

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 16 exfoliating plants in 10 States. The end uses for exfoliated vermiculite were estimated to be lightweight agriculture/horticulture, 40%; concrete aggregates (including cement premixes, concrete, and plaster), 20%; insulation, 8%; and other, 32%.

Salient Statistics—United States:	2007	2008	2009	2010	2011^e
Production ^{e, 1}	100	100	100	100	100
Imports for consumption ^{e, 2}	51	73	39	29	50
Exports ^e	5	5	3	2	3
Consumption, apparent, concentrate ^e	150	170	140	130	150
Consumption, exfoliated ^e	85	82	69	73	85
Price, average, concentrate, dollars per ton, ex-plant	140	140	130	150	160
Employment, number ^e	100	100	75	80	90
Net import reliance ³ as a percentage of apparent consumption ^{e, 4}	30	40	30	20	20

Recycling: Insignificant.

Import Sources (2007–10): China, 48%; South Africa, 47%; Australia, 2%; Brazil, 2%; and other, 1%.

Tariff: Item	Number	Normal Trade Relations 12-31-11
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: 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 any material from Canada and Mexico, were about 34,000 tons for the first 8 months of 2011. South Africa provided 52%, China, 28%, and Brazil, 17%. With increased demand globally and a tightening of supply, especially in coarse grades, prices began rising significantly in 2011.

An Australian company continued development of and production at the East African Namekara vermiculite deposit in Uganda, a portion of the larger East African vermiculite project (EAVP). The EAVP has about 55 million tons of inferred resources and is considered to be one of the world's largest deposits. With the installation of two 50,000-ton-per-year plant modules, the company planned to increase annual production from an estimated 20,000 tons of vermiculite concentrate in 2011 to 80,000 tons in 2012 and 130,000 tons by 2014. The Namekara deposit has sufficient resources for more than 50 years of production at the expanded rate. The company secured a 25-year sales contract for all production with another industrial minerals company, which will market and distribute the product.

A Brazilian company increased vermiculite production at its mine in central Brazil from 35,000 tons in 2010 to an estimated 55,000 tons in 2011, with plans to increase to 80,000 tons by 2013. The company also planned to bring online its vermiculite project near the country's capital city of Brasilia in 2013, with an estimated 40,000 tons of production in the first year, increasing to as much as 120,000 tons by 2016.

World Mine Production and Reserves: The estimate of reserves was revised for Brazil based on new information from an official Government source in that country.

	Mine production		Reserves ⁵
	<u>2010</u>	<u>2011^e</u>	
United States ^{e, 1}	100	100	25,000
Australia	13	15	NA
Brazil	35	55	6,600
China	120	130	NA
Egypt	12	6	NA
India	13	14	NA
Russia	25	25	NA
South Africa	198	200	14,000
Uganda	4	20	NA
Other countries	<u>16</u>	<u>15</u>	<u>15,000</u>
World total	536	580	NA

World Resources: Marginal reserves of vermiculite 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 overburden.

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. Data are rounded to one significant digit to avoid disclosing company proprietary data.

²Excludes Canada and Mexico.

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

⁴Data are rounded to one significant digit to avoid disclosing company proprietary data.

⁵See Appendix C for resource/reserve definitions and information concerning data sources.