

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, 73%; and lightweight concrete aggregates (including cement premixes, concrete, and plaster), 27%.

Salient Statistics—United States:	2001	2002	2003	2004	2005^e
Production ^{e,1}	110	100	110	100	105
Imports for consumption ^e	65	56	37	69	70
Exports ^e	7	10	15	10	10
Consumption, apparent, concentrate ^e	170	150	130	160	165
Consumption, exfoliated ^e	140	115	95	90	95
Price, base value, concentrate, dollars per ton, ex-plant	143	143	143	² 143	³ 125
Stocks, producer, yearend	NA	NA	NA	NA	NA
Employment, mine and mill, number ^e	100	90	90	⁴ 100	⁴ 100
Net import reliance ⁵ as a percentage of apparent consumption ^e	35	30	20	35	35

Recycling: Insignificant.

Import Sources (2001-04): South Africa, 70%; China, 28%; and other, 2%.

Tariff: Item	Number	Normal Trade Relations 12-31-05
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: Canada's sole vermiculite mine and mill operation, Vermiculite Canada, was shipping vermiculite concentrate to Montreal where it is mixed with gypsum to produce fire-resistant wallboard. Concentrate also was being shipped to metropolitan Toronto, New England, and the Midwestern United States for such uses as brake pads and garden and potting soils.⁶

U.S. imports of vermiculite are not collected as a separate category by the U.S. Census Bureau. However, according to a nongovernmental source, U.S. imports, excluding those from Canada and Mexico, were about 52,000 tons for the first 8 months of 2005. Two countries supplied most of this material: South Africa provided 67% and China, 31%.⁷

South Africa continued to be the leading producer of vermiculite with an estimated 200,000 tons in 2005. Most of the output was exported to such markets as Europe, North America, and Southeast Asia. Chinese production of vermiculite may be as high as 100,000 tons per year, although official data were not available.⁸ Export destinations included Japan and the Republic of Korea.⁹

World Mine Production, Reserves, and Reserve Base:

	Mine production		Reserves ¹⁰	Reserve base ¹⁰
	2004	2005 ^e		
United States ^e	100	105	25,000	100,000
Brazil	26	26	NA	NA
China	100	100	NA	NA
Russia	25	25	NA	NA
South Africa	195	200	14,000	80,000
Zimbabwe	27	25	NA	NA
Other countries	37	39	NA	NA
World total (rounded)	510	520	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.⁹

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, slag, and slate. 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.

²Industrial Minerals, 2004, Prices: Industrial Minerals, no. 442, July, p. 64-65.

³Moeller, Eric, and Hindman, James, 2005, Vermiculite: Mining Engineering, v. 57, no. 6, June, p. 60-61. (Average of prices from range of sized grades.)

⁴Mine, mill, and office.

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

⁶Hughes, Bob, 2005 (May 6), Canada's vermiculite mine in production in Cavendish, article in the Lakefield Herald, accessed July 8, 2005, via URL <http://www.vermiculitecanada.com>.

⁷Commonwealth Business Media, Inc., 2005, Port Import/Export Reporting Service, accessed November 2, 2005, at URL <http://www.piers.com>.

⁸Dickson, Ted, 2004, Vermiculite, in Industrial minerals annual review supplement: London, United Kingdom, Mining Journal Ltd. CD-ROM.

⁹Roskill Information Services Ltd., 2004, The economics of vermiculite (8th ed.): London, United Kingdom, Roskill Information Services Ltd., 126 p. plus appendices.

¹⁰[See Appendix C for definitions.](#)