

**PLAINTIFF'S
EXHIBIT**

DUP-577

circulate with material

GRACE

Construction Products Division

W. R. Grace & Co.
62 Whittemore Avenue
Cambridge, Mass. 02140

1617, 876-1400

January 25, 1979

Mr. Don McCrae
E. I. DuPont & Co.
P. O. Box 1378
Louisville, Kentucky 40202

Dear Mr. McCrae:

Attached is a copy of our Material Safety Data Sheet on Industrial Vermiculite #1 size. As stated in the M.S.D.S., industrial end-users of this material should determine for themselves, whether they are in compliance with OSHA Regulation 1910.1001 with regard to in-plant exposure to airborne asbestos fibers. It has generally been our experience that where appropriate industrial hygiene practices are followed, exposures are well within the OSHA limits.

Should you elect to make such an in-plant survey, we would be interested in knowing what your results were. This kind of end-use input permits us to assemble a picture of end-use exposures with the product as we are presently controlling.

Very truly yours,

Robert C. Ericson
Robert C. Ericson
Quality Assurance Manager
Construction Products Division

RCE:M

Attachment

*HRD,
This is the sheet
Material Safety Data Sheet #1
sent for our Vermiculite
stock # 24-2225*

*cc: Zurbelt
Lassie
Hawn
Silon*

DUP 1121655

U.S. DEPARTMENT OF LABOR
DATE: June 10, 1977 Occupational Safety and Health Administration

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME		EMERGENCY TELEPHONE NO.
W. R. Grace & Company		617-876-1400 X457
ADDRESS (Number, Street, City, State, and ZIP Code)		
62 Whittemore Avenue-Cambridge, MA 02140 Quality Assurance Manager		
CHEMICAL NAME AND SYNONYMS		TRADE NAME AND SYNONYMS
Expanded Libby, Montana Vermiculite		Industrial Vermiculite-Size #1, #2, & #3
CHEMICAL FAMILY	FORMULA	
Magnesium Aluminosilicate Mineral	(Mg,Ca,K)-(Al,Fe,Mg)-(Si,Al)(O)(OH)H ₂ O	

SECTION II - HAZARDOUS INGREDIENTS

Contains less than 0.1% by weight of a naturally occurring contaminant tremolite. OSHA Regulation 1910.1001 defines tremolite as asbestos. Some forms of tremolite are platy. Other forms can be fibrillated by physical handling to release airborne "asbestos fibers". Regulation 1910.1001 places a limit of 2 "asbestos fibers"/cc; 8 hour time weighted average and a maximum of 10 "asbestos fibers"/cc at any one time for airborne fiber exposure.

The physical handling given to expanded Vermiculite can release both airborne fibers and nuisance dust. Refer to OSHA Regulation 1910.1001 for approved control procedures.

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	NA	SPECIFIC GRAVITY (H ₂ O=1)	NA
VAPOR PRESSURE (mm Hg.)	NA	PERCENT VOLATILE BY VOLUME (%)	NA
VAPOR DENSITY (AIR=1)	NA	EVAPORATION RATE (_____=1)	NA
SOLUBILITY IN WATER	slight, if any	Bulk Density lbs/c.f.	5-7
APPEARANCE AND ODOR	Free flowing dark brown to tan colored particles.		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA NOT APPLICABLE

FLASH POINT (Method used)	FLAMMABLE LIMITS	Let	Uet
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

PAGE (1)

(Continued on reverse side)

Form OSHA-20
Rev. May 72

The information contained herein is based on knowledge believed to be reliable but W.R. GRACE & CO. MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE ACCURACY OR ADEQUACY THEREOF. Nothing herein excuses the recipient hereof from such duties as shall be imposed by the Occupational Safety and Health Act of 1970 and regulations issued pursuant thereto.

DUP 1121656

SECTION V - HEALTH HAZARD DATA	
Dust respirable fraction 5 mg/m ³ Total dust 15 mg/m ³	
Airborne asbestos fiber 2f/cc T.W.A.-Ceiling 10f/cc at one time.	
EMERGENCY AND FIRST AID PROCEDURES	
NA	

SECTION VI - REACTIVITY DATA				NOT APPLICABLE
STABILITY	UNSTABLE		CONDITIONS TO AVOID	
	STABLE			
INCOMPATIBILITY (Materials to avoid)				
HAZARDOUS DECOMPOSITION PRODUCTS				
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID	
	WILL NOT OCCUR			

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	
Dampen slightly or use other techniques which control airborne fibers and dust within the limits of Section V above.	
WASTE DISPOSAL METHOD	
Use disposal techniques which control airborne fibers and dust within the TLV limits of Section V above. See OSHA Standard 1910.1001.	
Paragraph (h) (2) Waste Disposal.	

