LAWRENCE SMITH and VERA MAE SMITH; CHESTER KERSHMAN and RUBIE KERSHMAN; JERRY WILLIAMS; and THOMAS STALLCUP,	:	IN THE DISTRICT COURT OF
Plaintiffs,	:	
vs.	:	DALLAS COUNTY, TEXAS
ARMSTRONG WORLD INDUSTRIES, INC. ET AL.	:	
Defendants.	:	44th JUDICIAL DISTRICT

U.S. MINERAL'S ANSWERS TO PLAINTIFF LAWRENCE SMITH'S FIRST SET OF INTERROGATORIES

PREAMBLE

COMES NOW UNITED STATES MINERAL PRODUCTS COMPANY ("U.S. Mineral") and answers the Plaintiff's Interrogatories.

Most of these interrogatories pertain to events that occurred many years ago. Therefore, in gathering the information to respond to these interrogatories, U.S. Mineral and its counsel have had to rely on many documents and the information contained therein. In addition, U.S.Mineral and its counsel have relied on the memories of officers and employees who have been with the company since the 1950s and 1960s. U.S. Mineral and its counsel have also acquired information from discovery in other cases, and this information may form the basis for a particular answer. Because the process of document review is ongoing, and because new and/or additional information about past events is sometimes acquired, U.S. Mineral reserves its right to supplement and/or to amended these answers in the event that more or more accurate information becomes available.

Additionally, this defendant only manufactured and sold asbestos-containing CAFCO products from 1954 through 1972. Unless otherwise stated in a specific answer to an Interrogatory the answers to these interrogatories shall be limited to those products, that period of time, and to the State of Texas.

INTERROGATORY NO. 1

Please identify by trade or brand name and serial number each asbestos-containing product manufactured, sold and/or distributed by Defendant. For each product identified, please state the following:

(a) The years that each product was manufactured, sold and/or distributed;

(b) The asbestos content of each said product;

(c) A description of the intended uses of each such product; and

(d) A description of any instructions that appeared on the product or on the product's container regarding the proper use of same, if any.

ANSWER NO. 1

(a) Please see Exhibit "A".

(b) Objection. This interrogatory calls for the disclosure of proprietary and trade secret information which is privileged and beyond the scope of discovery. Without waiving its objection, U.S. Mineral responds as follows: CAFCO Spray, CAFCO BLAZE-SHIELD, CAFCO POWER-SHIELD and COMINCO contained approximately 30% chrysotile asbestos and other relevant products contained less than 25% chrysotile asbestos. WEATHER-SHIELD contained approximately 5% chrysotile asbestos and Mark II contained approximately 80% chrysotile asbestos.

(c) Objection. This interrogatory is vague and ambiguous. The term "intended uses" is not defined and is unclear without being defined. Without waiving these objections, U.S. Mineral responds as follows: See Exhibit "A".

(d) The following application instructions were printed on the bags of its asbestos-containing CAFCO products:

DIRECTIONS FOR APPLICATION CAFCO BLAZE-SHIELD TYPE D

CAFCO BLAZE-SHIELD Type D is manufactured by United States Mineral Products Company, Stanhope, N.J. It is a blend of mineral fibers and binders and is packaged in multi-wall kraft paper bags. Application instructions are supplied to the company trained and approved contractor.

EQUIPMENT

CAFCO BLAZE-SHIELD Type D is placed in a hopper. The hopper feeds the fiber to a blower at a controlled uniform rate. The blower propels the fibers through a flexible hose to a spray gun. The spray gun wets the ejected fiber in mid-air with atomized water as it is being sprayed onto various surfaces being treated.

The fiber feed rate is controlled by various adjustments on the hopper. The amount of water being applied is regulated by means of an adjusting valve on the spray gun. The degree of wetness of the fiber is determined by squeezing some of the wetted fibers. The mass, when squeezed, should wet the hand.

APPLICATION

The surface to be treated must be reasonably clean and free from dirt, grease, oil or loose plaster, rust scale, loose paint, or other conditions that would tend to prevent good adhesion.

The surface is first wet with water.

The fiber is sprayed onto the steel surfaces and built up to the desired thickness. The mat of material is left untamped.

INTERROGATORY NO. 2:

Prior to releasing the products listed Interrogatory No. 1 to the public for sale, were any tests conducted on same by Defendant

or Defendant's agents and/or consultants to determine any potential health impacts involved in the use of or exposure to any of the products listed in answer to Interrogatory No. 1?

If so, please state:

(a) The name, address and job classification of each individual who conducted such tests;

(b) The dates of each such test, if any; and

(c) The results of such tests.

ANSWER NO. 2

(a)-(c): Although U.S. Mineral did not conduct medical research, the trade organization of which it was a member made a financial contribution to a research program at Mt. Sinai Hospital in New York City in the mid to late 1960s.

INTERROGATORY NO. 3

Were any design, marketing, labeling and/or packaging changes made as a result of such tests?

If so, please state:

(a) The nature and date of the change made;

(b) The name, address, and job classification of each person in charge of making a change.

ANSWER NO. 3

No.

INTERROGATORY NO. 4:

After releasing the products listed in answer to Interrogatory No. 1 to the public, were any tests conducted thereon by or for Defendant to determine potential health impacts involved in the use of or exposure to any of the products identified in answer to Interrogatory No. 1?

