

W. R. GRACE & Co.

7 HANOVER SQUARE, NEW YORK, N. Y. 10005

GEORGE F. MASON, JR.
VICE PRESIDENT AND
ASSOCIATE GENERAL COUNSEL

January 6, 1967

Federal Trade Commission
Washington, D.C. 20580

Attention: William A. Arbitman, Esq.

Re: File No. 671 0622

Gentlemen:

This is in reply to the letter of November 10, 1966 addressed by Mr. William J. Boyd, Chief, Division of Mergers of the Federal Trade Commission to Mr. J. Peter Grace, President, W. R. Grace & Co.

The following responses are numbered to correspond with the item numbers in the letter of November 10, 1966 and the names "W. R. Grace & Co." and "Grace" are used herein in the manner indicated in the third paragraph of that letter.

Item 1. The following is a list by their Seven Digit Census Product Codes of vermiculite and perlite products produced by Grace.

<u>Seven Digit Code</u>	<u>Product</u>
14993 05	Vermiculite Ore
32950 11	Expanded Perlite
32950 13	Exfoliated Vermiculite - Light-Weight Aggregate
32950 15	Exfoliated Vermiculite - Other (such as loose fill insulation, acoustical, etc.)

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Grace does not produce any products which are substantially similar to vermiculite or perlite and/or competitive with them.

The following is a description of each of the aforesaid vermiculite and perlite products:

14993 05 - Vermiculite Ore

Vermiculite is a micaceous mineral that exfoliates or expands when heated. It is a hydrated magnesium-aluminum-iron silicate.

W. R. Grace & Co. through its Zonolite division mines vermiculite ore concentrate at Libby, Montana and Enoree, South Carolina. The ore is washed, sized and shipped to expanding plants, dealers, distributors and customers for exfoliation. There is some ore used in the unexfoliated state but the greatest use is for exfoliated products.

32950 11 - Expanded Perlite

Perlite is a volcanic porous rock which, when subjected to high temperatures expands to several times its original size. Expanded perlite is a light-weight, snow-white, bead-size material.

Expanded perlite is used as a light-weight additive for building plaster and as an aggregate for roof deck concrete. It is also used as a granular insulating material for low temperature storage, in cryogenic insulation, and horticulturally for seed bed material.

32950 13 - Exfoliated Vermiculite - Light-Weight Aggregate

Exfoliated vermiculite is used as an aggregate with gypsum in light-weight, fireproofing plaster and with portland cement in light-weight, fireproof concrete for floor, roof and roof deck insulation.

32950 15 - Exfoliated Vermiculite - Other

Exfoliated vermiculite for uses other than as a light-weight aggregate include:

(a) Attic Insulation and Insulating Fill - Loose fill products used principally for insulating ceilings and sometimes walls in new and existing buildings.

(b) Masonry Fill - Fireproof, rodent-proof, loose-fill insulation designed for filling the cores of concrete blocks and the cavity of hollow masonry walls.

(c) Acoustical and Fireproofing Products - Consist of a line of pre-mixed materials, which are mixed with water at the job site for spraying on steel and concrete surfaces to provide insulation, sound conditioning, fireproofing and an attractive finish. The products are composed of vermiculite, combined with swelling type clays or gypsum binders, asbestos fibers and other additives for specific features, such as workability, color, etc.

(d) Agriculture, Home Gardening and Outdoor Living Uses - Include an anti-caking agent for high analysis farm fertilizers; chemical carrier for pesticides, herbicides and plant nutrients; firebase for charcoal in outdoor grills; soil conditioner; mulch; seed starter; plant propagator.

(e) Industrial Uses - Include insulating of coke ovens, slow cooling of forgings, grease absorbent ingredient, packaging and shipping.

Vermiculite and perlite compete in their different end-uses in varying degrees. Generally, the physical characteristics determine which has the greater acceptance for a given application and in most cases price is not an important factor.

