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APR 27 1978
UNION-CARBIDE
KING CITY, CA

UNION-CARBIDE CORPORATION

270 PARK AVENUE, NEW YORK, NEW YORK 10017

To (Name)	Mr. J. Shortridge	Date	April 24, 1978
Division	Metals Division	Originating Dept.	Health, Safety & Environmental Affairs
Location	P.O. Box K	Floor Number	22nd Floor
Floor Number	King City, California	Answering letter date	
Copy to	Messrs. J. B. Browning T. W. Carmody K. S. Lane, M. D. E. A. Piersall	Subject	

Dear Mr. Shortridge,

The findings for my survey of airborne asbestos in the RG 244 bagging area, April 12, 1978, are tabulated on the attached. The samples labeled PA were those collected by a sampling device worn by the bagger operator. The samples labeled GA were general air samples that were collected in the hammermill area just off the bagging area. All samples were collected on open face filters and counted by phase contrast microscopy at a magnification of 400 times.

The results show an early period of higher-than-usual fiber counts in the bagging operation but then drop down to about normal for the remainder of the work shift. Note that the operator wore the sampler through break and lunch periods.

The results for the hammermill area were much lower than I found earlier this year although by visual estimate the area seemed to have about as much dust as before.

This variation in findings is puzzling and since I used the same microscope for both sets of counts, implies that the fiber content of the hammermill environment is not necessarily indicated by the visible appearance.

The findings for the bagger operator averaged out to be less than the TLV but it appears that owing to possible variation in fiber concentrations a respirator should be worn at all times.

Thanks again for the usual fine cooperation I receive at your plant.

Very truly yours,

Paul W. McDaniel

Paul W. McDaniel

PWM/vrd
Attachment

UCC 013047

ASBESTOS FIBER COUNT
UNION CARBIDE CORPORATION
KING CITY, CALIFORNIA
APRIL 12, 1978

LOCATION	TYPE OF SAMPLE	TIME OF SAMPLE	FIBERS > 5 MICRON PER cc	REMARKS
<u>RG 244 Bagging Area</u>	PA	8:19a- 8:59a	2.28	Respirator worn at all times
Rebecca Nutter - Operator		9:00a- 9:40a	3.25	
		9:41a-10:41a	0.60	Includes break periods
		10:42a-11:46a	1.02	
		11:47a-12:49p	0.16	Includes lunch break
		12:50p- 1:50p	0.87	
		1:51p- 2:55p	0.95	
		2:55p- 3:50p	0.95	
		Time-Weighted Average	1.11	
<u>Hammermill Area</u>	GA	8:23a- 8:48a	3.82	Not occupied area
General		8:49a- 9:14a	2.47	
		9:15a- 9:42a	5.14	
		9:42a-10:07a	3.32	
		10:08a-10:43a	2.60	Includes lunch break
		10:43a-11:32a	2.84	
		2:21p- 2:46p	3.65	
		2:47p- 3:22p	2.89	
		3:22- 3:47p	1.56	

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AIRBORNE ASBESTOS COUNTS
for
Union Carbide Corporation
King City, California

RECEIVED
JUN 15 1978
UNION CARBIDE
KING CITY, CALIF.

Date Sampled: April 19, 20, 25, 26, 1978
Date Reported: June 14, 1978

Samples Collected By: Union Carbide Corporation
King City, California

Samples Analyzed By: Glenda J. Spencer
Union Carbide Corporation

Reported By: Glenda J. Spencer
Union Carbide Corporation

Union Carbide Corporation
Metals Division
Niagara Falls, New York

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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 $\geq 5\mu$ 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 Amphibole Asbestos - Any fiber having an aspect ratio ≥ 3 and a length $\geq 5\mu$ 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).

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OBJECTIVE

To monitor airborne asbestos emissions at the subject company's production facilities during the bagging and palletizing of "Calidria" RG-244 asbestos.

DESCRIPTION OF OPERATION

Production operation included bagging, shrink-wrapping and palletizing RG-244. Personal samples were obtained on April 19, 20, 25, 26, 1978. The following conditions during monitoring were noted by King City:

April 19, 1978

Full bagging, shrink-wrapping and palletizing RG-244, pallets moved from bagging room to storage area, samples delivered to laboratory. Weather conditions: north door open, clear day, 5-10 mph wind from north.

April 20, 1978

Full bagging, shrink-wrapping and palletizing RG-244, pallets moved from bagging room to storage area, samples delivered to laboratory. Weather conditions: north door open, light wind from north, rain P.M.

April 25, 1978

Full bagging, shrink-wrapping, palletizing RG-244, pallets moved from bagging room to storage area, samples delivered to laboratory. Weather conditions: north door open, 5-18 mph wind from south, rain A.M., cloudy P.M.

April 26, 1978

Full bagging, shrink-wrapping, palletizing RG-244, pallets moved from bagging room to storage area, samples delivered to laboratory. Weather conditions: north door open, no wind, partly cloudy.

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SUMMARY OF FIBER COUNTS

Sample No.	Air Sample		Operation Description	Airborne Fiber Count (fibers/cc >5 μ)	
	Time	Minutes		Chrysotile Asbestos	Possible Amphibol Asbestos
2-1-19	On: 1:07P Off: 2:07	60	April 19, 1978 - Personal samples were obtained during bagging, shrink wrapping, palletizing RG-244, transfer of pallets to storage area and delivery of samples to laboratory. Conditions: north door open, 5-10 mph wind from north, clear day.	1.5	0
2-2-19	On: 2:08P Off: 3:09	61		1.9	0
2-2-20	On: 2:02P Off: 3:23	81	April 20, 1978 - Personal sample obtained during bagging, shrink-wrapping, palletizing RG-244, transfer of pallets to storage area and delivery of samples to laboratory. Conditions: north door open, light wind from north, rain in the afternoon.	1.4	0
2-1-25	On: 12:52P Off: 1:52	60	April 25, 1978 - Personal samples were obtained during bagging, shrink-wrapping, palletizing RG-244, transfer of pallets to storage area and delivery of samples to laboratory. Conditions: north door open, 5-18 mph wind from south, rain in the morning.	2.1	0
2-2-25	On: 1:53P Off: 2:53	60		1.9	0
1-1-26	On: 9:14A Off: 10:19	65	April 26, 1978 - Personal sampels were obtained during bagging, shrink wrapping, palletizing RG-244, transfer of pallets to storage area and delivery of samples to laboratory. Conditions: north door open, no wind, partly cloudy.	0.9	0
1-2-26	On: 10:21A Off: 11:25	64		1.2	0

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