If so, please state:

(a) The name, address and job classification of each person conducting said tests; and

(b) The results and date of said tests.

ANSWER NO. 4

See answer to Interrogatory No. 2.

INTERROGATORY NO. 5

Has Defendant, at any time, published and/or distributed any brochures, pamphlets, packagings or other written materials of any kind or character that contain any warnings, cautions, caveats, instructions or directions concerning the possibility of injury or health impacts resulting from the use of or exposure to any of the products listed in Interrogatory No. 1?

If so, for each such product, if any, please state:

(a) The wording of each such warning;

(b) The method used to distribute the warning to persons who are likely to use and/or be exposed to the

products;

(c) The date each such warning was issued; and

(d) Any tests, research data, studies and publications relied upon in whole or in part in the decision to release such warning, if any.

ANSWER NO. 5:

(a)-(c) Starting in May, 1962, the following label was prominently printed on all asbestos-containing CAFCO bags.

"CAUTION"
This product contains asbestos. Inhalation of asbestos dust over long periods of time may be harmful. If employees are exposed to dust during use and application, those employees should be equipped with adequate personal protective devices.

In addition, for the entire period during which asbestos-containing CAFCO products were manufactured, the application manual supplied to all contractors licensed to apply U.S. Mineral's products contained rules, advice, warnings, directives, instructions and recommendations on the proper handling and application of U.S. Mineral's products, including instruction recommending the use of respirators. U.S. Mineral further instructed its licensed applicators regarding ways to prevent and to minimize dust inhalation during its training sessions for said licensed applicators.

(d) U.S. Mineral's decision to print such the warning on its bags was prompted principally by its awareness of a then recent decision in an unrelated products liability case, imposing liability on a defendant for failure to warn. U.S. Mineral does

not now recall the specific nature of the product involved in that case, but it does recall that it was not an asbestos case. Based on its awareness of the holding in that case and its review of the threshold limit values for asbestos dust published by the American Conference of Governmental and Industrial Hygienists, U.S. Mineral decided to put the warnings on all bags of asbestos-containing CAFCO products.

INTERROGATORY NO. 6

Did Defendant receive notice prior to 1972 that any person was claiming injury, including but not limited to workers' compensation claims, as a result of using and/or being exposed to any asbestos-containing products that were manufactured, distributed and/or sold by Defendant, Defendant's predecessor or any of Defendant's subsidiary companies?

If so, please state:

(a) The name and address of each claimant;

(b) The date of notice of each claim;

(c) A description of the claim;

(d) The type of injuries allegedly sustained;

(e) The style, court number and/or claim number of each such claim; and

(f) The disposition of such claim.

ANSWER NO. 6

No.

INTERROGATORY NO. 7

Please state whether or not the Defendant has ever conducted any tests in the field (i.e., where Defendant's asbestos-containing products were actually being used) to determine the concentration of asbestos dust and fibers generated from the use, preparation, application and/or removal of any of the asbestos products listed in answer in Interrogatory No. 1.

If so, please identify:

(a) The date, place and nature of each and every test;

(b) The particular product to which each test applied; and

(c) The results of each test with particular reference to the concentrations of asbestos dust and fibers per cubic centimeter of air found to which the person was exposed.

ANSWER NO. 7:

Please see the following reports of William R. Bradley and Associates, Newark, NJ concerning tests sponsored by the Sprayed Mineral Fiber Manufacturer's Association which are attached:

(1) Report to SMFMA dated 12/15/66 (testing date unknown);

(2) Report to SMFMA dated 1/23/67 (testing date of 1/12/67);

(3) Report to SMFMA dated 3/8/67 (testing date of 3/1/67);

(4) Report to Frank M. Stumpf at U.S. Mineral dated 9/21/67 (testing date of 7/26/67).

INTERROGATORY NO. 8

Has Defendant ever sold any asbestos-containing materials for use in any place outside the continental United States of America (and Hawaii) without affixing to the product a caution or warning label which discussed the health impacts caused by asbestos?

If so, answer the following questions:

(a) Identify these products by trade name and describe the percentage of asbestos content of same;

(b) Identify the years said products were sold; and

(c) Identify the buyers of said products and the nations or states in which said products were intended to be delivered for use.

ANSWER NO. 8:

Objection. This interrogatory seeks information irrelevant to plaintiff's claim and is not reasonably calculated to lead to the discovery of admissible evidence. Any U.S. Mineral asbestos-containing products sold outside the continental United States are not at issue in this matter.

INTERROGATORY NO. 9

Did Defendant before 1973 ever conduct studies or tests of the concentration of dust generated in any of its asbestos products manufacturing plants? If so,

(a) Identify the dates of every such dust count studies

taken;

(b) Identify every plant at which such dust count studies were taken; and

(c) Please produce all documents which show any dust count studies or tests taken at any of Defendant's asbestos manufacturing plant(s).

ANSWER NO. 9:

Objection. This interrogatory seeks information irrelevant to plaintiff's claim and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, U.S. Mineral responds as follows: No.