However, in all cases both perlite and vermiculite compete with a wide variety of other materials. Discussions of vermiculite versus perlite and their major end-uses follow:

Plaster Aggregate

Perlite finds its greatest use as a light-weight aggregate for plaster where vermiculite finds very limited use. Most plasterers prefer perlite plaster mixes over vermiculite because perlite has the abrasive characteristics of sand (sand is widely used in plaster) and because of its white color.

Vermiculite does find some use as a plaster aggregate primarily where greater acoustical properties and/or an improved textured finish is desired.

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Mineral Type Insulating Board

The second largest use for perlite is in mineral type insulating board such as Johns-Manville "Fresco" Board. Vermiculite finds little or no use in this application. Perlite is much cheaper than vermiculite in this application. Perlite also provides a higher insulating value and drains and dries easier in the production of the board.

Filter Aid

Perlite finds wide usage as a filter aid in filtration of water and various chemicals. Vermiculite, because of its moisture absorbing characteristics, is unsuitable for this usage.

Cryogenic Insulation

Perlite also finds wide usage in cryogenic insulation where it provides a higher insulating value than vermiculite and at a lower cost.

Concrete Aggregate

The major area of competition between vermiculite and perlite is as a light-weight aggregate in concrete mixes. Here vermiculite and perlite compete with a number of other aggregates including expanded shale and cellular or foamed concrete.

Vermiculite and perlite have quite different features as a concrete aggregate. Perlite concrete has a higher insulating value than vermiculite concrete, it is stronger, uses less water in the mix and dries faster, and has a somewhat lower cost.

Vermiculite concrete is much easier to pump than perlite concrete which, because it is very abrasive, does not lend itself to pumping well and vermiculite concrete is more stable than perlite concrete which has unpredictable growth characteristics.

Agricultural/Horticultural

In the agricultural/horticultural field, the physical characteristics again play the leading role in determining preference between vermiculite and perlite.

Perlite sheds water and accordingly is widely used where good drainage is desired. In addition, it can be washed, sterilized and reused while vermiculite cannot. Its pure white color is also an important factor in some applications.

Vermiculite, on the other hand, retains moisture which gives it an advantage where water retention is desired.

As a chemical carrier, vermiculite is much preferred over perlite because it can absorb large quantities of liquids and remain free flowing, and because it is non-abrasive. Perlite finds little use as a carrier because of its low moisture retention and its abrasiveness damages some spreaders. In certain areas, perlite can offer a price advantage depending on proximity to mining and expanding facilities.

Home Insulation

Vermiculite and perlite compete with a great many products in the insulation field.

As to vermiculite versus perlite, vermiculite has certain characteristics that make it preferable over perlite in the "loose fill" type of insulation.

First it is relatively dust-proof as compared to perlite which is quite dusty. Secondly, it flows better than perlite. These factors are major plusses for the home insulation market which is predominately "do it yourself".

Perlite, on the other hand, has a higher insulation value, a somewhat lower cost and is universally available. The latter advantage is partially offset by a lack of uniformity in the product.

Copies of the following brochures, specification sheets, catalogues and other similar materials which describe vermiculite and perlite products are enclosed herewith in the folder marked "Exhibit 1-1".

Vermiculite-General

G-231 Properties and Uses (of Vermiculite)

Perlite

PA-95 Tile-Ag Perlite Tile Aggregate
PA-96 Perl-Ag Perlite Plaster Aggregate
TL-105 Perl-Lite Horticultural Perlite
Perlite Institute Perlite Loose Fill Insulation
Perlite Institute Perlite Plaster Aggregate

Exfoliated Vermiculite-Aggregate

CA-100 Series-Zonolite Insulating Concrete
CA-140 Vermiculite Concrete Roof Deck Systems
PA-54 Zono-Cooustic Acoustical Plaster
PA-99 Plaster Aggregate and Spray-On Fireproofing

Exfoliated Vermiculite - Other

HI-108 Zonolite Insulations
HI-119 Zonolite Insulating Fill
MF-83 Masonry Fill Insulation
MF-125 Guide Specifications for Masonry Fill
PA-87 Fire Protection and Sound Absorption
G-272 Verxite Granules
TL-138A Terra-Lite
G-187 Bar-B-Sorb

Additional literature of this type was submitted as Exhibit 6 to Grace's letter of April 1, 1963 in response to the Commission's inquiry of March 18, 1963 relating to the acquisition by Grace of The Zonolite Company.

