BC: H. B. Rhodes
Customer File ✓
Dust Count File

Calidria ASBESTOS

UNION CARBIDE CORPORATION • METALS DIVISION • P. O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-278-3376

March 8, 1976

Mr. Jerry Zakim
Applied Polymers of America
210 Delawanna Avenue
Clifton, NJ 07014

Dear Jerry:

I am enclosing the report covering the results of our dust monitoring which was made at your plant in Kearny in January. Our sincere apologies for not sending it to you sooner. I think the report is self-explanatory but if you have any questions concerning it, please do not hesitate to give us a call.

Very truly yours,

Gordon L. Dickson

Gordon L. Dickson
Manager - Eastern Region
Sales & Technical Service

GLD:cjb
Enclosure

X410464

PLAINTIFF'S EXHIBIT

UC-4125

AIRBORNE FIBER COUNTS

for

Talon Adhesives
Kearny, New Jersey

Date Sampled: January 8, 1975
Date Reported: February 2, 1976

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

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

Reported By: B. L. Ingalls
Union Carbide Corporation

Union Carbide Corporation
Metals Division
Niagara Falls, New York

X410465

OBJECTIVE

Monitor airborne asbestos during the incorporation of "Calidria" RG-144 asbestos in a coal tar waterproofing compound.

DESCRIPTION OF OPERATION

Two bags of RG-144 were hand dumped into a horizontal revolving type mixer containing coal tar resin. The mixer was located in an open bay area. The asbestos was dumped into the mixer via a port hole ~2 feet in diameter. Total dump time was ~10 minutes.

Airborne samples were obtained prior to, during and after the asbestos dump. Both personal (breathing zone) and environmental samples were taken during the operation.

X410466

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(s).

X410467

SUMMARY OF FIBER COUNTS

Talon Adhesives
Kearny, New Jersey

Sample No.	Air Sample Time	Minutes	Operation Description	Airborne Fiber Count (fibers/cc >5u) Total	Chrysotile Asbestos
D-79	on 9:43A off 10:19A	36	Environmental - Prior to the dumping of asbestos located~7' from port hole and~4' above mixer.	0	0
D-54	on 10:25A off 10:35A	10	Personal - (J. Johnson) Dump operator. During and after dump of asbestos and other fillers.	0.3	0.3
D-38	on 10:25A off 11:00A	35	Environmental - During and after dump of asbestos - Location same as D-79.	0.1	0.1
D-99	on 10:25A off 11:00A	35	Personal - (J. Villacari) Dump assistant. During and after dump of asbestos.	0.3	0.3

X410468

AIRBORNE DUST COUNTS

for

AVCO Corporation
Lowell, Massachusetts

October 24, 1972

Personnel: E. J. Kleber
Union Carbide Corporation

B. L. Ingalls
Union Carbide

C. Howland
Allied Resin Corporation

D. Nahabedian
AVCO Corporation

UNION CARBIDE CORPORATION
Mining and Metals Division
Niagara Falls, New York

X410469

The results of microscope counts for air samples collected at AVCO Corporation, Lowell, Massachusetts, September 19, 1972 are attached.

Apparatus & Procedure

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.93a.

Unico Personal Air Samplers, 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 Leitz microscope utilizing phase contrast illumination at 400X and a Patterson Globe and Circle reticle.

Total Dust was determined by light field microscopy at 100X.

Test Results

Two figures have been reported for each sample. They are:

1) Total Fiber - Any material 5 microns or longer having an aspect ratio of 3 or greater. Reported as fibers per milliliter.

2) Total Dust - Any fiber or particle present. Reported as million particles per cubic foot.

Enclosed for reference is a copy of the OSHA Standard for exposure to asbestos dust, which includes silica and inert dust limits.

X410470

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SUMMARY OF DUST COUNTS

N.B. No.	Description	Fiber Count Fibers/ml > 5 μ	Total Dust mmppcf
1929-24-1	Environmental (35 min.) - 8' from mix area on electrical boxes during dumping of 10 bags. 5-1/2' above floor	0.71	0.5
1929-24-2	Personal (25 min.) - Dumping 10 bags RG-244. Samplers attached to operator.	0.83	0.5
1929-24-3	Environmental (47 min.) - 15' from mixer at passageway. (Heavy traffic area) After dumping of RG-244	0.43	0.3
1929-24-4	Environmental (45 min.) - Same as 1929-24-1 after dumping of RG-244.	0.28	0.13

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AFCO COUNT Sheet

Sample #	20	98	81	85	20 Dust	98 Dust	81 Dust	85 Dust
time	350	24.3	46.5	45.0				
Flow								
1	0	0	0	0	134	74	132	47
2	1	1	0	0	138	110	104	48
3	0	1	0	0	75	108	94	32
4	0	0	0	0	141	70	146	43
5	1	0	0	0	137	82	68	41
6	0	1	0	0				
7	0	0	1	0				
8	1	0	0	0				
9	1	0	0	0				
10	0	0	0	0				
11	0	0	0	0				
12	0	1	0	1				
13	1	0	0	0				
14	0	0	0	0				
15	0	0	0	1				
16	0	0	0	1				
17	0	1	0	0				
18	0	0	1	0				
19	1	0	2	0				
20	0	0	0	0				
TOTAL	6	5	5	3	625	444	544	211
AVG	03	0.25	0.25	0.15	125	88.8	108.8	42.2
Pump	B	A	A	D	B	A	A	B
FIELD AREA								
FILTER AREA								
Volume	60.2	43.25	82.77	77.4	2.13	1.53	2.92	2.7
CONCENTRATION	0.11	~~0.66~~ 0.83	0.43	0.28	0.5	0.5	0.3	0.13

COUNT × FILTER AREA / FIELD AREA × Sample Volume

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8 SQX. 25 = 213.75

.0064 25150

Dust

.472

.22

(2 M .0753 75 mm2

575

575

V 125

.335

.225

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