

BARITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2017, domestic mine production decreased, but production data were withheld to avoid disclosing company proprietary data. An estimated 1.91 million tons of barite (from domestic production and imports) was sold by crushers and grinders operating in eight States. More than 90% of the barite sold in the United States was used as a weighting agent in fluids used in the drilling of oil and natural gas wells. The majority of Nevada crude barite was ground in Nevada and then sold to companies drilling in the Central and Western United States. Offshore drilling operations in the Gulf of Mexico and onshore drilling operations in other regions primarily used imported barite.

Barite also is used as a filler, extender, or weighting agent in products such as paints, plastics, and rubber. Some specific applications include use in automobile brake and clutch pads, automobile paint primer for metal protection and gloss, use as a weighting agent in rubber, and in 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 is used as a contrast medium in x-ray and computed tomography examinations of the gastrointestinal tract.

Salient Statistics—United States:	2013	2014	2015	2016	2017^e
Production:					
Sold or used, mine	826	663	439	240	W
Ground and crushed ¹	3,550	3,410	2,010	1,420	1,910
Imports for consumption ²	2,250	2,700	1,660	1,290	2,220
Exports ³	207	161	147	78	82
Consumption, apparent (crude and ground) ⁴	2,870	3,210	1,960	1,450	W
Estimated price, ground, average value, dollars per ton, f.o.b. mill	181	191	194	187	170
Employment, mine and mill, number	624	614	458	300	340
Net import reliance ⁵ as a percentage of apparent consumption	71	79	78	83	>75

Recycling: None.

Import Sources (2013–16): China, 69%; India, 13%; Mexico, 9%; Morocco, 7%; and other, 2%.

Tariff: Item	Number	Normal Trade Relations 12–31–17
Ground barite	2511.10.1000	Free.
Crude barite	2511.10.5000	\$1.25 per metric ton.
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.

BARITE

Events, Trends, and Issues: Sales from grinding plants in all States increased by an estimated 34% as compared with 2016. Sales in all regions, including Texas, Louisiana, and all other States, increased, but percentage increases differed significantly by region. Barite sales in Louisiana increased by 3%, sales in Texas increased by an estimated 96%, and sales in all other States increased by an estimated 18% compared with 2016. The pattern of recovery likely reflects the overall recovery in U.S. drilling activity, with most gains in drilling-rig count concentrated in the Permian Basin.

Domestic mine production continued to decrease. Only two mines and one temporary mining project were active throughout 2017. One mine that had been idled for approximately 3 years initiated closure activities, but intended to continue processing stockpiled ore. Recovery in drilling activity in the Central and Western United States was more muted, which likely prolonged the downturn in domestic mine production.

World Mine Production and Reserves: In response to concerns about dwindling global reserves of 4.2-specific gravity barite used by the oil and gas drilling industry, the American Petroleum Institute issued an alternate specification for 4.1-specific gravity barite in 2010. This has likely stimulated exploration and expansion of global barite resources. Estimated reserves data are included only if developed since the adoption of the 4.1-specific gravity standard. Reserves data for China were revised based on Government information.

	Mine production		Reserves ⁶
	2016	2017 ^e	
United States	240	W	NA
China	2,800	3,100	37,000
India	1,050	1,100	32,000
Iran	480	500	24,000
Kazakhstan	482	500	85,000
Mexico	197	140	NA
Morocco	669	1,000	NA
Pakistan	107	140	14,000
Russia	434	430	12,000
Thailand	223	150	18,000
Turkey	170	200	35,000
Other countries	470	470	29,000
World total (rounded)	7,320	7,700	290,000

World Resources: In the United States, identified resources of barite are estimated to be 150 million tons, and undiscovered resources contribute an additional 150 million tons. The world's barite resources in all categories are about 2 billion tons, but only about 740 million tons are identified resources. However, no known systematic assessment of either U.S. or global barite resources has been conducted since the 1980s.

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. W Withheld to avoid disclosing company proprietary data.

¹Imported and domestic barite, crushed and ground, sold or used by domestic grinding establishments.

²Imports calculated from Harmonized Tariff Schedule codes 2511.10.1000, 2511.10.5000, and 2833.27.0000.

³Exports calculated from Schedule B numbers 2511.10.1000, 2511.10.5000, and 2833.27.0000.

⁴Defined as sold or used by domestic mines + imports – exports.

⁵Defined as imports – exports.

⁶See [Appendix C](#) for resource and reserve definitions and information concerning data sources.

⁷Excludes U.S. production.