

## PERLITE

(Data in thousand metric tons unless otherwise noted)

**Domestic Production and Use:** In 2020, the quantity of domestic processed crude perlite sold and used was estimated to be 440,000 tons with a value of \$28 million. Crude ore production was from eight 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 57 plants in 28 States. Domestic apparent consumption was estimated to be 610,000 tons. The applications for expanded perlite were building construction products, 53%; fillers, 16%; horticultural aggregate, 16%; filter aid, 12%; and other, 3%. Other applications included specialty insulation and miscellaneous uses.

**Salient Statistics—United States:**

	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020<sup>e</sup></b>
Mine production, crude ore	521	570	494	526	520
Sold and used, processed crude perlite	437	479	444	416	440
Imports for consumption <sup>1</sup>	199	171	204	183	190
Exports <sup>1</sup>	16	18	16	19	22
Consumption, apparent <sup>2</sup>	620	632	632	580	610
Price, average value, free on board mine, dollars per ton	65	73	72	64	64
Employment, mine and mill, number	135	139	130	140	140
Net import reliance <sup>3</sup> as a percentage of apparent consumption	30	24	30	28	28

**Recycling:** Not available.

**Import Sources (2016–19):** Greece, 90%; China, 7%; Mexico, 2%; and Turkey, 1%.

<b>Tariff:</b>	<b>Item</b>	<b>Number</b>	<b>Normal Trade Relations 12–31–20</b>
	Vermiculite, perlite and chlorites, unexpanded	2530.10.0000	Free.

**Depletion Allowance:** 10% (domestic and foreign).

**Government Stockpile:** None.

**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 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. A major producer with operations in Arizona and New Mexico acquired another producer with a mine in Oregon during the year. Project planning progressed at a perlite deposit in Nevada that could be developed as a potential supplier of crude perlite ore for industrial and household applications.

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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.

Despite economic disruptions owing to the global COVID-19 pandemic, the value of total construction put in place in the United States increased by about 4% during the first 8 months of 2020 compared with that of the same period in 2019, indicating a similar change in consumption of perlite. Construction products remained the largest domestic market for perlite. Increased interest in home gardening may also correspond to increased consumption of horticultural-grade perlite.

Based on estimated world production for 2020, the world's leading producers were, in descending order of production, China, Greece, Turkey, and the United States, with about 38%, 21%, 19%, and 15%, 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 Iran were revised based on industry information.

	Production		Reserves <sup>4</sup>
	2019	2020 <sup>e</sup>	
United States	526	520	50,000
Argentina	19	19	NA
China	1,300	1,300	NA
Greece	719	700	120,000
Hungary	71	70	49,000
Iran	72	70	73,000
Mexico	20	20	NA
New Zealand	17	17	NA
Slovakia	40	40	NA
Turkey	650	640	57,000
Other countries	29	29	NA
World total (rounded)	3,460	3,400	NA

**World Resources:**<sup>4</sup> Perlite occurrences in Arizona, Idaho, Nevada, New Mexico, and Oregon are thought to contain large resources. Significant deposits have been reported in China, Greece, Hungary, and Turkey, and a few 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.

<sup>e</sup>Estimated. NA Not available.

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

<sup>2</sup>Defined as sold or used processed perlite + imports – exports.

<sup>3</sup>Defined as imports – exports.

<sup>4</sup>See Appendix C for resource and reserve definitions and information concerning data sources.

<sup>5</sup>Mine production of crude ore.