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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	Type of Gun: Model "A"	Type of Gun: 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.

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WRB/dm