

# PERLITE

(Data in thousand metric tons unless otherwise noted)

**Domestic Production and Use:** In 2021, the quantity of domestic processed crude perlite sold and used was estimated to be 500,000 tons with a value of \$31 million. Crude ore production was from eight mines operated by five companies in six Western States. One other mine was idle throughout the year. New Mexico and Oregon continued to be the leading producing States. Domestic apparent consumption of crude perlite was estimated to be 650,000 tons. Processed crude perlite was expanded at 55 plants in 28 States. The applications for expanded perlite were building construction products, 44%; horticultural aggregate, 21%; fillers, 14%; filter aid, 12%; and other, 9%. Other applications included specialty insulation and miscellaneous uses.

<b><u>Salient Statistics—United States:</u></b>	<b><u>2017</u></b>	<b><u>2018</u></b>	<b><u>2019</u></b>	<b><u>2020</u></b>	<b><u>2021<sup>e</sup></u></b>
Mine production, crude ore	587	504	629	845	860
Sold and used, processed crude perlite	479	444	397	493	500
Imports for consumption <sup>1</sup>	171	204	183	158	180
Exports <sup>1</sup>	18	16	19	25	32
Consumption, apparent <sup>2</sup>	632	632	561	626	650
Price, average value, free on board mine, dollars per ton	71	69	64	61	63
Employment, mine and mill, number	139	130	140	140	145
Net import reliance <sup>3</sup> as a percentage of apparent consumption	24	30	29	21	23

**Recycling:** Not available.

**Import Sources (2017–20):** Greece, 90%; China, 7%; Mexico, 2%; and Turkey, 1%.

<b><u>Tariff:</u></b>	<b><u>Item</u></b>	<b><u>Number</u></b>	<b><u>Normal Trade Relations</u></b>
	Vermiculite, perlite, and chlorites, unexpanded	2530.10.0000	<b><u>12-31-21</u></b> 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. Horticultural perlite is useful to both commercial growers and hobby gardeners. 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 fire resistant, an excellent insulator, and lightweight. 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.

## PERLITE

A California company opened a second expanding plant in southern California and began shipping in April 2021. Project planning progressed at a perlite deposit in Nevada that could be developed as a potential supplier of crude perlite ore for household and industrial applications.

The value of total construction put in place in the United States increased by about 6% during the first 6 months of 2021 compared with that of the same period in 2020, indicating a similar change in consumption of perlite. Construction products remained the largest domestic market for perlite. Increased interest in commercial greenhouse and hobby gardening may also correspond to increased consumption of horticultural-grade perlite.

Based on estimated world production for 2021, the world's leading producers were, in descending order of production, China, Turkey, Greece, and the United States, with about 36%, 29%, 17%, 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 Mine Production and Reserves:

	Production		Reserves <sup>4</sup>
	2020	2021 <sup>e</sup>	
United States	<sup>5</sup> 493	<sup>5</sup> 500	50,000
Argentina <sup>e</sup>	18	20	NA
Armenia <sup>e</sup>	50	50	NA
China <sup>e</sup>	1,500	1,500	NA
Greece	710	710	120,000
Hungary <sup>e</sup>	80	80	49,000
Iran <sup>e</sup>	72	70	73,000
Mexico <sup>e</sup>	20	20	NA
New Zealand <sup>e</sup>	18	20	NA
Slovakia <sup>e</sup>	32	30	NA
Turkey <sup>e</sup>	1,200	1,200	57,000
Other countries <sup>e</sup>	30	30	NA
World total (rounded)	4,220	4,200	NA

**World Resources:**<sup>4</sup> Perlite occurrences in Arizona, California, 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 was 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, coco coir, pumice, vermiculite, and wood pulp 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>Processed ore sold and used by producers.