INTERROGATORY NO. 10

Did Defendant before 1973 ever conduct studies or tests of the concentration of asbestos dust to which insulators, fireproofers or bystanders were exposed during the application of any of their asbestos products in the workplace? If so,

(a) Identify the dates of every such dust count study taken;

(b) Identify every workplace or jobsite at which such dust count studies were taken;

(c) Describe the conditions under which the dust count studies were performed;

(d) Describe what steps were taken to ensure that the

conditions under which the studies were performed represented the same or similar conditions existing on industrial or commercial jobsites where users would be exposed to Defendant's asbestos-containing products; and

(e) Please produce all documents which discuss any dust count studies or tests or test results taken at any of Defendant's asbestos manufacturing plant(s) or any other facility.

ANSWER NO. 10:

Please see Answer to Interrogatory No. 7. These tests reported dust levels that one in proximity to the spraying would process would be exposed to, if not protected by a dust mask or respirator.

INTERROGATORY NO. 11

Did Defendant ever recommend to any United States Government agency or any state government agency that the threshold limit value (TLV) for exposure to asbestos dust be lowered from 5 mpccf? If so, when was such recommendation made, who made it, and to whom was it made?

ANSWER NO. 11

Objection. This interrogatory seeks information irrelevant to plaintiff's claim and is not reasonably calculated to lead to the

discovery of admissible evidence. Without waiving these objections, U.S. Mineral responds as follows: No.

INTERROGATORY NO. 12

Did Defendant ever advise or instruct its own employees working in any asbestos manufacturing plant, mill or mine to maintain exposure to asbestos dust below any threshold limit value (TLV)? If so, please answer the following:

(a) What is the date of the first such instruction;

(b) In what manner was the instruction given (writing and/or oral);

(c) Identify the facility where the employees were first provided this instruction;

(d) What steps or actions, if any, did Defendant take to insure that the employees followed the instruction, if any;

(e) Please identify all persons who can verify your above responses; and

(f) Please produce all documents upon which you rely in whole or in part in responding to the above.

ANSWER NO. 12:

During the entire period during which U.S. Mineral manufactured asbestos-containing CAFCO products, it supplied dust masks recommended by the Department of Interior, Bureau of Mines to its employees. Please see answer to Interrogatory No. 5.

INTERROGATORY NO. 13

Did Defendant ever investigate the potential need to lower the threshold limit value (TLV) of 5 mpccf for asbestos dust in order to protect the health of workers exposed to asbestos? If so, please identify the date of all such investigations and produce all reports generated during such investigation, if any.

ANSWER NO. 13:

Objection. This interrogatory seeks information irrelevant to plaintiff's claim and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, U.S. Mineral responds as follows: No.

INTERROGATORY NO. 14:

State the name and address of any insurance carrier which has provided coverage for asbestos related injury claims against Defendant and state the present available monetary coverage for each such policy along with the policy number.

ANSWER NO. 14:

Objection. This interrogatory seeks privileged and confidential information. It seeks information irrelevant to plaintiff's claim and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, U.S. Mineral responds as follows: Please see attached lists of U.S. Mineral's insurance coverage for the relevant time period.

INTERROGATORY NO. 15:

What year, if ever, did Defendant first receive a copy of the article entitled "A Health Survey of Pipe Covering Operations in Constructing Naval Vessels", published in January, 1946 in the Journal of Industrial Hygiene & Toxicology, and authored by W. Fleishcer and P. Drinker, et al (the Fleischer-Drinker Report)?

(a) Identify the name and position of the employee or officer who received same;

(b) Please produce all documents generated by Defendant which discuss or in any way reference the "Fleischer-Drinker" study prior to 1968;

(c) Please produce all documents upon which you responses above are based;

(d) Please identify the name(s) and address(es) of any person(s) who can verify your above response;

(e) Did Defendant ever rely on the Fleischer-Drinker Report in whole or in part as a basis that Defendant asbestos products could be used in the workplace without risk of asbestos-related health impacts to the consumer and/or bystander;

(f) If so, please produce every document which evidences in any way that Defendant relied on the Fleischer-Drinker Report in whole or in part for the proposition stated in Interrogatory 15(e) above; and

(g) If your answer to 15(e) is yes, when was the first date Defendant relied on the Fleischer-Drinker

Report in whole or in part for the proposition stated in 15(e) above?

ANSWER NO. 15:

To the best of its knowledge, U.S. Mineral never received a copy of this article.

INTERROGATORY NO. 16:

Before 1972, did Defendant ever advise any customers or users or consumers of any of its asbestos-containing products to maintain exposure of dust from any of its asbestos products below 5 mpccf? If so, please answer the following questions:

(a) Identify the names of the entities to whom this information was given;

(b) Identify the form in which this information was supplied (oral and/or in writing);

(c) Identify the dates all such information was delivered to the customer or users;

(d) Please identify any person who can verify your above responses; and

(e) Please produce all documents which support or provide a basis for your responses above.

ANSWER NO. 16:

Please see answers to Interrogatory No. 5 and No. 12.

INTERROGATORY NO. 17:

Please identify all trade associations involving the mining, manufacturing, research, marketing, sale of distribution of asbestos products to which Defendant is/was a member and the years of said membership and the name and address of Defendant's representative at each meeting held by such association during which asbestos health impacts were discussed.

