PLAINTIFF'S EXHIBIT
MRG-47

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W. R. GRACE & CO.
INDUSTRIAL CHEMICALS GROUP
62 WHITTEMORE AVE., CAMBRIDGE, MASS. 02140

October 9, 1969

Mr. James Cintani, District Manager
Zonolite
Construction Products Division
W. R. Grace & Co.
P.O. Box 2124
Trenton, New Jersey 08619

Dear Jim:

In reply to your inquiry as to possible health hazards associated with mixing and application of Mono-Kote, please be advised as follows:

On September 12, 1968, studies were made of the operations involving application of Mono-Kote at the building construction site of the Beverly Hills High School, Beverly Hills, California. The studies were conducted by the California Department of Public Health, Bureau of Occupational Health and Environmental Epidemiology at the request of the California Department of Industrial Relations, Division of Industrial Safety.

Work atmospheric exposures to the Mono-Kote mixture were evaluated by collecting air samples simultaneously by two different methods: with all-glass midget impingers and with high volume filter paper samplers. The impinger samples were analyzed for dust concentration by count, using the standard light field technique, recommended by the American Conference of Governmental Hygienists. High volume samples were analyzed by weight, by gravimetric techniques, All samples were taken at the operator's breathing zone during two different normal work procedures: indoor spray application and outdoor batch mixing. Material samples of dry Mono-Kote mixture and wet slurry were collected directly from a bag and from the discharge of the pneumatic spray gun, respectively. These were analyzed for asbestos content by the X-ray diffraction technique in the Air and Industrial Hygiene Laboratory of the State Department of Public Health. Results of the studies were as follows:

Composition of Material Samples

Sample No.	Location and Type of Sample	Asbestos Content-%
1	Dry mix, directly from bag of Mono-Kote	11
2	Wet slurry, directly from pneumatic spray gun.,	less than 1

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Atmospheric Concentration of Mono-Kote Dust

Location	Operation	Atmos. Conc. mppcf(I)	Atmos. Conc. mg/M3(2)	Remarks
1. a. Inside bldg. on scaffold, 1 man	Applying Monocote by spray gun	1.0	2.8& 6.2	OBZ (3) normal operation, nozzle at medium speed
b. Inside bldg. on scaffold, 1 man	Applying Monocote by spray gun	0.75 & 0.70	3.1 & 5.8	OBZ, normal operation, nozzle at medium speed
Av. exposure		0.8	4.5	
Peak exposure		1.0	6.2	
2.Outside bldg. by mixer hopper, 1 man	Loading hopper with 4 batches of Monocote	0.7 & 1.4	1.4 & 9.9	OBZ, normal operation low wind condition
Av. exposure		1.2	5.7	
Peak exposure		1.4	9.9	
Hygienic Standards for Asbestos Dust (count basis)				
Threshold Limit Value (av.)		2.0		
Threshold Limit Value (peak)		5.0		
Suggested TLV (weight basis) (greater than 5% asbestos)			0.3	

(1) mppcf - million particles per cubic foot of air

(2) mg/M3 - milligram per cubic meter

(3) OBZ - Operator's breathing zone

Relative to the effects of asbestos fibers on the lungs, the American Conference of Governmental Industrial Hygienists (ACGIH) had set a Threshold Limit Value (TLV) for asbestos of five million particles per cubic foot of air (mppcf).

For several years past, the Threshold Limit Value (TLV) for asbestos fibers, as set by the American Conference of Governmental Industrial Hygienists (ACGOH), has been five million particles per cubic foot of air (mppcf). The ACGIH now recommends a lower time-weighted TLV on a count basis of 2 mppcf, with a"ceiling" TLV of 5 mppcf.

The 0.3 mg M^3 TLV for dusts greater than 5% asbestos, as arbitrarily suggested in the report, is the weight-basis TLV for pure silica dust. No wieght-basis for asbestos fibers has been established.

The studies conducted by the State of California showed that total asbestos fibers in air at the operations involving mixing and application of Mono-Kote was well below the TLV extablished by the American Conference of Governmental Industrial Hygienists.

If I may be of any further help, please advise.

Sincerely yours,

Peter Kostic

Peter Kostic
Safety Administrator

PK: jmd