

PERLITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2018, the quantity of domestic processed crude perlite sold and used was estimated to be 510,000 tons with a value of \$37 million. Crude ore production was from seven mines operated by six companies in five Western States. New Mexico and Oregon continued to be the leading producing States. Processed crude perlite was expanded at 60 plants in 27 States. Domestic apparent consumption was 680,000 tons. The applications for expanded perlite were building construction products, 58%; fillers, 15%; horticultural aggregate, 12%; filter aid, 9%; and other, 6%. Other applications included specialty insulation and miscellaneous uses.

<u>Salient Statistics—United States:</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018^e</u>
Mine production, crude ore	462	501	521	570	560
Sold and used, processed crude perlite	462	444	437	479	510
Imports for consumption ¹	144	143	188	156	200
Exports ¹	36	30	21	32	30
Consumption, apparent ²	570	557	604	603	680
Price, average value, dollars per ton, f.o.b. mine	55	61	65	73	70
Employment, mine and mill, number	119	142	135	139	140
Net import reliance ³ as a percentage of apparent consumption	19	20	28	21	25

Recycling: Not available.

Import Sources (2014–17): Greece, 95%; Mexico, 2%; Turkey, 2%; and other, 1%.

<u>Tariff: Item</u>	<u>Number</u>	<u>Normal Trade Relations</u> <u>12–31–18</u>
Vermiculite, perlite and chlorites, unexpanded	2530.10.0000	Free.

Depletion Allowance: 10% (Domestic and foreign).

Government Stockpile: None.

PERLITE

Events, Trends, and Issues: Perlite is a siliceous volcanic glass that expands up to 20 times its original volume when rapidly heated. In horticultural uses, expanded perlite is used to provide moisture retention and aeration without compaction when added to soil. Owing primarily to cost, some commercial greenhouse growers in the United States have recently switched to a wood fiber material over perlite. Perlite, however, remained a preferred soil amendment for segments of the greenhouse growers because it does not degrade or compact over lengthy growing times and is inert. Construction applications for expanded perlite are numerous because it is lightweight, fire resistant, and an excellent insulator. Novel and small markets for perlite have increased during the past 10 years; cosmetics, environmental remediation, and personal care products have become increasing markets for perlite. Throughout 2017 and 2018, a new perlite deposit in Nevada was being actively explored and developed as a potential supplier of crude perlite ore for industrial and household applications. The estimated amount of processed crude perlite sold or used from U.S. mines increased to the highest level since 2005.

Domestic perlite mining generally takes place in remote areas, and its environmental impact is not severe. The mineral fines, overburden, and reject ore produced during ore mining and processing are used to reclaim the mined-out areas, and, therefore, little waste remains. Airborne dust is captured by baghouses, and virtually no runoff contributes to water pollution.

Based on estimated world production for 2018, the world's leading producers were, in descending order of production, China, Turkey, Greece, and the United States, with about 41%, 22%, 21%, and 12%, respectively, of world production. Although China was the leading producer, most of its perlite production was thought to be consumed internally. Greece and Turkey remained the leading exporters of perlite.

World Perlite Production and Reserves: Reserves for Hungary were revised based on Government reports.

	Production		Reserves ⁴
	2017	2018 ^e	
United States	⁵ 570	⁵ 560	50,000
Armenia	45	45	NA
China	1,930	1,900	NA
Greece	930	950	120,000
Hungary	35	35	49,000
Iran	20	20	NA
Mexico	20	20	NA
New Zealand	25	25	NA
Turkey	1,000	1,000	57,000
Other countries	78	60	NA
World total (rounded)	4,650	4,600	NA

World Resources: Perlite occurrences in Arizona, Idaho, Nevada, New Mexico, and Oregon contain estimated large resources. Significant deposits have been reported in China, Greece, and Turkey, and some other countries. Insufficient information is available to make reliable estimates of resources in many perlite-producing countries.

Substitutes: In construction applications, diatomite, expanded clay and shale, pumice, and slag can be substituted for perlite. For horticultural uses, vermiculite, coco coir, wood pulp, and pumice are alternative soil additives and are sometimes used in conjunction with perlite.

^eEstimated. NA Not available.

¹Exports and imports were estimated by the U.S. Geological Survey from U.S. Census Bureau combined data for vermiculite, perlite, and chlorites, unexpanded.

²Defined as sold or used processed perlite + imports – exports.

³Defined as imports – exports.

⁴See Appendix C for resource and reserve definitions and information concerning data sources.

⁵Mine production of crude ore.