Item 2(a). The products listed in response to Item 1 are mined, manufactured, processed and/or sold by the Zonolite division, Texas Vermiculite Company, a 76%-owned subsidiary, California Zonolite Company, a 100%-owned subsidiary, and Ari-Zonolite Company, a 67%-owned subsidiary. *Vermiculite-Metals, Inc., a 100% subsidiary*

Item 2(b). Exhibit 2(b)-1 submitted herewith shows the location of all mining, manufacturing, processing and principal distribution facilities for those products listed in Item 1 that were owned and/or operated by Grace during 1963, 1964 and 1965 and the principal product or products mined or manufactured therein.

The normal selling areas for each facility, except the mines, is a radius of 150 miles from the plant. The Enoree, South Carolina mine serves the Eastern section of the United States and the Libby, Montana mine serves the Central and Western sections of the United States.

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Item^s 2(c), (e) and (f). Records are maintained by Zonolite of the quantity and dollar value of sales of each selling district rather than of the quantity and dollar value of sales, and shipments (including interplant transfers) made from each facility listed in Exhibit 2(b)-1.

Exhibit 2(c)-1 submitted herewith shows sales by seven digit product codes for each selling district. It is believed that the shipments would have been made, for the most part, from the facility listed in Exhibit 2(c)-1. However, the sales will also include some shipments made into the district from one or more of the listed facilities.

Item 2(d). The following describes the competition and market shares for each product listed in Item 1, ~~to the extent that it is known by Grace~~. Grace has no meaningful information by individual selling areas.

14993 05 - Vermiculite Ore

Vermiculite ore production in the United States in 1964 according to the "Bureau of Mines Mineral Yearbook - 1964" was 226,300 tons. In addition, 18,400 tons were imported from South Africa.

Grace's production of vermiculite ore in 1964 was 221,000 tons (approximately 90% of the total U. S. production and imports for the year). Other U. S. producers of vermiculite according to the Minerals Yearbook are:

Patterson Vermiculite Co., South Carolina
American Vermiculite Co., South Carolina
Rimledge Uranium and Mining, Colorado

There is a great deal of vermiculite ore located all over North America. However, the only known large deposits with high concentration are owned by Grace and the companies referred to above.

Grace's large share of the U. S. vermiculite production arises out of the natural phenomenon that the largest known vermiculite deposit in the Western Hemisphere is in a knoll in northwestern Montana that is owned by Grace. It is estimated that this single deposit, which is located on one knoll in Montana, represents more than 90% of the total developed vermiculite reserves in the United States.

Vermiculite finds fierce competition in every market from many of the nation's largest suppliers of construction materials and from such materials as perlite, glass fiber, foam plastics, peat moss, blast furnace slag, gypsum, rock wool, polystyrene foam, asbestos, sand and many others.

32950 11 - Perlite

The Bureau of Mines Mineral Yearbook - 1965 "Preprint on Perlite" shows that 344,000 tons of expanded perlite were sold by U. S. producers in 1965 and that perlite was expanded by 83 companies at 97 plants.

Grace sold 7,900 tons of expanded perlite in 1965 or 2% of total U. S. sales.

Names and addresses of perlite expanders are given in the Pit and Quarry Map furnished as Exhibit 2(d)-1.

32950 13 - Exfoliated Vermiculite Aggregate

The Department of Commerce Census of Manufacturers provides "7 digit" product information every five years. The most recent "7 digit" information is for the calendar year 1963.

