

VERMICULITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: Two companies with mining and processing facilities in South Carolina and Virginia produced vermiculite concentrate. Most of the vermiculite concentrate was shipped to 19 exfoliating plants in 11 States. The end uses for exfoliated vermiculite were estimated to be agricultural, insulation, and other, 74%; and lightweight concrete aggregates (including cement premixes, concrete, and plaster), 26%.

Salient Statistics—United States:	2000	2001	2002	2003	2004^e
Production ¹	^{e, 2} 150	NA	NA	NA	NA
Imports for consumption ^e	59	65	56	37	57
Exports ^e	5	7	10	15	10
Consumption, apparent, concentrate	^e 204	NA	NA	NA	NA
Consumption, exfoliated ^e	165	140	115	95	120
Price, base value, concentrate, dollars per ton, ex-plant	143	143	143	143	³ 143
Stocks, producer, yearend	NA	NA	NA	NA	NA
Employment, mine and mill, number ^e	120	100	90	90	⁴ 100
Net import reliance ⁵ as a percentage of apparent consumption	^e 26	NA	NA	NA	NA

Recycling: Insignificant.

Import Sources (2000-03): South Africa, 71%; China, 26%; and other, 3%.

Tariff: Item	Number	Normal Trade Relations 12-31-04
Vermiculite, perlite and chlorites, unexpanded	2530.10.0000	Free.
Exfoliated vermiculite, expanded clays, foamed slag, and similar expanded materials	6806.20.0000	Free.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: IBI Corp., through its subsidiary, North American Vermiculite, Inc., signed an option agreement to acquire the Mica Peak vermiculite claims in Clarke County, Nevada. The company already operates a vermiculite plant in Uganda, which came onstream in 2002. In Canada, Regis Resources, Inc. began producing vermiculite in June 2004 from a mine in Cavendish Township in southern Ontario. The mine produces grades of vermiculite such as fine, super fine, and micron. Product is destined for mostly North American markets.⁶

Although U.S. output of vermiculite decreased during the past few years, an increase in both U.S. imports and apparent consumption is projected for 2004. Although official data are not available, vermiculite production in China is reported to be growing and gaining worldwide market share.⁷

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ⁸	Reserve base ⁸
	2003	2004 ^e		
United States	NA	NA	25,000	100,000
Brazil	23	25	NA	NA
China	50	70	NA	NA
Russia	25	25	NA	NA
South Africa	183	187	14,000	80,000
Zimbabwe	20	16	NA	NA
Other countries	46	47	NA	NA
World total (rounded) ⁹	347	370	NA	NA

World Resources: Marginal reserves of vermiculite that occur in Colorado, Nevada, North Carolina, Texas, and Wyoming are estimated to be 2 million to 3 million tons. Reserves have been reported in Australia, Brazil, China, Russia, South Africa, Uganda, the United States, Zimbabwe, and some other countries. However, reserve information comes from many sources, and in most cases it is not clear whether the numbers refer to vermiculite alone or vermiculite plus host rock and/or overburden.¹⁰

Substitutes: Expanded perlite is a substitute for vermiculite in lightweight concrete and plaster. Other more dense but less costly material substitutes in these applications are expanded clay, shale, slate, and slag. Alternate materials for loosefill fireproofing insulation include fiberglass, perlite, and slag wool. In agriculture, substitutes include peat, perlite, sawdust, bark and other plant materials, and synthetic soil conditioners.

^eEstimated. NA Not available.

¹Concentrate sold and used by producers.

²Moeller, E.M., 2001, Vermiculite: Mining Engineering, v. 53, no. 6, June, p. 65.

³Industrial Minerals, 2004, Prices: Industrial Minerals, no. 442, July, p. 64-65.

⁴Mine, mill, and office.

⁵Defined as imports – exports + adjustments for Government and industry stock changes.

⁶Burke, Alison, 2004, Leading lites—Vermiculite and perlite reviewed: Industrial Minerals, no. 443, August, p. 46-51.

⁷Moeller, Eric, 2004, Vermiculite: Mining Engineering, v. 56, no. 6, June, p. 52.

⁸See Appendix C for definitions.

⁹Excludes U.S. production.

¹⁰Roskill Information Services Ltd., 2004, The economics of vermiculite (8th ed.): London, United Kingdom, Roskill Information Services Ltd., 126 p. plus appendices.