

## PUMICE AND PUMICITE

(Data in thousand metric tons unless otherwise noted)

**Domestic Production and Use:** In 2020, 10 operations in five States produced pumice and pumicite. Estimated production<sup>1</sup> was 480,000 tons with an estimated processed value of about \$13 million, free on board (f.o.b.) plant. That represented decreases of 15% in quantity and 18% in value from the 2019 reported production of 565,000 tons valued at \$15.9 million. Pumice and pumicite were mined in California, Idaho, Kansas, New Mexico, and Oregon. The porous, lightweight properties of pumice are well suited for its main uses. Mined pumice was used in the production of abrasives, concrete admixtures and aggregates, lightweight building blocks, horticultural purposes, and other uses, including absorbent, filtration, laundry stone washing, and road use.

<b>Salient Statistics—United States:</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020<sup>e</sup></b>
Production, mine <sup>1</sup>	374	383	496	565	480
Imports for consumption	170	166	159	136	48
Exports <sup>e</sup>	10	12	11	11	7
Consumption, apparent <sup>2</sup>	534	537	644	690	520
Price, average value, f.o.b. mine or mill, dollars per ton	38	39	32	28	28
Employment, mine and mill, number	140	140	140	140	140
Net import reliance <sup>3</sup> as a percentage of apparent consumption	30	29	23	18	8

**Recycling:** Little to no known recycling.

**Import Sources (2016–19):** Greece, 93%; Iceland, 5%; and Mexico, 2%.

<b>Tariff:</b>	<b>Item</b>	<b>Number</b>	<b>Normal Trade Relations 12–31–20</b>
	Pumice, crude or in irregular pieces, including crushed	2513.10.0010	Free.
	Pumice, other	2513.10.0080	Free.

**Depletion Allowance:** 5% (domestic and foreign).

**Government Stockpile:** None.

**Events, Trends, and Issues:** The amount of domestically produced pumice and pumicite sold or used in 2020 was estimated to be 15% less than that in 2019. Owing to disruptions likely caused by the COVID-19 pandemic during the first 6 months of 2020, mine production decreased by approximately 15% compared with the same period of 2019. Imports and exports were estimated to have decreased substantially compared with those of 2019. Since 2015, apparent consumption of pumice and the quantity of pumice that was sold or used followed an upward trend until 2020. Almost all imported pumice originated from Greece in 2020 and primarily supplied markets in the eastern and gulf coast regions of the United States. Although the domestic mill price for pumice was approximately \$28 per ton, the average imported value of pumice was approximately \$98 per ton.

Pumice and pumicite are plentiful in the Western United States, but legal challenges and public land designations could limit access to known deposits. Pumice and pumicite production is sensitive to mining and transportation costs. Although unlikely in the short term, an increase in fuel prices would likely lead to increases in production costs, making imports and competing materials attractive substitutes for domestic products.

All known domestic pumice and pumicite mining in 2020 was accomplished through open pit methods, generally in remote areas, away from major population centers. Although the generation and disposal of reject fines in mining and milling may result in local dust issues at some operations, such environmental impacts are thought to be restricted to relatively small geographic areas.

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World production of pumice and related material was estimated to be 21 million tons in 2020, which was 7% more than that of 2019. Turkey, followed by Ethiopia, was the leading global producer of pumice and pumicite. Pumice is used more extensively as a building material outside the United States, which explained the large global production of pumice relative to that of the United States. In Europe, basic home construction uses stone and concrete as the preferred building materials. Prefabricated lightweight concrete walls, which may contain pumice as lightweight aggregate, are often produced and shipped to construction locations. Because of their cementitious properties, light weight, and strength, pumice and pumicite perform well in European-style construction.

### World Mine Production and Reserves:

	Mine production		Reserves <sup>4</sup>
	2019	2020 <sup>e</sup>	
United States <sup>1</sup>	565	480	Large in the United States. Quantitative estimates of reserves for most countries are not available.
Algeria <sup>5</sup>	900	900	
Cameroon <sup>5</sup>	300	1,000	
Chile <sup>5</sup>	800	800	
Ecuador <sup>5</sup>	800	600	
Ethiopia	2,400	2,400	
France <sup>5</sup>	280	300	
Greece <sup>5</sup>	1,020	1,000	
Guadeloupe	200	200	
Guatemala	570	600	
Indonesia	200	770	
Jordan	900	900	
New Zealand	220	220	
Saudi Arabia <sup>5</sup>	560	550	
Spain	200	200	
Syria <sup>5</sup>	200	200	
Tanzania	263	260	
Turkey	7,800	7,800	
Uganda	880	1,000	
Other countries <sup>5</sup>	<u>640</u>	<u>640</u>	
World total (rounded)	19,700	21,000	

**World Resources:**<sup>4</sup> The identified U.S. resources of pumice and pumicite, estimated to be more than 25 million tons, are concentrated in the Western States. The estimated total resources (identified and undiscovered) in the Western and Great Plains States are at least 250 million tons and may total more than 1 billion tons. Large resources of pumice and pumicite have been identified on all continents.

**Substitutes:** The costs of transportation determine the maximum economic distance pumice and pumicite can be shipped and still remain competitive with alternative materials. Competitive materials that may be substituted for pumice and pumicite include crushed aggregates, diatomite, expanded shale and clay, and vermiculite.

<sup>e</sup>Estimated.

<sup>1</sup>Quantity sold and used by producers.

<sup>2</sup>Defined as production + 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>Includes pozzolan and (or) volcanic tuff.