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DOCUMENT DESCRIPTION: Report - Airborne Fiber Counts for Paco Textures Company

AIRBORNE FIBER COUNTS

for

Paco Textures Company
Los Gatos, California

Date Sampled: June 12, 1975
Date Reported: June 30, 1975

Samples Collected By: H. B. Rhodes
Union Carbide Corporation

Samples Analyzed By: B. L. Ingalls
Union Carbide Corporation

Reported By: H. B. Rhodes
Union Carbide Corporation

Union Carbide Corporation
Metals Division
Niagara Falls, New York

PLAINTIFF'S EXHIBIT
42 KM
tabbies

OBJECTIVES

1. To measure the airborne asbestos fiber counts during the mixing and spraying of ceiling texture spray.

2. To compare the asbestos fiber counts for products containing Canadian grade 7M05 asbestos and Canadian HPO.

DESCRIPTION OF OPERATION

The tests were carried out at two locations in Los Gatos, CA. In each case, ceiling texture formulations differing in the type of asbestos used were sprayed by the same operator under very similar conditions. The first series of tests was typical of the small, custom operation while the second was more representative of large "mass-production" type procedures and equipment.

In the first sequence (Pyramid Painting and Drywall), the operator added four 3-pound bags of Decotex containing 5.2% of J/M 7M05 Canadian asbestos into the top of a small "Spray Force" mixer-sprayer with a capacity of ~90 gallons. Approximately half of the ceilings in a large single-story house were sprayed with this mixture. The tank was then washed out and 4 bags of Decotex containing 4.1% of "Calidria" HPO were mixed and sprayed. The mixture ran out before the spraying was completed and two more bags were mixed.

Personal samples were taken on the operator during each main mixing and during each spraying sequence. The two bag supplementary mixing was not sampled. The wiper was sampled during each spraying. One area sample was taken in the opposite end of the house during the spraying of the Canadian containing material and the initial part of the Calidria containing operation.

The second sequence was run at another location in Los Gatos with a large truck-mounted spray unit. Four bags of Decotex containing ~2% HPO were added to the mixer which was already partially filled. The ceilings in a complete house were sprayed. A 12-bag blend of the same Decotex blend containing ~2.5% Canadian 7M05 was then mixed and sprayed on the ceilings of a second house. These blends contained an additional pound of styrofoam and were thicker than that used in the first location. There was some problem with the spraying of the Canadian containing material and working pressure was reduced from 120 to ~70 psig. There was still more fine overspray than with the Calidria based product.

Personal samples were collected on the spray operator during each mix and during each spraying sequence. Personal samples were collected on the wiper during each spraying.

SAMPLE EQUIPMENT AND TEST PROCEDURES

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.1001, using the Bayer, Zummalde and Brown method for counting asbestos fibers by phase contrast microscopy (Bureau of Occupational Safety and Health, Feb. 1969).

Battery-powered air pumps (M.S.A. type), calibrated to 2 liters per minute, were used to collect personal breathing zone and environmental samples on Millipore membrane filters of 0.8 micron porosity.

Fiber counting was performed on a Nikon phase contrast microscope at 400X utilizing a Porton reticle for sizing and field definition.

Two results have been reported for each sample - they are:

1. Total Fiber - Any material longer than 5 microns, having an aspect ratio greater than 3:1. This number will include the asbestos fibers as well as other particles which meet the foregoing criteria. If tremolitic talc is present in the sample, the tremolite "chips" and anthophyllite impurities (if present) would also be in this category.

2. Chrysotile Asbestos Fiber - Any fiber longer than 5 microns, having an aspect ratio greater than 3:1 which, in the judgement of an experienced operator could be chrysotile asbestos.

COMMENTS

The OSHA regulations permit a maximum limit of 5 fibers greater than 5 microns in length per cubic centimeter of air sampled on an 8-hour, time-weighted average (TWA). This allowable level will be reduced to 2 fibers/cc on July 1, 1976. The formula $\frac{C_1T_1 + C_2T_2 + C_nT_n}{\Sigma T}$ describes the TWA where C = fiber count in fibers/cc and T = time.

The regulations also stipulate a ceiling concentration of 10 fibers/cc greater than 5 microns which is not to be exceeded at any time.

TEST RESULTS

The details of sample collection and resultant fiber counts are listed in the attached table.

SUMMARY OF FIBER COUNTS

Sample No.	Air Sample Time	Minutes	Operation Description	Airborne Fiber Count (fibers/cc >5μ) Total	Chrysotile Asbestos
First Tests - Pyramid Paint					
B-08	8:26-8:36am	10	Personal sample. Operator (Ray Struve) mixing 4 bags of Decotex ceiling spray. Contained ~5.2% of Canadian 7M05, limestone, California talc, kaolin clay and polystyrene aggregate. Actual handling of asbestos took ~2 minutes. Remainder of time used in wetting and mixing.	3.7	3.2
B-02	8:40-8:56am	16	Personal sample. Operator (Ray Struve) during spraying Canadian containing blend. Spray on for ~12 minutes. (Canadian asbestos)	1.8	1.6
B-03	8:56-9:04am	8	Personal sample. Operator (Ray Struve) mixing 4 bags of Decotex ceiling spray. Contained ~4.1% of "Calidria" asbestos HPO. Other ingredients same as for sample B-08.	3.4	2.7
B-05	9:04-9:19am	11	Personal sample. Operator (Ray Struve) spraying texture containing HPO.	---	0.9
----	9:15-9:16am	--	Operator mixed two bags of HPO based material. This operation was not sampled.	No Sampled	
B-07	8:40-9:00am	20	Personal sample. Helper (Bill Underwood) wiping overspray on walls. (Canadian asbestos containing spray.)	1.0	0.8
B-06	9:02-9:26am	24	Same as B-07. During spray of material containing HPO.	0.7	0.5
B-04	8:50-9:07am	17	Area sample. In opposite end of house during spraying of Canadian containing material, between operations, and the start of the "Calidria" containing material.	0.6	0.4

Sample No.	Air Sample Time	Minutes	Operation Description	Airborne Fiber Count (fibers/cc >5μ) Total	Chrysotile Asbestos
Second Tests					
A-67	1:30-1:53pm	23	Personal sample. Spray operator (Bill Lowe) mixing 4 bags of Decotex containing 2.0% HPO. (More styrofoam than AM samples.) Other ingredients same as B-08. Actual dumping took ~3 minutes.	1.8	1.5
A-19	1:53-2:30pm	27	Personal sample. Operator spraying one house (~20 minutes spraying).	1.2	0.9
A-69	2:21-2:35pm	14	Personal sample. Spray operator (Bill Lowe) mixing 12 bags of Decotex containing ~2.5% Canadian 7M05 asbestos. More styrofoam than AM samples. Other ingredients the same. Actual dumping took ~10 minutes.	0.9	0.8
A-89	2:36-3:12pm	36	Personal sample. Spray operator (Bill Lowe) adjusting sprayer and spraying second house with Decotex containing Canadian asbestos. About 27 minutes actual spraying.	1.6	1.0
A-97	2:00-2:34pm	34	Personal sample. Wiper (Bill Bredehoft) during spraying of HPO containing texture (1st house).	1.1	0.8
A-100	2:25-3:16pm	51	Personal sample. Wiper (Bill Bredehoft) during spraying of Canadian asbestos containing texture (2nd house).	0.9	0.7