ANSWER NO. 17:

Objection. This interrogatory is overly broad and burdensome. It seeks irrelevant information Without waiving these objections, U.S. Mineral responds as follows: Industrial Hygiene Foundation, now Industrial Health Foundation 1970-1973, and again in 1976 to present; Thermal Insulations Manufacturers Association 1972-1978 and again sometime thereafter to present; Sprayed Mineral Fiber Manufacturers Association 1965 to in or around 1977; National Mineral Wool Manufacturers Association, now Mineral Insulation Manufacturers Association 1954-present; and American Society for Testing and Materials 1954-present.

Mr. James P. Verhalen and Mr. Frank Stumpf attended some meetings of the Sprayed Mineral Fiber Manufacturers Association and for a time Mr. Verhalen was president of the Sprayed Mineral Fiber Manufacturers Association.

Mr. James P. Verhalen attended some meetings of the Thermal Insulations Manufacturers Association; Mr. Frank Stumpf attended

some meetings of the American Society for Testing and Materials; and Mr. James P. Verhalen and Mr. Frank Stumpf attended some meetings of the National Mineral Wool Manufacturers Association, now Mineral Insulation Manufacturers Association.

INTERROGATORY NO. 18:

Has Defendant by or through any trade association to which it has ever belonged ever opposed any regulation proposed by any agency of the federal or state government that would lower the threshold limit value or permissible exposure level for occupational exposure to asbestos? If so, answer the following questions:

(a) Identify the proposed regulation and the date of said proposal and specify the name of all individuals acting on behalf of Defendant and/or its trade association;

(b) Did Defendant and/or its trade associations submit written consent to the government agency in question and, if so, please produce each such set of written comments;

(c) Did Defendant and/or any of its trade associations provide oral comments at any public hearing held by the government agency in question and, if so, please identify the date of such oral presentation and please produce the text of such presentation;

(d) Did Defendant and/or any of its trade associations

ever submit written comment to any government agency recommending that the standard for occupational asbestos exposure be raised? If so, please produce the text of all such comments;

(e) Did Defendant and/or any of its trade associations submit written comments to the Environmental Protection Agency regarding the EPA's proposed ban on all uses of asbestos in the United States and, if so, please produce all texts of such comments; and

(f) Identify the representative from Defendant, if any, who opposed any of the proposed regulations above.

ANSWER NO. 18:

Objection. This interrogatory is overly broad and unduly burdensome. It is not limited in time or scope of inquiry. Moreover, it seeks information irrelevant to plaintiff's claim and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiving these objections, U.S. Mineral responds as follows: To the best of this defendant's knowledge, no.

INTERROGATORY NO. 19:

Did Defendant, Defendant's predecessor, and/or Defendant's subsidiaries ever maintain any distribution agreement(s) with any company located in Texas with respect to any of the products identified in answer to Interrogatory No. 1? If so, please state the following:

(a) The name, address, and telephone number of the

contact person with whom Defendant, Defendant's predecessors and/or Defendant's subsidiaries maintained such an agreement, and the years that each agreement was maintained; and

(b) The asbestos-containing products that the agreements involved.

ANSWER NO. 19:

No.

INTERROGATORY NO. 20:

List by name and address each and every expert witness Defendant intends to call at trial and include the following in your answer:

(a) Areas of expertise;

(b) Expected mental impressions and opinions held by the expert with respect to the subject matters on which he will testify; and

(c) The facts known to the expert (regardless of when the factual information was acquired) which relate to or form the basis of the mental impressions and opinions held by the expert.

ANSWER NO. 20:

U.S. Mineral has not yet determined whom it will call as an expert witness at the time of trial. It reserves the right to supplement this response.

INTERROGATORY NO. 21:

Please state the name, present address and present telephone number, along with the experience and qualifications, if applicable, of each and every person, known to Defendant or to Defendant's agents, having knowledge of facts relevant to this case involving, but not limited to:

(a) Identification of asbestos-containing products to which Plaintiff allegedly was exposed or facts disputing the identification of asbestos products in this case;

(b) Alleged damages, injuries and/or facts disputing Plaintiff's alleged damages and/or injuries;

(c) The negligence of any person or entity other than Defendant which Defendant contends was a cause of Plaintiff's alleged injuries and/or damages; and

(d) Any other facts relevant to this lawsuit.

ANSWER NO. 22:

Objection. This interrogatory is overly broad and unduly burdensome. It seeks information protected by the work product rule and attorney-client privilege.

INTERROGATORY NO. 23:

Please list the name, address, and job title of each person who provided assistance in answering these interrogatories.

ANSWER NO. 23:

These responses were prepared by Ms. Paulette A. Kaminski, Assistant Corporate Secretary, U.S. Mineral Products Company, Furnace Street, Stanhope, New Jersey, with the assistance of counsel.

INTERROGATORY NO. 24:

Please identify and provide all documents relevant to each of the allegations appearing in Plaintiff's Complaint and to each of your defenses in your answer.

ANSWER NO. 24:

Objection. This interrogatory is overly broad and unduly burdensome. It is not limited in time or scope of inquiry. Moreover, it seeks information protected by the work product rule and attorney-client privilege.

VERIFICATION

Paulette A. Kaminski states that she is Assistant Secretary for U.S. Mineral Products Company; that she is acquainted with the facts set forth in U.S. Mineral's Answers to Plaintiff Lawrence Smith's First Set of Interrogatories; that the same are true and correct to the best of her knowledge, information, and belief.

