VERMICULITE

(Data in thousand metric tons, unless otherwise noted)

<u>Domestic Production and Use</u>: One company, with mining and processing facilities in South Carolina, remained the largest producer of vermiculite concentrate. Three other companies each had an active operation for producing concentrate, two in South Carolina and one in Virginia. Most of the vermiculite concentrate was shipped to 22 exfoliating plants in 15 States. The end uses for exfoliated vermiculite were estimated to be agriculture, 55%; insulation, 26%; and lightweight concrete aggregates (including concrete, plaster, and cement premixes) and other, 19%.

Salient Statistics—United States:	1992	<u>1993</u>	<u>1994</u>	<u> 1995</u>	1996 ^e
Production ¹	190	190	180	170	W
Imports for consumption ^e	40	30	30	30	30
Exports ^e	8	7	7	6	5
Consumption, apparent, concentrate	222	213	203	194	W
Consumption, exfoliated	140	140	130	130	130
Price, average value, concentrate,					
dollars per ton, f.o.b. mine	W	W	W	W	W
Stocks, producer, yearend	NA	NA	NA	NA	NA
Employment, mine and mille, number	230	230	230	230	230
Net import reliance ² as a percent of					
apparent consumption	14	11	11	12	W

Recycling: Insignificant.

Import Sources (1992-95): South Africa, 99%; and other, 1%.

<u>Tariff</u> : Item	Number	Most favored nation (MFN) 12/31/96	Non-MFN ³ 12/31/96
Mineral substances not specifically provided for Exfoliated vermiculite as mixtures and	2530.10.0000	Free	Free.
articles of heat-insulating, sound-insulating, or sound-absorbing materials	6806.20.0000	2.9% ad val.	30% ad val.

Depletion Allowance: 14% (Domestic), 14% (Foreign).

Government Stockpile: None.

VERMICULITE

Events, Trends, and Issues: Besides the traditional end uses for vermiculite, possible new applications include detoxification of water and soil, nuclear waste containment and removal, and industrial spill containment and clean-up.

Prices for South African vermiculite exported to Europe were reported to have increased in the first half of 1996 by 9% to 13%. The lowest grade material, fine, bulk, f.o.b. Rotterdam, increased to \$180 per ton. High grade, large flake material, f.o.b. Rotterdam, reached \$260 per ton. South African vermiculite imported into the United States was listed in late 1996, bulk, f.o.b. barge, Gulf Coast, at \$127 per ton for fine material and \$209 per ton for high-grade material.

World Mine Production, Reserves, and Reserve Base:

	Mine pr	Mine production		Reserve base⁴
	<u> 1995</u>	<u> 1996°</u>		
United States ¹	170	W	25,000	100,000
Russia	40	40	NA	NA
South Africa	222	220	20,000	80,000
Other countries ⁵	<u>46</u>	<u>60</u>	5,000	20,000
World total	478	⁶ 320	50,000	200,000

<u>World Resources</u>: Marginal reserves of vermiculite, occurring in Colorado, Nevada, North Carolina, Texas, and Wyoming, are estimated to be 2 to 3 million tons. Resources in other countries may include material that does not exfoliate as well as U.S. and South African vermiculite. Total world resources are estimated to be up to three times the reserve amount.

<u>Substitutes</u>: 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. W Withheld to avoid disclosing company proprietary data.

¹Concentrate sold and used by producers.

²Defined as imports - exports + adjustments for Government and industry stock changes.

³See Appendix B.

⁴See Appendix C for definitions.

⁵Excludes the United States (1996) and countries for which information is not available.

⁶Excludes the United States.