UCC 149-2

IV.E.5

PLAINTIFF'S EXHIBIT UC-51

UNION CARBIDE **INTERNAL CORRESPONDENCE**

METALS DIVISION • P.O. BOX 579 - 4625 ROYAL AVE., NIAGARA FALLS, NEW YORK 14302

To (Name) Mr. E. W. Shortridge (2)
Division UCC
Location Box K
King City, CA 93930

Date March 28, 1977

Originating Dept. "Calidria" Asbestos

Answering letter date

Subject Airborne Asbestos Fiber Counts Performed at King City on March 10, 1977

Copy to Messrs. R. E. Byrne, Jr.
B. L. Ingalls
J. L. Myers
H. B. Rhodes
R. L. Schult
W. C. Thurber
File (2)

Enclosed is the report on airborne asbestos counts resulting from our March 10 monitoring of the RG-144 and RG-244 bagging operations.

On the average, the RG-144 bagging operation indicated slightly higher emissions than the RG-244 operation. However, both are within the allowable limits, as prescribed by OSHA. Time Weighted Averages have been calculated based on the total duration of the monitoring period. We would be very interested in how our results compare with your own.

Thank you for the opportunity to visit the production facilities and for the courtesy extended during our recent visit.

G. J. Spencer

GJS:dal
Enclosures

A17033

AIRBORNE ASBESTOS COUNTS

for

Union Carbide Corporation
King City, California

Date Sampled: March 10, 1977
Date Reported: March 23, 1977

Samples Collected By:	G. J. Spencer Union Carbide Corporation
Samples Analyzed By:	G. J. Spencer Union Carbide Corporation
Reported By:	G. J. Spencer Union Carbide Corporation

Union Carbide Corporation
Metals Division
Niagara Falls, New York

A17037

OBJECTIVE

To monitor airborne asbestos emissions at the subject company's production facilities.

DESCRIPTION OF OPERATION

Two operations were monitored:

Operation #1 - involved the bagging of finished product from the RG-244 circuit. Personal samples were obtained in the breathing zone of the bagger.

Operation #2 - involved the bagging of finished product from the RG-144 (main) circuit. Personal samples were obtained in the breathing zone of the bagger.

SAMPLE EQUIPMENT AND TEST PROCEDURES

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.1001, using the Bayer, Zumwalde 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. Chrysotile Asbestos - Any fiber having an aspect ratio ≥3 and a length ≥5μ that is in the operator's judgement chrysotile. In the event of doubt and in the absence of further information, any fiber having the above physical dimensions will also be counted as chrysotile.

2. Possible Asbestos - Any fiber having an aspect ratio ≥3 and a length ≥5μ that is not obvious to be material other than asbestos. This includes all amphiboles and material similar in appearance.

COMMENTS

The OSHA regulations permit a maximum limit of 2 fibers greater than 5 microns in length per cubic centimeter of air sampled on an 8-hour, time-weighted average (TWA). 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).

A 17030

SUMMARY OF FIBER COUNTS

Union Carbide Corporation
King City, California

Sample No.	Air Sample Time	Minutes	Operation Description	Airborne Fiber Cou (fibers/cc >5μ) Chrysotile Asbestos	Possibl Asbesto
			Operation #1		
B-2	on: 8:24A off: 8:53A	29	Personal - (Domingo Ornelas, bagger) During the bagging of RG-244.	1.1	0
B-23	on: 8:53A off: 9:34A	41	Personal - (Domingo Ornelas, bagger.) During the bagging of RG-244.	0.8	0
B-16	on: 9:34A off: 10:00A	26	Personal - (Domingo Ornelas, bagger.) During the bagging of RG-244.	1.1	0
B-13	on: 10:16A off: 11:05A	49	Personal - (Domingo Ornelas, bagger.) During the bagging of RG-244.	0.8	0
R-36	on: 11:05A off: 11:29A	24	Personal - (Domingo Ornelas, bagger.) During the bagging of RG-244.	0.7	0
			Operation #2		
B-4	on: 8:14A off: 8:55A	41	Personal - (David Urquidez, bagger.) During the bagging of RG-144.	1.4	0
R-39	on: 8:55A off: 9:37A	42	Personal - (David Urquidez, bagger.) During the bagging of RG-144.	1.4	0
B-29	on: 9:37A off: 10:26A	49	Personal - (David Urquidez, bagger.) During the bagging of RG-144.	0.2	0
B-5	on: 10:26A off: 11:01A	35	Personal - (David Urquidez, bagger.) During the bagging of RG-144.	0.8	0
B-24	on: 11:01A off: 11:24A	23	Personal - (David Urquidez, bagger.) During the bagging of RG-144.	1.9	0

King City - Time Weighted Averages

Operation #1- $$\frac{(1.1)(29) + (0.8)(41) + (1.1)(26) + (0.8)(49) + (0.7)(24)}{169}$$

$$\frac{31.9 + 32.8 + 28.6 + 39.2 + 16.8}{169} = \frac{149.3}{169} = 0.88 \text{ F/cc}$$

Operation #2 - $$\frac{(1.4)(41) + (1.4)(42) + (0.2)(49) + (0.8)(35) + (1.9)(23)}{190} =$$

$$\frac{57.4 + 58.8 + 9.8 + 28 + 43.7}{190} = \frac{197.7}{190} = 1.04 \text{ F/cc}$$

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