

Diatomite

By Benjamin Petkof ¹

Domestic diatomite production in 1972 increased 8% in quantity and 9% in value compared with 1971 figures. The United States maintained its status as a major

world diatomite producer. Exports of processed diatomite to countries throughout the world increased significantly in quantity and value over those of 1971.

DOMESTIC PRODUCTION

Production increased in the major producing States of California and Nevada, but declined in Arizona and Oregon and remained unchanged in Washington. California retained its place as the largest producing State, followed by Nevada, Washington, Arizona, and Oregon.

During 1972 nine companies, with a total of 11 operations, mined and prepared diatomite for various industrial end uses. This was an increase of one producing company from the number reported in 1971. The bulk of the diatomite produced during the year was supplied by the following companies: Johns-Manville Products Corp., with facilities near Lompoc, Calif.; GREFCO, Inc., with operations near Mina, Nev., and Lompoc, Calif.; Eagle-Picher Industries, Inc., with operations near Sparks and Lovelock, Nev.; and Kenite Corp., Division of Whitco Chemical Corp., with an operation near Quincy, Wash. The remaining producers were: Superior Company near San Manuel, Ariz.; Basalt Rock Co. Inc., near Napa, Calif.; Airox, Inc., near Santa Maria, Calif.; The United Sierra Division, Cyprus Mines Corp. near Fernley,

Nev.; and A. M. Matlock near Christmas Valley, Oreg. The Kenite Corp. completed an expansion program at the Quincy, Wash. plant with the addition of a new larger kiln and an air classifier.

A new pattern has appeared in the domestic distribution of diatomite filter aid that partially replaces the bagged shipment of the processed diatomite. A bulk distribution station was established at Rollins Terminals in Norristown, Pa., by the Celite Division of the Johns-Manville Products Corp. Prepared filter aid will be shipped from Lompoc, Calif., to Norristown in bulk pneumatic discharge hopper cars, unloaded into silos, and shipped in bulk truck loads to consumers in the eastern United States.

Johns-Manville Products Corp. also announced the introduction of a system to recover spent diatomite filter aid. The system recovers up to 60% of the filter aid from the filter cake using either a batch or continuous method of operation.

¹ Physical scientist, Division of Nonmetallic Minerals.

Table 1.—Diatomite sold or used by producers in the United States

	1966-68 ¹	1969	1970	1971	1972
Domestic production (sales).....short tons..	1,881,877	598,482	597,636	535,318	576,089
Average value per ton.....	\$54.18	\$60.96	\$54.63	\$64.25	\$65.19

¹ Annual figures are confidential, prior to 1969.

CONSUMPTION AND USES

All major end uses reported significant increases in consumption. However, the percentage of total consumption for each end use varied only slightly from that of 1971. Filtration, the major end use of prepared diatomite, required almost three-

fifths of the total material sold or used by producers in 1972. The remainder was used for industrial fillers, insulation, lightweight aggregates, pozzolans, soil conditioners, and other miscellaneous uses.

Table 2.—Domestic consumption of diatomite, by principal use, in percent of total consumption

Use	1968	1969	1970	1971	1972
Filtration.....	55	58	58	59	58
Fillers.....	21	20	19	W	W
Insulation.....	4	4	4	3	4
Miscellaneous.....	20	18	19	38	38

W Withheld to avoid disclosing individual company confidential data, included with "Miscellaneous."

PRICES

The weighted average value per ton of diatomite for all end uses in 1972, increased only slightly from that of 1971. Small increases in value per ton were reported for almost all end uses except for the abrasives which declined 10%.

Table 3.—Average annual value per ton of diatomite, by use

Use	1971	1972
Filtration.....	\$72.64	\$73.08
Insulation.....	45.34	47.02
Abrasives.....	139.04	125.27
Fillers.....	65.92	69.37
Lightweight aggregate.....	42.97	43.07
Miscellaneous.....	37.91	39.01
Weighted average.....	64.25	65.19

FOREIGN TRADE

Exports of prepared diatomite increased 4% in quantity and 7% in value over that of 1971 after declining since 1969. Major countries of destination for these exports were: Canada 25%; West Germany 11%; Japan 9%; the United Kingdom 8%; Australia 6%; Italy 4%; and Republic of South Africa 3%. The remainder was exported to many other developed and undeveloped countries of the world. The average value of exported material was \$85.16 per ton. Imports of crude or processed material totaled 63 tons val-

ued at \$9,440. This material was imported from Mexico, Kenya, Canada, the United Kingdom, and West Germany. These imports were probably used to evaluate the diatomite deposits of these countries.

Table 4.—U.S. exports of diatomite
(Thousand short tons and thousand dollars)

Year	Quantity	Value
1970.....	154	12,363
1971.....	142	11,752
1972.....	148	12,603

WORLD REVIEW

Overall world production of diatomite remained relatively unchanged from that of the previous year.

Increasing cost of transportation has tended to inhibit the growth of exports of domestically prepared diatomite during the

past few years. This situation has stimulated interest in other deposits throughout the world. As a result of this trend the Johns-Manville Products Corp. has begun operating diatomite deposits at Murat, France, and Elch de la Sierra, Spain.

Iceland continued to produce and export diatomite for use as a high-quality filter aid. About one-third of the material exported is sent to West Germany, with the remainder distributed to countries that are mostly in western Europe.

Table 5.—Diatomite: World production by country
(Short tons)

Country	1970	1971	1972 ^p
North America:			
Canada ^e	480	500	500
Costa Rica	† 20,944	23,149	° 23,000
Mexico	25,127	24,233	° 25,000
United States	597,636	535,318	576,089
South America:			
Argentina	9,070	10,563	° 10,600
Colombia	309	331	° 330
Peru	† 2,820	° 3,000	° 3,000
Europe:			
Austria	4,153	3,400	° 3,400
Denmark:			
Diatomite ^e	22,000	22,000	22,000
Moler ^e	240,000	240,000	240,000
Finland	734	° 770	° 770
France	176,152	° 190,000	° 190,000
Germany, West (marketable)	100,924	97,737	63,985
Iceland	14,593	21,385	° 22,000
Italy	65,279	° † 65,000	° 65,000
Portugal	3,522	5,118	1,827
Spain	20,434	° 22,000	° 22,000
Sweden	6,471	5,585	° 5,500
U.S.S.R. ^e	410,000	410,000	420,000
United Kingdom	15,170	° 15,500	° 15,500
Africa:			
Egypt, Arab Republic of	2,564	2,480	° 2,400
Kenya	1,765	1,543	° 1,500
South Africa, Republic of	935	353	346
Asia: Korea, Republic of	2,848	3,486	° 3,500
Oceania:			
Australia	† 2,923	1,534	° 1,300
New Zealand	6,485	6,986	° 7,000
Total	† 1,753,348	1,712,031	1,726,547

^e Estimate. ^p Preliminary. [†] Revised.

TECHNOLOGY

A mixture has been developed using diatomite as a mineral carrier and containing a degreasing fluid such as trichlorethylene, tetrachlorethylene, or carbon tetrachloride for removing oil, grease, or fat on road, floor, and water surfaces. The mixture can also include a small quantity of synthetic

detergent or other surface active material. Floating oil, when treated with this formulation sinks to the sea bottom causing no apparent effect to fish, birds, and other sea life.²

² Marel, Guy. Mixture for eliminating oil, grease, or fat on road, floor or water surfaces. Brit. Pat. 1,273,971.