_____
PAULETTE A. KAMINSKI

Sworn to and subscribed before me, a Notary Public, this ___ day of _____, 1991.

_____
NOTARY PUBLIC

EXHIBIT "A"

1.	CAFCO® Spray (1954-58)	Fireproofing, insulation and accoustical treatment of buildings
2.	CAFCO BLAZE-SHIELD® (1958-71)	Fireproofing of structural steel and steel floors
3.	CAFCO BLAZE-SHIELD Type D (1965-72)	Fireproofing of structural steel and steel floors
4.	CAFCO BLAZE-SHIELD Patching Fiber (1954-71)	Same as CAFCO BLAZE-SHIELD but fiber modified so it can be mixed with water and hand applied.
5.	CAFCO BLAZE-SHIELD Patching Fiber, Type D (1965-71)	Same as CAFCO BLAZE-SHIELD Type D but modified so it can be mixed with water and hand applied.
6.	CAFCO Spray Type 1 (1954-58)	Fireproofing, insulation and acoustical treatment of buildings
7.	CAFCO SOUND-SHIELD®	Acoustical absorption
8.	CAFCO BLAZE-SHIELD Type H (1969-71)	Same as CAFCO BLAZE-SHIELD Type D; generally used for exposed acoustical areas
9.	CAFCO HEAT-SHIELD® (1958-71)	Building Insulation
10.	CAFCO POWER-SHIELD® (1964-71)	High temperature power and process insulation
11.	J Spray (1964-67)	High temperature power and process insulation
12.	COMINCO® sometimes called Ace-Tite Cement or All Purpose (pre-1958-71)	Insulating cement used for elbow fittings
13.	COMINCO® Mono-ply (1963-71)	Insulating cement used for elbow fittings
14.	CAFCO HEAT-SHIELD Type 2	Modification of CAFCO HEAT-SHIELD
15.	CAFCO BLAZE-SHIELD Type M	Modification of CAFCO BLAZE-SHIELD; organic binders added
16.	Mark II (1967-72)	Coating for application over CAFCO products in areas of extreme velocity and/or abrasion
17.	CAFCO WEATHER-SHIELD® (1970-72)	Coating for application over CAFCO products to protect against unusual exposure to the elements

UNITED STATES MINERAL PRODUCTS COMPANY
PRIMARY LIABILITY INSURANCE COVERAGE

Policy Term	Carrier	Policy Number
11/7/57-11/7/58	Employers Mutual Liability Ins.Co. of Wisconsin	0528 00 046194
11/7/58-11/7/59	Same	0529 00 046194
11/7/59-11/7/60	Same	0520 00 046194
11/7/60-11/7/61	Same	0521 00 046194
11/7/61-11/7/62	Same	0522 00 046194
11/7/62-11/7/63	Same	0523 00 046194
11/7/63-11/7/64	Same	0524 00 046194
11/7/64-11/7/65	Same	0525 00 046194
11/7/65-11/7/66	Same	0526 00 046194
11/7/66-11/7/67	Same	0527 00 046194
11/7/67-11/7/68	Same	0528 00 046194
11/7/68-11/7/69	Same	0529 00 046194
11/7/69-11/7/70	Same	0520 00 046194
11/7/70-11/7/71	Same	0521 00 046194
11/7/71-11/7/72	Same	0522 00 046194
11/7/72-11/7/73	Same	0523 00 046194
11/7/73-11/7/74	Same	0524 00 046194
11/7/74-5/15/75	Same	0525 00 046194
5/8/75-5/8/76	St.Paul Fire & Marine Ins. Co.	529JG7793
5/8/76-5/8/77	Same	529JJ4844
5/8/77-5/8/78	Same	529JK5178
5/8/78-5/8/79	Same	529JL8551
5/8/79-8/10/79	U.S.Fidelity & Guaranty Co.	1CC C 89630

USM PRIMARY LIABILITY INSURANCE COVERAGE (continued)

Policy Term	Carrier	Policy Number
8/10/79-8/31/80	Hartford Fire Ins. Co.	13 CBP 130662
8/31/80-11/11/80	Continental Ins.	L1 32 70 30
11/11/80-11/11/81	Ambassador	GLA-79-11-58
11/11/81-11/11/82	Union Indemnity Ins.Co.of NY	UGL 13529
11/11/82-11/25/83	Same	UGL 23676
11/25/83-5/1/84	National Union	GLA 1167580
5/1/84-9/3/84	Home Ins.Co.	P 178958

