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PLAINTIFF'S EXHIBIT
DOW 26

MIDLAND, MICHIGAN
October 31, 1968

R. C. Middleton
Safety Department
Ludington Plant

LETTER DATED OCTOBER 7, CONCERNING HAZARDS DUE TO HANDLING PIPE COVERING MATERIAL CONTAINING ASBESTOS

Asbestos has long been known as a material capable of causing a discrete disease called asbestosis (which is somewhat similar to silicosis - caused by crystalline quartz). In the more or less recent past the subject of hazard due to asbestos has been further complicated by reports in the literature of malignant growths which were associated with the presence of asbestos bodies. The whole subject is presently under study by the U.S. Public Health Service.

I feel that at this point in time our best bet is to control asbestos dust exposures according to the Threshold Limit Values suggested by the American Conference of Governmental Industrial Hygienists. This Threshold Limit Value is five million particles per cubic foot of air (mppcf). We have done some dust sampling during a variety of operations carried out by pipe coverers. I'll include a summary of this work for your information. You will see that there are some jobs where the numbers of particles in the air are above the 5 mppcf mentioned here. Jobs such as this should be done using a dust respirator which is approved by the U.S. Bureau of Mines for protection against toxic dusts, including silica.

Another approach to the dust hazard is to contrive better control of the dust so that measurements will show less than the 5 mppcf and there will, therefore, be no need for respiratory protection. Generally this is best accomplished by the use of exhaust ventilation at the point where the dust is being generated.

H. R. Hoyle
Biochemical Research Laboratory
1701 Building

HRH:reh

Enc.

cc: R. F. Falk

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Table I

EXPOSURE TO PIPE DUSTS ENCOUNTERED BY WORKERS CUTTING VARIOUS TYPES OF PIPE COVERING MATERIALS

Industrial Hygiene Standard, Nuisance Dusts . . . . . 15 mg/m^3
Industrial Hygiene Standard, Asbestos Fibers . . . 5 M.P.C.P.

Operation	(Total Dust Exposure) mg/m^3	(Dust Count) M.P.C.P.	X-Ray Diffraction Analysis	Electron Microscope Analysis) Particle Size	(Fibers 10% of Total Dust) Fiber	Size	20-50 μ
Breathing zone of worker hand saving Baldwin Ehret Hill calcium silicate curved block 2" thick	0.45	3.2 6.4 9.8 44.6	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	85% <10 μ 95% <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%
Repeat same material	0.09	12.6	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% <10 μ 90% <20 μ	5% 10% 45%	<10 μ <20 μ >50 μ	45%
		Avg. 14.5					
Hand sawing Owens-Corning Kaylo flat block 2" thick	3.50	17.3 22.2	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% <10 μ 90% <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%
		Avg. 19.8					
Hand sawing Phillip Carey Fibercel curved block 2" thick	17.90	7.9 12.1	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	45% <10 μ 90% <20 μ	5% 10% 45%	<10 μ <20 μ >50 μ	45%
		Avg. 10.0					
Hand sawing Phillip Carey 85% [illegible] curved block 2" thick	7.20	11.0	$3MgCO_3 \cdot Mg(OH)_2 \cdot 3H_2O$	85% <10 μ 95% <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%
Hand sawing Baldwin Ehret Hill Unibestos flat block 2" thick	0.00	14.5	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	85% <10 μ 95% <20 μ	5% 10% 45%	<10 μ <20 μ >50 μ	45%
Breathing zone of worker using table saw to cut Owens-Corning Kaylo flat block 2" thick	77.90	--	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0)H_2O	45% <10 μ 90% <20 μ	1% 2% 90%	<10 μ <20 μ >50 μ	8%
Using table saw to cut Baldwin Ehret Hill Unibestos flat block 2" thick	53.90	54.6	Tobermorite (0.8-1.5) CaO . SiO_2 . (0.5-2.0) H_2O	85% <10 μ 95% <20 μ	1% 5% 70%	<10 μ <20 μ >50 μ	25%

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MIDLAND, MICHIGAN
October 30, 1968

Richard F. Falk
Safety Department
401 Building

Enclosed is a copy of a letter which I received from Bob Middleton.

One of Bob's questions is "what safety equipment, if any, is used by the Midland Division in handling the materials in question?" I feel that you are in a better position to answer that part of the inquiry than I am.

Thank you for your attention to the matter.

H. R. Hoyle
Biochemical Research Laboratory
1701 Building

HRH:reh

Enc.

cc: D. B. Morse, Safety Department, 401 Bldg.
R. C. Middleton, Ludington Plant

ST0006759

THE DOW CHEMICAL COMPANY

LUDINGTON
October 7, 1968

H. R. Hoyle
Biochemical Research Lab
1701 Building

Dear Harold:

We are interested in finding out what Safety Precautions are being used by the Pipe Coverers in the Midland Division.

We are using three types of material in the plant. Our Pipe Coverers spend approximately 50% of their time on outside work and 50% inside.

The materials used are Fiberglass, which has no precautions on the bag, and a product called "Kaylo", which has the following warning on the bag.

THIS PRODUCT CONTAINS
ASBESTOS FIBER

If dust is created when this product is handled, avoid breathing the dust.

If adequate ventilation control is not possible, wear respirator approved by U. S. Bureau of Mines.

There is another product which has the following information on the bag.

CAUTION --- ASBESTOS SHORTS

This product contains Asbestos Fiber. Inhalation of Asbestos, in excessive quantities, over long periods of time, may be harmful.

If dust is created when this product is handled, avoid breathing the dust.

If adequate ventilation control is not possible, wear a respirator approved by the U. S. Bureau of Mines for pneumoconiosis producing dusts.

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I would appreciate it if you would check into these materials as to the harmfull effects to the employee and what Safety Equipment, if any, is used by the Midland Division.

R. C. Middleton
Safety Director

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