The 1963 Census provided two classifications for light-weight aggregate as follows:

- 1) 32950 11 - Light-Weight Aggregate (such as diatomaceous earth, expanded clay, expanded slag, perlite, cinders, haydite, pumice, but excluding vermiculite) and
- 2) 32950 13 - Exfoliated Vermiculite - Aggregate

The reportable quantities published by the Department of Commerce for these classifications and Grace's sales of each are as follows:

<u>Light-Weight Aggregate</u>		10027138		
		<u>1963 Census</u>		
		<u>Total U.S. Production</u> (tons)	<u>Sold by Grace</u> (tons)	<u>% of Total</u>
32950 11	Light-weight aggregate, ex vermiculite	5,753,913	4,430	0.1%
32950 13	Light-weight aggregate, vermiculite	72,469	32,640	45.0%
		<u>5,831,382</u>	<u>37,070</u>	<u>0.6%</u>

Grace's sales in the 32950 11 classification were of expanded perlite. There is intense competition in these markets from other materials. As shown above, Grace's share of the light-weight aggregate market, as determined by the 1963 Census of Manufacturers, was less than 1%. Grace's share of vermiculite aggregate sales is due to the natural phenomenon of the vermiculite concentration in the one knoll in Libby, Montana as discussed above.

There are a great many producers of light-weight aggregate in the United States. Pit and Quarry Publications, 431 S. Dearborn Street, Chicago, Illinois publishes a map each year showing the "Light-weight Aggregate Producing Plants in the United States and Canada." A copy of the 1965 edition of this map is submitted herewith as Exhibit 2(d)-1. This map gives the names and addresses of most of the U. S. producers of the following light-weight aggregates: Cinders, Diatomite, Expanded Clay, Expanded Perlite, Expanded Shale, Expanded Slag, Expanded Slate, Expanded Vermiculite, Fly Ash, Pumice, Tuff, Volcanic Ash, Volcanic Cinders, Volcanic Scoria.

It is believed that this map, although not all inclusive, lists the majority of the light-weight aggregate producers. However, as noted on the map, "Plants manufacturing light-weight aggregate solely for their own use are not listed on the map. Also omitted from this map are plants that failed to provide information regarding their product, location and brand name."

The sales of light-weight aggregate of these producers (excluding Grace and its distributors) is not known to Grace.

32950 15 - Exfoliated Vermiculite - Other

Grace sold 51,345 tons (52%) of the total tonnage (98,951 tons) of Exfoliated Vermiculite - Other (Code 32950 15) reported in the 1963 Census of Manufacturers (the most recent 7 digit census).

Grace sales reported under Exfoliated Vermiculite - Other (Code 32950 15) in the 1963 Census of Manufacturers had end-uses as follows:

<u>Expanded Vermiculite - Other</u>	<u>Estimated Sales by End-Use</u>
Building Insulation	\$ 2,000,000
Carrier for Non-Farm Agricultural Chemicals	800,000
Mixed Products - Fireproofing and Acoustical	600,000
Soil Conditioner (Terralite)	300,000
Miscellaneous (Firebase, etc.)	200,000
	<u>\$ 3,900,000</u>

Building Insulation

Grace sells expanded vermiculite as loose-fill insulation for new and existing buildings. This is known as home insulation where it is used principally to insulate attics and as masonry fill insulation in concrete block and cavity wall construction where it is poured in the core of the block or in the void between two masonry surfaces.

The total building insulation market was estimated by Grace management to have been well in excess of \$150,000,000 in 1963 with Grace's estimated vermiculite sales to the market of \$2,000,000 representing 1.3% of the total. Mineral wool insulation is the biggest factor in this market as indicated by the 1963 Census of Manufacturers which reported under Code 32961 - "Mineral Wool of Structural Insulation" - total shipments of \$107,678,000. ~~of which \$19,061,000 was in "Loose Wool and Granulated Wool" and \$81,333,000 in "Building Batts, Blankets and Rolls"~~

Zonolite's principal competition in the building insulation market are:

Armstrong Cork Co.
Allied Chemical
Baldwin-Ehret-Hill, Inc.
Celotex Corp.
Dow Chemical Co.
Eagle Picher Co.
Gustin-Bacon Mfg. Co.
Johns-Manville
Libby-Owens-Ford Glass Co.
National Gypsum Co.
Owens-Corning Fiberglas Corp.
Pittsburg Plate Glass Co.
Reynolds Metals Co.
U. S. Gypsum