UNITED STATES MINERAL PRODUCTS COMPANY
EXCESS LIABILITY INSURANCE COVERAGE

Policy Term	Carrier	Policy Number	Layer
10/31/72-10/31/75	Continental Casualty Co.	RDU 804 72 98	1
10/31/75-5/8/77	Same	RDU 292 70 23	1
5/8/77-5/8/78	Same	RDU 293 90 29	1
6/23/77-5/8/78	Chubb & Son, Inc.	7922-04-41	2
5/8/78-5/8/79	Continental Casualty Co.	RDU 441 58 15	1
5/8/78-5/8/79	Chubb & Son	(79) 7922-04-41	2
5/8/79-8/10/80	Puritan Ins. Co.	UL 67 21 65	1
5/8/79-8/10/80	Nat'l.Union Fire Ins.Co. of Pittsburgh, PA.	1225415	2
8/10/80-11/11/81	Midland Ins. Co.	704 247	1
8/10/80-11/11/81	Nat'l.Union Fire Ins.Co. of Pittsburgh, PA.	991-0408	2
11/11/81-11/11/82	Integity Ins. Co.	ISX 106790	1
11/11/81-11/11/82	Ambassador Ins. Co.	ELP 001136	2
11/11/81-11/11/82	Firemens Fund	XLX 137-33-07	3
11/11/82-11/11/83	Integrity Ins. Co.	ISX 110735	1
11/11/82-11/11/83	Firemens Fund	XLX 148-57-13	2
8/8/83-11/25/84	Twin City Fire	TXS 103131	3
8/8/83-11/25/84	North River Ins. Co.	522-018613-8	4
11/11/83-11/25/84	Integrity Ins. Co.	ISX 113159	1
11/11/83-11/25/84	Firemens Fund	XLX 1618314	2

William R. Bradley and Associates
ENVIRONMENTAL HEALTH CONSULTANTS
18 GREEN STREET · NEWARK, N. J. 07102
201 622-4246

December 15, 1966

Sprayed Mineral Fiber Mfg. Assoc., Inc.
Suite 2300
One Wall Street
New York, New York 10005

Attention: Technical Committee

Re: Environmental Health Investigation

A study was made of airborn dusts in the work area of operators spraying mineral fiber in the two new building construction sites. Dust counts from microscopic examination of eight air samples were made. The dust counts include mineral wool particles and asbestos fiber of respirable size only. These dust particles are five microns in diameter or smaller and represent dusts that may penetrate deeply into lung tissue and that may be retained therein.

The first three dust samples were collected at a northern New Jersey location that was completely enclosed. The skilled operator used a long, approximately twenty foot pipe, in order to reach high ceiling structures from the floor.

U 26 ZT 51

William R. Bradley and Associates

ENVIRONMENTAL HEALTH CONSULTANTS

18 GREEN STREET • NEWARK, N. J. 07102

201 622-4246

January 23, 1967

Sprayed Mineral Fiber Manufacturers Association, Inc.
Suite 2300
One Wall Street
New York, New York 10005

Attention: Technical Committee

Re: <u>ENVIRONMENTAL HEALTH INVESTIGATION</u>

An environmental health study was made for the Sprayed Mineral Fiber Manufacturers Association, Incorporated on January 12, 1967, at the United States Mineral Products Company in Stanhope, New Jersey, in quarters provided for this study. Products of four companies were sprayed under controlled conditions of application during which tests of air samples were collected in the breathing zone area of the spray operator. These air samples were submitted to microscopic examination and dust count using the approved technique for the determination of respirable size particles in the work environment. The dust counts involved particles 5 microns or less in diameter.

The tests were conducted in a large open area with one side of the building opened directly to the outdoors. The sample collection point was at all times two to three feet of the operators nose. The operator sprayed part of the time on the ceiling and part of the time on the wall during each test. He held the spray nozzle in his hand and applied the products at a distance of three to five feet from the ceiling or wall. A large pedistal fan was turned on to ventilate the test area between each test. Material applied during one test was removed from the wall between each test. Material applied to the ceiling felled by gravity during the tests which gave representative conditions of application.

The same personnel conducted all of the product feed to the blower and performed the spray application. The first twelve tests were conducted for ten minute periods each and the second series of twelve tests were conducted for five minute periods each. During the first twelve tests the Uni-Air type gun with sixteen holes was used. During the second twelve tests the Uni-Jet, airless type gun was used. With each type of spray gun the four products were spray tested under water flow rates of 7-½ pounds per minute, 10 pounds per minute and 12-½ pounds per minute. These water flow rates were used with both types of application guns.

The fiber feed rate for all tests was designed for ten pounds per minute. Actual fiber feed rates as supplied by the blower hopper operator were as follows:

USMP	10 to 11.4 pounds per minute
BEH	7 to 8 pounds per minute
S&K	8 to 10 pounds per minute
Asb.	13.6 to 15 pounds per minute

The results of dust samples are as follows:

Dust Sample Analysis

United States Mineral Products Co. (USMP)
Cafco Blaze-Shield Type D

Baldwin-Ehret-Hill, Inc. (BEH)
Pyrospray Type 1

Smith & Kanzler (S&K)
Spraycraft 1132 Type S

Asbestospray Corporation (Asb.)
Asbestospray Type T

The first sample was collected in a sheltered corner of the outside walkway having a large overhead roof. The second and third samples were collected indoors.

The second series of five samples was collected at a midtown New York City construction site. Sample number four was collected on the platform at the nose level of the spray operator. The operator had his hand directly on the nozzle and was standing on a platform within a few feet of his work. The operator did not appear to be as skilled as the first operator, causing overspray, underspray and backspray. The location was a generally open area where the wind could blow through and carry visible spray a considerable distance.

Samples one, three and four were collected at about one foot distance from the operators head and nose level and represent operators potential exposure. It was noted that operators wore approved type respirators but that operators helpers or foreman did not. It was noted that the employee dumping bags into the feed hopper wore a respirator but that his supervisor in performing the same operation did not.

