imports – exports.

²Imported and domestic barite, crushed and ground, sold or used by domestic grinding establishments.

³Defined as imports – exports + adjustments for Government and industry stock changes.

⁴[See Appendix C for resource/reserve definitions and information concerning data sources.](#)

⁵Estimated marketable barite; however, reported production figures are significantly higher.

⁶Estimated marketable production based on export data.