Carrier for Non-Farm Agricultural Chemicals

There is no published information on this market. Grace's estimate of the Zonolite Company's position in this market was described in Grace's letter of April 1, 1963 replying to the March 18, 1963 inquiry of the Federal Trade Commission as follows:

"Zonolite's vermiculite competes with the following products as a carrier for non-farm agricultural chemicals: perlite, ground corn cobs, cocoa shells, pecan shells, calcined clay, sand, limestone, rice hulls and straw." Zonolite's principal competitors in this market are:

Great Lakes Carbon —
Johns-Manville
United Perlite Corp.
Oneida Perlite Corp.
Minerals & Chemicals
Georgia Kaylon Co.
International Minerals

In addition to the above, materials used as carriers for agricultural chemicals are readily available throughout the country from many local suppliers.

The size of the market for carriers of non-farm agricultural chemicals is not available. Accordingly, Grace's percentage of this total market is not known. The total market for non-farm agricultural chemicals was estimated to be \$250,000,000 annually in an article in "Chemical Week" magazine (February 23, 1963, page 121). It is therefore a reasonable inference that the percentage of the total market in carriers for non-farm agricultural chemicals represented by Grace's sales in this market is very small.

Mixed Products - Fireproofing and Acoustical

Grace's mill mixed plasters for fireproofing and acoustical insulation compete with perlite plasters, acoustical tile, cement encasement, lath and plaster, and sprayed-on asbestos sold by the following companies which are Grace's major competitors in this field:

Armstrong Cork Co.
Asbestos Spray Corporation
Celotex Corporation
Columbia Acoustics & Fireproofing Co.
Great Lakes Carbon Co.
Johns-Manville
Keasbey and Mattison Co.
National Gypsum Co.
Smith and Kanzler Corporation
U. S. Gypsum

Data is not available for the total annual sales of building fireproofing materials. The annual sales of acoustical tile as estimated in "Sound Ideas" (Summer 1962 Edition, published by the National Acoustical Contractors Association) are \$120,000,000. It is further estimated by this publication that acoustical tile sales account for 98% of the annual U. S. acoustical insulation market. Based on these figures, Grace's sales in the building, fireproofing and acoustical insulation market represent less than 1% of the market.

Soil Conditioner (Terralite)

Grace's Terralite competes with peat moss in the market for soil conditioners. Grace does not know of any single large producer of peat moss. The "Minerals Yearbook, 1961" (Volume II) states that they surveyed 123 producers in 22 states to obtain production statistics.

This publication shows that the total peat moss consumed in the U. S. in 1961 amounted to \$18,200,000. 94% of the peat moss consumed in the U. S. in 1961 was used for soil conditioning. Grace's estimated sales of Terralite for the fiscal year ending March 31, 1962 amounted to \$320,000 or approximately 1.8% of the total soil conditioner market.

Item 3. The corporations engaged in the manufacture, processing and/or sale of any of the products listed in response to Item 1 which were acquired by Grace since January 1, 1951 are the Zonolite Company and Perlite, Inc.

In addition, upon the acquisition of the Zonolite Company Grace acquired among other assets of Zonolite approximately 27.5%, 46.8%, 33.3% and 32.9% of the capital stock of Vermiculite Northwest, Inc., California Zonolite Company, Ari-Zonolite Company and Western Mineral Products Company, respectively. The Zonolite Company participated

in the formation of these companies furnishing financial assistance, people, know-how, formulas, product literature advertising, etc. The Zonolite chief executive was a member of the Board of Directors of each company and actively participated in the management of the companies. In addition, Zonolite specialists, including financial, technical and marketing personnel, assisted them in their operations.

Grace acquired during 1966 all of the outstanding stock of Vermiculite Northwest and California Zonolite not already owned by Grace and also acquired an additional 33 1/3% of the stock of Ari-Zonolite. In 1966, Western Mineral Products was merged into Grace. These transactions were effected in each case in order to permit the stockholders of these companies to obtain a readily marketable security to represent their investment and to afford to them a participation in Grace's other activities.

Detailed information regarding The Zonolite Company was furnished to the Federal Trade Commission by Grace in response to the Commission's inquiries of March 18 and June 24, 1963. The information so furnished is incorporated herein by reference.