Analysis of Dust Samples

Sample Number	Location	Millions Particles per Cubic Ft. of Air
	New Jersey	
1.	Outdoors in corner of sheltered walkway while spraying twenty foot high roof from ground area.	4.5
2.	Inside enclosed building. Large open area. Sample collected six foot from hopper of product feed machine.	4.0
3.	Spraying corner of enclosed room, upper wall and ceiling, operator at floor level, spray area fifteen to twenty feet. above floor.	7.0
	New York City	
4.	On platform two to three feet from nozzle and two to six feet from area of application.	26.0
5.	Sample collected at head level sixty feet from spray operator.	9.0
6.	Sample collected at head level thirty feet from spray operator.	12.0
7.	Sample collected at head level 17 feet from spray operator.	10.0
8.	Sample collected two floors below area of spray application and in small enclosed service room.	2.7

At the New Jersey location air temperature was 46°F. and relative humidity was 96%. At the New York location air temperature was 42°F. and the relative humidity was 96%.

Summary

The recommended threshold limit value for asbestos dust is five million particles per cubic feet of air. Inert or nuisance dusts have a recommended threshold level of fifty million particles per cubic feet of air. Inert dusts have less than 1% free silica. The threshold level value applies to eight hours daily exposure, day in and day out, without damage to lung tissue likely to result in illness.

Threshold limit values are exceeded under the conditions of sampling and spray application and show concern for use of respiratory protection and for employee health maintenance. Steps taken to reduce minus five micron dust particles in the product are considered to be worthwhile.

William R. Bradley

WRB/dm

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William R. Bradley and Associates
ENVIRONMENTAL HEALTH CONSULTANTS
18 GREEN STREET • NEWARK, N. J. 07102
201 622-4246

March 8, 1967

Sprayed Mineral Fiber Manufacturers Association, Inc.
Suite 2300
One Wall Street
New York, New York 10005

Attention: Technical Committee

Re: ENVIRONMENTAL HEALTH INVESTIGATION

An environmental health investigation was made for the Sprayed Mineral Fiber Manufacturers Association, Inc., on March 1, 1967 at the United States Mineral Products Company, Stanhope, New Jersey. The area set aside for this study was indoors at a corner of a small space isolated from the rest of the research department's laboratory. The area to be sprayed was a ceiling space about nine feet above floor level and an adjoining wall space. This space was adjacent to a large rollup double door. The door could be opened and a large propeller fan used to air out the space following each test.

The spray operator held the application nozzle about five feet from the ceiling area and five feet from the wall area which was being sprayed. Air samples for dust were collected at head level at about three feet from the operator in this rather confined area of the building. The products tested for airborne dust during application were as follows:

United States Mineral Products Co. (USMP)
Cafco Blaze-Shield Type D

Baldwin-Ehret-Hill, Inc. (BEH)
Pyrospray Type 1

Smith & Kanzler (S&K)
Spraycraft 1132 Type S

Asbestospray Corporation (Asb.)
Asbestospray Type T

The above products were sprayed at a 1:1 ratio of water to dry fiber weight. The application rate was five pounds, ten pounds, and fifteen pounds per minute of dry feed. In the case of Asbestospray, the product was applied from a 16 jet nozzle at five pounds and ten pounds per minute and from a 12 jet nozzle at the same rates. All other products were applied at the three above mentioned rates using the 16 jet air-water nozzle and the model "A" internal gun without air.

DUST SAMPLE ANALYSIS

Test No.	Product	Water Flow (lbs./min.)	Type of Gun: 16 Jet	Model "A"	12 Jet	Millions of Particles per Cubic Foot of Air
1.	Control					1.2
2.	Asb.	5	X			8.0
3.	Asb.	10	X			6.0
4.	Asb.	5			X	9.0
5.	Asb.	10			X	7.0
6.	Control					1.4
7.	BEH	5	X			15.0
8.	BEH	10	X			14.0
9.	BEH	15	X			12.0
10.	BEH	5		X		21.0
11.	BEH	10		X		18.0
12.	BEH	15		X		17.0
13.	Control					1.4
14.	S&K	5	X			19.0
15.	S&K	10	X			17.0
16.	S&K	15	X			16.0
17.	S&K	5		X		24.0
18.	S&K	10		X		22.0
19.	S&K	15		X		20.0
20.	Control					1.4
21.	USMP	5	X			8.0
22.	USMP	10	X			7.0
23.	USMP	15	X			6.0
24.	USMP	5		X		9.0
25.	USMP	10		X		8.0
26.	USMP	15		X		7.0

SUMMARY

The results of dust studies made in a confined area of spraying mineral fibers shows that the ten pounds and fifteen pounds per minute flow rates are less dusty then the five pounds per minute rate. Also shown is that the combination of air and water in a 16 jet gun results in less airborne dust then does the use of model "A" gun without air or the 12 jet air and water combination nozzle.

The control dust levels show that there was no buildup of dust between sampling tests and the use of different products.

It is conceivable that the Asbestospray product and the United States Mineral Products product could be sprayed in an open building under construction using the most favorable air water gun, product flow rate and water to dry fiber ratio at airborne dust concentrations near or less then the threshold limit value of five million particles per cubic foot of air.

The water to dry product ratio for the application of Baldwin-Ehret-Hill and the Smith & Kanzler product is insufficient to control both asbestos fibers and clay additives.

