

PUMICE AND PUMICITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2018, 10 operations in five States produced pumice and pumicite. Estimated production¹ was 400,000 tons with an estimated processed value of about \$16 million, free on board (f.o.b.) plant. Pumice and pumicite were mined in Oregon, California, Idaho, New Mexico, and Kansas, in descending order of production. 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.

<u>Salient Statistics—United States:</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018^e</u>
Production, mine ¹	269	310	374	383	400
Imports for consumption	60	64	170	166	180
Exports ^e	14	11	9	11	12
Consumption, apparent ²	315	363	535	538	570
Price, average value, dollars per ton, f.o.b. mine or mill	39	33	38	39	40
Employment, mine and mill, number	140	140	140	140	140
Net import reliance ³ as a percentage of apparent consumption	15	15	30	29	29

Recycling: Little to no known recycling.

Import Sources (2014–17): Greece, 93%; Iceland, 5%; and Mexico, 2%.

<u>Tariff: Item</u>	<u>Number</u>	<u>Normal Trade Relations</u> <u>12–31–18</u>
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 2018 was estimated to be 4% more than that in 2017. Imports and exports increased compared with those of 2017. Since 2015, average unit value, apparent consumption, and quantity of pumice that was sold or used have followed an upward trend. Almost all imported pumice originated from Greece in 2018, and primarily supplied markets in the eastern and Gulf Coast regions of the United States. Turkey and Italy are the leading global producers of pumice and pumicite. While the domestic mill price for pumice is approximately \$40 per ton, the average imported value of pumice was approximately \$30 per ton.

Although pumice and pumicite are plentiful in the Western United States, 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; imports and competing materials could become attractive substitutes for domestic products.

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All known domestic pumice and pumicite mining in 2018 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.

World production of pumice and related material was estimated to be 18 million tons in 2018, which represented a slight increase from that of 2017. 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 significantly less gypsum wallboard because stone and concrete are 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 ⁴
	2017	2018 ^e	
United States ¹	383	400	Large in the United States. Quantitative estimates of reserves for most countries are not available.
Algeria ⁵	350	350	
Cameroon ⁵	360	360	
Chile ⁵	840	840	
Ecuador ⁵	830	850	
Ethiopia	800	800	
France ⁵	280	280	
Greece ⁵	950	1,000	
Guadeloupe	200	200	
Guatemala	570	570	
Italy ⁵	4,040	4,000	
Saudi Arabia ⁵	480	480	
Spain	200	200	
Syria ⁵	200	200	
Tanzania	350	350	
Turkey	5,600	5,600	
Uganda	720	720	
Other countries ⁵	460	900	
World total (rounded)	17,600	18,000	

World Resources: The identified U.S. resources of pumice and pumicite are concentrated in the Western States and estimated to be more than 25 million tons. 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.

^eEstimated.

¹Quantity sold and used by producers.

²Defined as production + imports – exports.

³Defined as imports – exports.

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

⁵Includes pozzolan and (or) volcanic tuff.