The following information is submitted in respect of Perlite, Incorporated, Vermiculite Northwest, California Zonolite, Ari-Zonolite and Western Mineral Products.

~~Reference 3-2~~

Perlite, Incorporated

Perlite, Incorporated, 1050 S. E. 5th Street, Hialeah, Florida, was acquired by Grace on October 18, 1965. Grace purchased for \$175,000 cash the land, building, production equipment and the trade name "Floralite". In addition, the inventory on hand on October 18, 1965 was purchased for \$19,818.

Perlite, Incorporated served the Southern Florida market with a line of construction and horticultural products. Its only manufacturing operation was the expansion of perlite ore and packaging of the expanded product. Its products fall into two seven digit census product codes as follows:

32950 11 - Expanded Perlite
99989 00 - Resale Items

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Perlite, Incorporated's sales of expanded perlite products, in the estimated order of importance are: plaster aggregate, concrete aggregate, ceramic tile mortar aggregate and as a light-weight soil mix for horticultural use.

In addition to the expanded perlite line, Perlite, Incorporated handled on a jobber basis a line of construction items principally lime products, roof metal products and cement. Since these items were not manufactured by Perlite, Incorporated, they all fall into the Census Product Code for resale items (99989 00).

Perlite, Incorporated operations were all conducted from its one plant in Hialeah, Florida located at 1050 S. E. 5th Street and its normal selling area is in a 275 mile radius of Hialeah, Florida.

Perlite, Incorporated had gross sales for the fiscal year ended October 31, 1964 of \$276,700, of which \$152,700 was in perlite products and \$124,000 in resale items. Its total assets on October 31, 1964 were \$147,182. This was from the most recent balance sheet submitted to Grace by Perlite, Incorporated.

The following is a list of the names and addresses of the Perlite, Incorporated executive personnel at time of acquisition by Grace:

<u>Name</u>	<u>Position</u>	<u>Home Address</u>
LaVerne Christopher Allen	President & Treasurer	Morgantown, West Virginia
Mabel V. Grimes	Vice President	Morgantown, West Virginia
Bruce Noland	General Manager	Miami, Florida
Robert W. Allen	Secretary	Morgantown, West Virginia

Reference 3-3

Vermiculite-Northwest, Inc.

On September 15, 1966, Grace acquired 5,285 shares representing 72.5% of the outstanding shares of common stock of Vermiculite-Northwest, Inc., 2020 Airport Way South, Seattle, Washington, in exchange for 1,886 shares of Grace common stock. The purchase price was based on the December 31, 1965 book value of the 5,285 shares purchased which was \$103,590. The Grace shares were calculated at the average market value for the month of December 1965 which was \$54.93. The purchase of the additional 5,285 shares gave Grace full ownership of the

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company as The Zonolite Company owned 2,000 shares at the time of acquisition by Grace.

Vermiculite-Northwest purchased vermiculite ore from Grace which it exfoliated and sold under "Zonolite" brand names. The company also sold under Zonolite brand names glass fiber insulation manufactured by Johns-Manville.

Vermiculite-Northwest's product line was the same as the Zonolite product line described in response to Item 1. Approximately 60% of the sales of Vermiculite-Northwest was of exfoliated vermiculite products and approximately 40% was glass fiber insulation.

Vermiculite-Northwest operated an expanding plant in a leased facility at North 1319 Maple Street, Spokane, Washington, and an expanding plant in leased facilities at 2303 N. Harding Street, Portland, Oregon. In addition, it leased a warehouse/office building located at 2020 Airport Way South, Seattle, Washington. Its selling area covers the States of Washington, Oregon and Northern Idaho and its sales in 1965 were \$673,000. It had total assets on September 30, 1966 of \$193,817.