William R. Bradley

WRB/dm

Test No.	Product	Water Flow Rate (lbs./ minute)	TYPE GUN Uni-Air 16 holes	Uni-Jet Airless	Millions of Particles per Cubic Foot of Air
1.	USMP	7.5	X		13
2.	BEH	7.5	X		18
3.	S&K	7.5	X		21
4.	Asb.	7.5	X		14
5.	USMP	10	X		11
6.	BEH	10	X		17
7.	S&K	10	X		22
8.	Asb.	10	X		12
9.	USMP	12.5	X		9
10.	BEH	12.5	X		12
11.	S&K	12.5	X		14
12.	Asb.	12.5	X		7
13.	USMP	7.5		X	14
14.	BEH	7.5		X	19
15.	S&K	7.5		X	23
16.	Asb.	7.5		X	15
17.	USMP	10		X	13
18.	BEH	10		X	19
19.	S&K	10		X	22
20.	Asb.	10		X	14
21.	USMP	12.5		X	12
22.	BEH	12.5		X	16
23.	S&K	12.5		X	21
24.	Asb.	12.5		X	11

Summary

Results of dust studies made on 4 mineral fiber products sprayed under controlled environmental conditions shows that the spray operator would be exposed to the inhilation of asbestos fibers and other mineral wool dusts that might lead to occupational illness. The threshold limit values for asbestos fiber dusts is 5 million particles per cubic foot of air. It is considered that exposure to asbestos dust in concentration less than 5 million figure will not lead to the formation of asbestosis. Asbestosis is more likely to occur after long continued inhilation of asbestos dusts in high concentration such as may exist in a mining, milling or cutting of asbestos.

All test results were determined to be in excess of the 5 million particles per cubic foot threshold limit value. It is apparent that product application was more dusty when using the Uni-Jet (airless) type gun then when using the air supplied gun. It was also apparent that there was less airborn dust as the water flow rate increased. Products labeled USMP and Asb. were found to be about equal in dustiness as applied. It is noted that more Asb. fiber was applied per

minute than USM application rate. It is noted that S&K fiber is most dusty with product BEH being slightly less dusty in all cases, but considerably more dusty than USMP and Asb. products.

Wm R Bradley

WILLIAM R. BRADLEY

WRB/dm

VERIFICATION

Paulette A. Kaminski states that she is Assistant Secretary for U.S. Mineral Products Company; that she is acquainted with the facts set forth in the Foregoing Answers to Plaintiff Chester Kersham's Interrogatories; that the same are true and correct to the best of her knowledge, information, and belief.

Paulette A Kaminski
PAULETTE A. KAMINSKI

Sworn to and subscribed before me, a Notary Public, this 31 day of May, 1991

Patricia M. Dooley
Notary Public

PARTICIA M DOOLEY
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires July 28 1993

William R. Bradley and Associates
ENVIRONMENTAL HEALTH CONSULTANTS
18 GREEN STREET • NEWARK, N. J. 07102
201 622-4246

September 21, 1967

Mr. Frank M. Stumpf
Vice President - Research
United States Mineral Products Co.
Stanhope
New Jersey 07874

Re: ENVIRONMENTAL HEALTH INVESTIGATION

Dear Mr. Stumpf:

On July 26, 1967 a series of simultaneous air samples were collected during the spray application of CAFCO BLAZE-SHIELD, mineral fiber. The air sampling was conducted while an operator was spraying the product on a wall- and ceiling-test application in a partially enclosed, one-story building involving a large, open space. CAFCO BLAZE-SHIELD product was applied at a ratio of 10 pounds fiber to 10 pounds of water. A 12-hole, spray nozzle was used.

An environmental health study was conducted in order to determine if spray operators or nearby persons would be exposed to the inhalation of asbestos fibers at a concentration that might result in illness or damage to lung tissue. The test represented actual spray-application conditions that do exist in the average application. Air samples were collected at head level at the station where the spray operator was located, and then in a line perpendicular to the surface being sprayed at distances of 10 feet, 20 feet and 40 feet behind the operator. Prior to the collection of air samples, the operator had been spraying for a period of 20 minutes which again establishes testing under actual spray application conditions.

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Stumpf 60

The collected air samples were analyzed for the presence of respirable-size, asbestos fibers.

Air samples were collected for 10-minute periods using the approved, Greenberg-Smith-impinger technique using triple-distilled water with three percent ethanol to prevent flocculation of dust fibers in the collected sample. A dust count was conducted in the approved manner using a Whipple disc in a 15X microscope, eye piece and with a 10X objective. Dust counts were made using a Dunn cell.

Results of Dust Counts

	Millions of Particles Per Cubic Foot of Air			
Product	At Source	10 Feet	20 Feet	40 Feet
Cafco Blaze-Shield	4.4	3.3	2.7	2.1

Summary

The results of this investigation show that the threshold level of five million particles per cubic foot of air was not exceeded at the spray operator's breathing zone or at distances of 10 feet, 20 feet or 40 feet from the operator. The threshold level for the inhalation of asbestos fibers may be tolerated for eight-hour days, day in and day out, without danger of producing changes in lung tissue. The results of tests show that no health hazard exists from the inhalation of asbestos fibers under the conditions of these tests as above outlined.

Very truly yours,

William R. Bradley

WRB/bg