SECTION VIII - SPECIAL PROTECTION INFORMATION

See OSHA 1910.1001-Controls such as isolation, enclosure, exhaust ventilation and dust collection shall be used if necessary to meet exposure limits. Also see OSHA Standard 1910.1001 Personal Protective Equipment for dealing with work environments in excess of exposure limits.

SECTION IX - SPECIAL PRECAUTIONS
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
OTHER PRECAUTIONS

24-1020



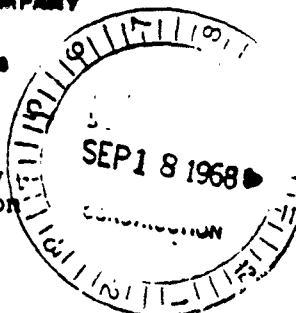
E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE 19880

ENGINEERING DEPARTMENT

cc: Bowen
Rice

Route: Wesley
Britton
Day



CC: H. D. Boyce
J. C. Lang (Info. only)
R. K. Mason
W. C. Weaver
H. C. Marden
C. J. Adolph
R. J. Ham
E. C. Jones, Purchasing

September 12, 1968

FIELD PROJECT MANAGERS:

F. C. BAYLIS	ASHTABULA	W. A. SAMANS	MAY PLANT
W. S. BRIGGS	BEAUMONT	A. S. TRUMPORE, JR.	MEMPHIS WORKS
A. D. DAY	CAPE FEAR	H. F. REDMILE	OLD HICKORY
W. S. FREE	CHATTANOOGA	W. S. LEWIN	PARLIN
H. S. STANTON, JR.	CIRCLEVILLE	A. W. ROGERS, ASST.	SPRUANCE
W. C. MANNEAR	FLORENCE	R. L. SPITZ	WASHINGTON WKS.
R. H. DAVIS	KINSTON	S. KREWATCH	WAYNESBORO
R. G. STERNBERGER	LOUISVILLE	W. G. HARRIS	YERKES
J. K. ADDISON	MARTINSVILLE		

ARMSTRONG CONTRACTING & SUPPLY CORP.

Reference - Letter of May 2, 1968 to Armstrong Contracting & Supply Corp.

Letter of July 19, 1968 to FPM's on those sites where
Armstrong Contracting & Supply Corp. is working.

It is noted that in accordance with established procedures, inspections are being made by Armstrong's insurance carrier, Aetna Life & Casualty Company, and in at least one instance a copy of their inspection report has been furnished to Du Pont. Without commenting on the adequacy of the report, we believe it is important to keep the following points in mind:

1. We should take no action on the basis of a copy of the Aetna report to Armstrong. If the report is forwarded by Armstrong with their recommendation for action, then we should proceed so long as the recommendations "fall within the general intent of the contract."
2. If the recommendations involve radical changes in facilities or are in any way controversial, they should be referred to this office. We will review the proposals with H. C. Marden and Division Management and attempt to assure uniformity in dealing with the subject at all sites.

If inspection has not been made of your facilities you should contact the Armstrong Branch or District Office servicing your job and remind them of their obligation. Similarly, follow-up inspections at six

DUP 1120482

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

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September 12, 1968

month intervals should be expected. Even though you do not receive any communication from Armstrong relative to the inspection, your site records should be adequately documented as to date, participants and extent of inspection and any pertinent comments by Aetna.

CONSTRUCTION DIVISION

C. J. Lawrence, Jr.
C. J. Lawrence, Jr.
Contract Superintendent

CJLJr./jrr

DUP 1120483

cc: W.S.Briggs-FPM-Beaumont Constr.(2)
A.D.Day-FPM-Cape Fear Constr.(2)
W.S.Free-FPM-Chattanooga Constr.(2)
H.F.Redmile-FPM-Old Hickory Constr.(
G.E.Barlow, Jr.-FPM-Wilm.Area Constr.
D.E.Sours-Spruance Constr.(2)
E.C.Jones-Purchasing-Louviers
R.J.Ham-Construction-Louviers
J.R.Allen-ESD
M.L.Jones
C.L.Westendorf
J.M.Allardice
C.G.Dahlstrom
C.O.Utley
W.L.Johns
F.L.Hunt
W.H.Zane
A.O.McAlister

April 30, 1968

TO: K. E. KEUPER - SAFETY SUPERINTENDENT
CONSTRUCTION DIVISION

FROM: F. L. HUNT - W. H. ZANE *FLH*

SAFETY - DUST CONTROL

In reference to my letter of April 24, 1968, the information received that Armaspray contained crocidolite asbestos fiber has been reputed. Mr. W. B. King of Armstrong Cork Company, manufacturers of Armaspray, said that it contains 9.0% Amosite asbestos fiber and no other asbestos fiber is used.