The following is a list of the names and addresses of Vermiculite-Northwest's executive personnel at time of acquisition:

<u>Name</u>	<u>Position</u>	<u>Home Address</u>
W. V. Culver	President	11012 S.E. 31st Street Bellevue, Washington
A. C. Tressl	Vice President, Treasurer and Sales Manager	East 14219 Valley Way Spokane, Washington
M. McDaniel	Production Manager	West 734 Knox Spokane, Washington

Reference 3-4

California Zonolite Company

On September 14, 1966, Grace purchased 18,917 shares (53.2%) of the 35,584 outstanding shares of the capital stock of California Zonolite Company, 758 Colorado Boulevard, Los Angeles, California for 23,727 shares of

Grace stock which, valued at the September 14, 1966 closing price on the New York Stock Exchange of \$38.125, had a value of \$904,592. As The Zonolite Company owned 16,667 shares of the California Zonolite stock at the time Grace acquired Zonolite, this purchase gave Grace full ownership of the company.

California Zonolite purchased vermiculite ore from Grace which it exfoliated and sold under Zonolite brand names. The company also sold under Zonolite brand names glass fiber insulation manufactured by Johns-Manville.

This company's principal products are the exfoliated vermiculite products described in response to Item 1. It also sold, on a resale basis, glass fiber insulation and polystyrene molded board.

California Zonolite operates vermiculite expanding plants located at 6851 Smith Avenue, Newark, California and at 5440 San Fernando Road West, Los Angeles, California. In addition, they maintained the headquarters in a leased facility at 758 Colorado Boulevard, Los Angeles, California. Its normal selling area covers the state of California and western portions of Nevada and its net sales in 1965 were \$1,887,000. Its total assets on September 30, 1966 were \$999,803.

The following is a list of the names and addresses of California Zonolite's executive personnel at time of acquisition:

<u>Name</u>	<u>Position</u>	<u>Home Address</u>
C. H. Wendel	President	432 Georgian Road Pasadena, Calif.
J.A. Kelley	Treasurer	2672 Orrington Avenue Evanston, Illinois
A. W. Dambros	Vice President, Sales Manager, So. California	15214 Tuba Street Mission Hills, Calif.
T. H. Pickthall	Vice President, Sales Manager, No. California	42253 Camino Santa Barbara, Mission Highlands East, Fremont, Calif.
D. F. Gillin	Assistant to President	5534 Gross Canyon La Crescenta, California
J. H. Huxley	Production Manager	915 University Avenue Burbank, California

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Reference 3-5

Ari-Zonolite Company

On September 14, 1966, Grace purchased 2,000 shares (1/3 of the 6,000 outstanding) of the capital stock of Ari-Zonolite, 5201 Glendale Avenue, Glendale, Arizona, for \$62,100 in cash plus an additional \$5,220 in cash for the change in its book value between December 31, 1965 and September 14, 1966. As The Zonolite Company owned 2,000 shares of Ari-Zonolite stock at the time Grace acquired Zonolite, this purchase gave Grace two-thirds ownership of the company.

Ari-Zonolite purchased vermiculite ore from Grace which it exfoliated and sold under Zonolite brand names. The company also sold under Zonolite brand names glass fiber insulation manufactured by Johns-Manville.

Ari-Zonolite's principal products are the exfoliated vermiculite products described in response to Item 1. It also sold, on a resale basis, glass fiber insulation and polystyrene molded board.

Ari-Zonolite operates out of one plant located at 5201 Glendale Avenue, Glendale, Arizona. Its sales territory covers the state of Arizona and a small portion of southern Nevada. Its net sales for the year ended December 31, 1965 were \$338,900 and its total assets on September 30, 1966 were \$260,828.

The following is a list of the names and addresses of Ari-Zonolite's executive personnel at time of acquisition:

<u>Name</u>	<u>Position</u>	<u>Home Address</u>
C. H. Wendel	President	432 Georgian Road, Pasadena, Cal.
J. A. Kelley	Treasurer	2672 Orrington Avenue, Evanston, Illinois
D. Gilchrist	General Manager	3338 North 61st Place, Scottsdale, Arizona
R. Mariano	Plant Manager	2335 West Campus Drive Phoenix, Arizona

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Item 4. Following is a list of the documents being furnished as requested in Item 4. The supporting documents are enclosed in separate folders for each acquisition marked as follows:

	<u>Grace Exhibit Number</u>
Perlite, Inc.	4-1
Vermiculite-Northwest, Inc.	4-2
California Zonolite Company	4-3
Ari-Zonolite Company	4-4

Exhibit 4-1 Grace's Acquisition of Perlite, Inc.

