

DIATOMITE

(Data in thousand metric tons unless otherwise noted)

Domestic Production and Use: In 2016, production of diatomite was estimated to be 850,000 tons with an estimated processed value of \$250 million, f.o.b. plant. Six companies produced diatomite at 12 mining areas and nine processing facilities in California, Nevada, Oregon, and Washington. Diatomite is used in filtration, 60%; lightweight aggregates, 25%; fillers, 10%; absorbents, 4%; and other applications, 1%, including specialized pharmaceutical and biomedical uses. The unit value of diatomite varied widely in 2016, from approximately \$10 per ton when used as a lightweight aggregate in portland cement concrete to more than \$500 per ton for limited specialty markets, including art supplies, cosmetics, and DNA extraction.

Salient Statistics—United States:	2012	2013	2014	2015	2016^e
Production ¹	735	782	901	832	850
Imports for consumption	3	1	4	7	8
Exports	96	92	82	75	66
Consumption, apparent	642	691	823	764	792
Price, average value, dollars per ton, f.o.b. plant	286	293	298	291	294
Stocks, producer, yearend ^e	40	40	40	40	40
Employment, mine and plant, number ^e	660	660	660	660	660
Net import reliance ² as a percentage of apparent consumption	E	E	E	E	E

Recycling: None.

Import Sources (2012–15): Canada, 52%; France, 16%; Mexico, 16%; China, 6%; and other, 10%.

Tariff:	Item	Number	Normal Trade Relations
	Siliceous fossil meals, including diatomite	2512.00.0000	<u>12–31–16</u> Free.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

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Events, Trends, and Issues: The amount of domestically produced diatomite sold or used by producers in 2016 increased slightly compared with that of 2015. Apparent domestic consumption increased by 4% in 2016 to an estimated 792,000 tons; exports decreased by 12%. Filtration (including the purification of beer, liquors, and wine and the cleansing of greases and oils) continued to be the largest end use for diatomite, also known as diatomaceous earth. Domestically, diatomite used in the production of cement was the next largest use. An important application for diatomite is the removal of microbial contaminants, such as bacteria, protozoa, and viruses in public water systems. Other applications for diatomite include filtration of human blood plasma, pharmaceutical processing, and use as a nontoxic insecticide.

In 2016, the United States was the leading producer of diatomite, accounting for 32% of total world production, followed by Denmark with 16%, China with 16%, Argentina with 7%, and Peru with 6%. Smaller quantities of diatomite were mined in 23 additional countries.

World Mine Production and Reserves:

	Mine production		Reserves ³
	<u>2015</u>	<u>2016^e</u>	
United States ¹	832	850	250,000
Argentina	200	200	NA
China	420	420	110,000
Denmark ⁴ (processed)	440	440	NA
France	75	75	NA
Japan	100	100	NA
Korea, Republic of	70	70	NA
Mexico	80	80	NA
Peru	150	150	NA
Russia	70	70	NA
Spain	50	50	NA
Turkey	60	60	44,000
Other countries	<u>121</u>	<u>120</u>	<u>NA</u>
World total (rounded)	2,670	2,690	Large

World Resources: World resources of crude diatomite are adequate for the foreseeable future.

Substitutes: Many materials can be substituted for diatomite. However, the unique properties of diatomite assure its continuing use in many applications. Expanded perlite and silica sand compete for filtration. Filters made from manufactured materials, notably ceramic, polymeric, or carbon membrane filters and filters made with cellulose fibers, are becoming competitive as filter media. Alternate filler materials include clay, ground limestone, ground mica, ground silica sand, perlite, talc, and vermiculite. For thermal insulation, materials such as various clays, exfoliated vermiculite, expanded perlite, mineral wool, and special brick can be used. Transportation costs will continue to determine the maximum economic distance that most forms of diatomite may be shipped and still remain competitive with alternative materials.

^eEstimated. E Net exporter. NA Not available.

¹Processed ore sold and used by producers.

²Defined as imports – exports + adjustments for industry stock changes.

³See [Appendix C](#) for resource and reserve definitions and information concerning data sources.

⁴Includes sales of moler production.