This information will allow Armaspray to be applied with the same respiratory protection required for Monospray, as outlined in referenced letter.

WHZ:aal

*This will not
be used, regardless
of this letter.*

DUP 0913312

ED-1023



E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE 19806

CC: K. E. Keuper
R. J. Ham
(For information)
E. C. Jones - Purch.

ENGINEERING DEPARTMENT

July 19, 1968

FIELD PROJECT MANAGERS:

W. S. BRIGGS	BEAUMONT
A. D. DAY	CAPE FEAR
W. S. FREE	CHATTANOOGA
H. S. STANTON, JR.	CIRCLEVILLE
W. C. MANNEAR	FLORENCE
R. H. DAVIS	KINSTON
R. G. STERNBERGER	LOUISVILLE
J. K. ADDISON	MARTINSVILLE
W. A. SAMANS	MAY PLANT
A. S. TRUMPORE, JR.	MEMPHIS
H. F. REDMILE	OLD HICKORY
W. S. LEWIN	PARLIN
A. W. ROGERS, AFPM	SPRUANCE
R. L. SPITZ	WASH. WORKS
S. KREWATCH	WAYNESBORO
W. G. HARRIS	YERKES

ELLIS

cc: Jones

ARMSTRONG CONTRACTING AND SUPPLY CORP.

We are attaching a copy of the material which Armstrong Contracting and Supply Corporation has issued to its District and Branch Managers. This is in conformance with the provisions of Article 7 of Appendix A of the current Master Contract with Du Pont.

You will note that the inspections are scheduled to be made now and to continue on approximately a six-month interval. If you find that this schedule is not being followed, we suggest you contact the Armstrong office which services your job and inquire as to when the inspection will be made. Any comments or suggestions should be followed so long as they fall within the general intent of the contract provisions.

Any controversial questions should be referred promptly to this office.

CONSTRUCTION DIVISION

C. J. Lawrence, Jr.
Contract Superintendent

CJLJr./pb
Attach.

DUP 1200005

June 19, 1968

All District & Branch Managers - Du Pont Sites

A. H. Svabs, Wilmington

Du Pont Fabrication Shops - Safety Inspection

To comply with our obligations as set forth in Article 7 of Appendix A of the present Du Pont Contract, the following arrangements were worked out in Lancaster between our company and our insurance carrier.

Since you are appointed
The required safety inspection of the temporary construction facilities will be conducted by the Safety Engineer of the Aetna Casualty & Surety Company's local office serving your Du Pont site. The Safety Engineer shall be accompanied by you as the branch manager and a representative of Du Pont appointed by the construction project manager of the site involved. Aetna will instruct their local Safety Engineer to conduct the inspection within the next two to three weeks and each six months thereafter. You will be contacted within the next days by an Aetna representative to arrange for a safety inspection as required under the terms of our contract with Du Pont.

Aetna's Safety Engineer will be instructed to comply with the recommended Health Safety Practices for Handling and Applying Insulation Products Containing Asbestos as published by the National Insulation Manufacturers Association, as it pertains to dust and its control in the shop. In addition, proper use of safety equipment, such as goggles, respirators, etc., good housekeeping practices, machine guards, ventilation, exhaust systems, will also form a part of this inspection.

Following the inspection, the Safety Engineer will issue a report with copies to you and to the General Office in Lancaster with recommendations.

It was felt by Lancaster as well as by this office that a step by step inspection procedure should not be established since this could prove unworkable.

We have ordered a sufficient supply of the above-mentioned National Insulation Manufacturers Association's publication for your use and reference. The booklet will be forwarded to you immediately from this office upon receipt.

CC: J. E. Zeller and F. L. Gardner, Lancaster

SLR

DUP 0913288

KEMPER W STEPHENSON, 1988
WARD STEPHENSON
MARLIN THOMPSON

Law Offices of **STEPHENSON AND THOMPSON**
STEPHENSON BUILDING / 712 DIVISION STREET
ORANGE, TEXAS 77630 / 883-9396

December 16, 1970

AIRMAIL

Dr. John A. Zapp, Jr.
E.I. DuPont deNemours & Company
Haskell Laboratories
Wilmington, Delaware 19898

Dear Dr. Zapp:

Your name was given to us over the telephone this morning by Dr. Shield with the American Conference of Industrial Hygienists in Cincinnati. Dr. Shield stated that you were a member of a committee referred to as 2-34 Industrial Hygiene Committee and that you may be able to assist us.