- a) Agreements relating to the purchase of Perlite, Inc. assets.
- b) Cash transaction - no documents filed with Securities and Exchange Commission or stock exchange.
- c) Copy of the following:
Request for Capital Appropriation submitted to Grace Board of Directors. Analyses, profitability studies, etc. made on this acquisition are contained in this document.
- d) There were no press releases or written announcements to customers, suppliers, or employees prepared by Grace on the purchase of Perlite, Inc. assets and, to the best of our knowledge, there were no such releases or announcements prepared by Perlite, Inc.

Exhibit 4-2 Grace's Acquisition of Vermiculite-Northwest, Inc.

- a) Agreement and Plan of Reorganization among W. R. Grace & Co., Vermiculite-Northwest, Inc. and Selling Stockholders dated August 5, 1966.
- b) Listing Application to the New York Stock Exchange (This application also covered the listing of the stock issued in the California-Zonolite acquisition).

c) Copy of the following:

Request for Capital Appropriations submitted to Grace Board of Directors. Analyses, profitability studies, etc. that were made on this acquisition are contained in this document.

d) There were no press releases or written announcements to customers, suppliers, or employees prepared by Grace on the purchase of Vermiculite-Northwest's assets and, to the best of our knowledge, there were no such releases or announcements prepared by Vermiculite-Northwest.

Exhibit 4-3 Grace's Acquisition of California Zonolite Company

a) Agreement and Plan of Reorganization among California Zonolite Company, its stockholders and W. R. Grace & Co. dated August 17, 1966. 2

b) The Listing Application filed with the New York Stock Exchange on this acquisition is being submitted under Exhibit 4-3(b) covering Vermiculite-Northwest, Inc. (The application covered both acquisitions.)

c) Copy of the following:

Request for Capital Appropriation submitted to Grace Board of Directors. Analyses, profitability studies, etc. that were made on this acquisition are contained in this document.

d) There were no press releases or written announcements to customers, suppliers, or employees prepared by Grace on the purchase of California Zonolite Company assets and, to the best of our knowledge, there were no such releases or announcements prepared by California Zonolite Company.

Exhibit 4-4 Grace's Acquisition of Ari-Zonolite Co.

- a) Agreement for the sale of stock of Ari-Zonolite Co. between W. R. Grace & Co. and C. H. Wendel dated August 17, 1966.
- b) Cash transaction - no documents filed with Securities and Exchange Commission or New York Stock Exchange.
- c) Copies of the following:
Request for Capital Appropriations. Analyses, profitability studies, etc. that were made on this acquisition are contained in this document.
- d) There were no press releases or written announcements to customers, suppliers, or employees prepared by Grace on the purchase of Ari-Zonolite Co. assets and, to the best of our knowledge, there were no such releases or announcements prepared by Ari-Zonolite Co.

Exhibit 4-5

Item 5. The reasons for Grace's acquisition of the Zonolite Company were fully stated in response to the Commission's inquiry of March 10, 1963 and the information set forth in Grace's letter dated April 1, 1963 addressed to the Commission is incorporated herein by reference.

97 Following is the information requested in respect of the acquisition of Perlite.

Perlite, Incorporated was owned by two minor sons of Mr. H. W. Christopher, the latter having been killed in the year preceding the acquisition. Control of the company was exercised by the mother under a voting trust established by the court. Under these circumstances the parties in interest were extremely anxious to liquidate their investment in Perlite. Some Zonolite division customers request perlite because of its physical properties which make it more satisfactory than vermiculite for certain end-uses. The addition of perlite manufacturing facilities in Southern Florida enables Grace to satisfy this customer demand.

The Perlite, Incorporated operation has become part of Grace's Zonolite division Florida region with the factory superintendent and sales personnel reporting to Zonolite's Regional Florida Manager.