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UNION CARBIDE
THE DISCOVERY COMPANY

Caldria ASBESTOS

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

March 31, 1975

PLAINTIFF'S EXHIBIT
UC-4139

Mr. George Harlock
President
CHM Manufacturing Company
2860 West Third Court
Hialeah, FL 33010

Dear George:

A report of the dust samples I collected on February 20, 1975 is attached. Unfortunately, the two important breathing zone samples were so loaded with other dust that the counts are not reliable. We will have to get shorter samples next time.

Regards,

Harry

H. B. Rhodes
Technology Manager

HBR:cjb
Attachment

CC: J. E. Walsh

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AIRBORNE FIBER COUNTS

for

CHM, Inc.
Hialeah, Florida

Date Sampled: February 20, 1975
Date Reported: March 20, 1975

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

Samples Analyzed By: T. C. Thompson
Union Carbide Corporation

Reported By: B. L. Ingalls
Union Carbide Corporation

Union Carbide Corporation
Mining and Metals Division
Niagara Falls, New York

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PLAINTIFF'S EXHIBIT
UC-292

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OBJECTIVE

Monitor airborne asbestos fiber during the use of "Calidria" asbestos RG-210 in the manufacture of tape joint compounds at the subject company.

DESCRIPTION OF OPERATION

The operation tested here was the manufacture of ready-mix tape joint compounds. The dry ingredients were added to a hopper with about a 3' X 6' spount opening equipped with a good exhaust hood. Two men lifted the bags off the pallets, placed them on the grid over the hopper, slit them, dumped the contents and stacked the bags.

In the blending sequence, one man weighed out three five-gallon pails of SG-210 while the other stacked 35 bags of limestone in the hood. The clay bags were split and dumped, followed by mica, asbestos, and more limestone. The dumping of the three pails, plus one bag of SG-210, took about one minute.

Personal samples were taken on both operators during the dumping. When the bags were all dumped (10 minutes) Mr. Knop left the area and the sampler was removed. Mr. Manzoy remained for about 10 minutes to collect the bags and place them in a trash bin. He also used a wooden pole to clear the hopper as the material was removed via a screw conveyer at the bottom. The asbestos bags were kept separate and placed in a covered fiber-pack drum. An environmental sample was taken in the passageway in front of the hood approximately 15' from the dumping. A second sample was taken 8' in front of the hood at the edge of the raised dumping platform. This represents the concentration in the area between dumps. In normal production, about 10 batches are made per 8-hour shift.

After the dry ingredients are dumped, they are moved by screw conveyer to the mud mixer on the floor below. A small amount of dust could be seen escaping from the seal at the mixer. One sample was taken (N-10) on the operator working in this area during the transfer step.

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SAMPLING EQUIPMENT AND TEST PROCEDURES

Sampling and dust counting were carried out in accordance with OSHA Regulation 1910.93a, 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 Vicker's 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 would contain the asbestos fibers as well as other contaminants which meet the foregoing criteria.

2. Asbestos Fiber - any fiber longer than 5 microns, having an aspect ratio greater than 3:1 which, in the judgment of the operator, is chrysotile asbestos. Any fiber of questionable identity was counted as 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). 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.

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SUMMARY OF FIBER COUNTS

Sample No.	Air Sample Time (Minutes)	Description	Total Fiber Count (Fibers/cc >5μ)	Asbestos Fiber Count (Fibers/cc >5μ)
N-27	60	Environmental - Prior to and during dump of 50 lbs. RG-210 (dump time approx. 10 minutes). Located 3' above floor and 15' from dump hood.	0.5	0.2
N-10	15	Personal - (Israel Nelson) Man in area during transfer of prepared dry mix containing SG-210 to mud mixer.	0.4	0.1
N-13	14	Personal - (Ken Knop) Dump operator during dump of 50 lbs. SG-210.	3.8*	2.8*
N-50	22	Personal - (Luis Manzoy) Dump operator. During dump of 50 lbs. SG-210 and bag removal.	**	**
N-47	16	Environmental - Post control between dumps. Located 5' above floor and approx. 8' in front of hood.	0.6	0.2

* Filter very heavily loaded - counts questionable.

** Filter loaded to extent counts prohibitive.

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