We desire to obtain as soon as possible any information or literature concerning the standard or threshold limit values on the inhalation of asbestos dust set by your committee at any time from the years 1940 (or prior thereto) up to about the year 1950. We understand that in about the year 1950, the responsibility for the setting of these threshold limits was shifted to the ACIH.

We will be pleased to pay you for any research or to pay anyone you might request to do this for us, as well as for copies of any publications or threshold limit values recommended by this Committee during the years mentioned.

If you will be so kind, we will appreciate it if you will let us hear from you as soon as possible.

Yours truly,

Ward Stephenson
Ward Stephenson

WS:jb

RECEIVED

DEC 18 1970

HASKELL LABORATORY

DUP 1120986

1224



E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE 19805

ENGINEERING DEPARTMENT

→ Britton - Rice
 Cor - Marden
 (Route) Mullis
 Bowen
 Lindsey
 Day



FOR INT 3
 TR

BCU: Field Project Managers
 (All Armstrong Sites)
 H. D. Boyce
 G. C. Lang (For information)
 R. E. Mason
 J. E. Neuber
 C. E. Dorsch
 K. E. Keuper
 G. J. Adolph
 H. J. Ham
 R. C. Reber
 E. C. Jones - Purch. Dept.

May 2, 1968

Armstrong Contracting and Supply Corp.
 2608 Kirkwood Highway
 Wilmington, Delaware 19805

THERMAL INSULATION - BLANKET CONTRACT

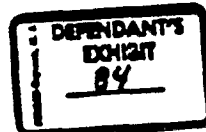
Gentlemen:

Appendix "A" dated January 1, 1968, to the Blanket Contract of the same date between Armstrong Contracting and Supply Corporation and Du Pont, provides in part as follows:

Article 7. Du Pont will furnish all temporary construction facilities, including shops, offices, tool rooms and similar facilities required by the Contractor at the Plant site.

Contractor will consult with Du Pont and provide its advice on eliminating hazards to health and safety which are peculiarly prevalent in the insulation industry and are encountered in handling, fabricating and applying insulation materials, only so far as such hazards pertain to construction of and operations in temporary construction shops. Contractor shall, from time to time, but not less frequently than every six months, review the condition of shop facilities and make recommendations to Du Pont for the maintenance therein of current practices in the insulation industry pertaining to the elimination of such hazards.

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E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE 19898

- 2 -

ENGINEERING DEPARTMENT

In order to be assured that optimum conditions are being maintained with respect to the quality of air in the various temporary construction shops, the attached procedure covering "Safety and Dust Control" will be placed in effect June 1, 1963.

The ultimate success of this program will be most dependent on the wholehearted cooperation of your employees from the appropriate manager down to the craftsman selected for air monitoring. It is very necessary that the men be convinced that the purpose of the sampling is to assure that they are being provided with a safe place in which to work and that it is in their best interest to be cooperative. We recognize that this program must be conveyed to the men through your supervision and, to that end, we ask your cooperation in the following steps:

1. Advise your various District Offices, under which Du Pont work is being performed, of the inauguration of this program. Extra copies of the procedure are attached should you care to furnish them to your Managers.
2. Instruct your Managers that they will be requested to visit each Du Pont site under their supervision for a full discussion of the program with Armstrong's job supervision and Du Pont representatives.
3. Arrange for whatever discussion is necessary with the craftsmen on the job and any appropriate advice to union representatives.
4. Assist in selection of the employee at each site to be used to monitor the air in the fabrication shop and in proper orientation of the men selected.
5. Keep abreast of the operation of the program for the first few months to be assured that it is functioning smoothly and that there are no misunderstandings as to its purpose.

DUP 0900985

BETTER THINGS FOR BETTER LIVING THROUGH CHEMISTRY

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E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE 19886

ENGINEERING DEPARTMENT

- 3 -

In view of the nature of this problem, we feel that the proposed procedure will operate to the advantage of all concerned and trust that we may have your usual cooperation in this matter.

Very truly yours,

CONSTRUCTION DIVISION

C. A. Lawrence, Jr.
C. A. Lawrence, Jr.
Contract Superintendent

CJLjr/pb
Attach.

BETTER THINGS FOR BETTER LIVING... THROUGH CHEMISTRY

DUP 0900986

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