OK for '76

UNION CARBIDE ASBESTOS

THE DISCOVERY COMPANY

UNION CARBIDE CORPORATION • MINING & METALS DIVISION • P.O. BOX 579 • NIAGARA FALLS, N.Y. 14302 • TEL: 716-285-3311

PLAINTIFF'S EXHIBIT
UC-4343

September 1, 1972

Mr. A. Crewson
Conwed Corporation
Cloquet, Minnesota 55720

Dear Mr. Crewson:

Enclosed is a report of our dust sampling at Cloquet. I think you will find the report self-explanatory, however, should you have any questions please do not hesitate to call me.

I have also enclosed, in duplicate, a letter requesting your permission to use the information obtained by these dust counts. We would appreciate your approval with a signature by proper authority.

Very truly yours,

E. J. Kleber
Customer Service Representative

/cvb
Enclosures

cc: Mr. Llyod Carlson
Mr. T. P. Norris

X410528

TABLE II

THRESHOLD LIMIT VALUE FOR ASBESTOS FIBERS[1]

AIRBORNE ASBESTOS

§ 1910.93a Asbestos.

(a) Definitions. For the purpose of this section, (1) "Asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 5 micrometers.

(b) Permissible exposure to airborne concentrations of asbestos fibers - (1) Standard effective July 7, 1972. The 8-hour time-weighted average airborne concentrations of asbestos fibers to which any employee may be exposed shall not exceed five fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(3) Ceiling concentration. No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air, as determined by the method prescribed in paragraph (e) of this section.

(e) Method of measurement. All determinations of airborne concentrations of asbestos fibers shall be made by the membrane filter method at 400-450 x (Magnification) (4 millimeter objective) with phase contrast illumination.

[1] Source: Federal Register, Vol. 37, No. 110 - Wednesday, June 7, 1972.

X410529

TOTAL DUST IN MILLION PARTICLES PER CUBIC FOOT

The results of microscope counts of airborne fibers, 5 microns and greater in length, for air samples collected at ~~Hooker Chemical Corporation, [illegible], New York, location designated north end of building [illegible] 10-foot level, July 28, 1972 are attached.~~ CONWED CORP., CLOQUET, MN AUGUST 9 & 10, 1972 ARE ATTACHED

APPARATUS AND PROCEDURE

Sampling and dusting counting procedures were in accord with OSHA requirements. Unico personal air samplers, calibrated at 1 liters per minute, were used. Samples were collected at personnel breathing zone and environmental conditions on Millipore membrane filters of 0.8 micron porosity. Dust counting was performed on a Leitz microscope utilizing phase contrast illumination and a Patterson Globe and Circle Reticle. A copy of these procedures is available on request.

TEST PROGRAM AND RESULTS

These tests were conducted in a polyester manufacturing plant. Air samples were obtained prior to and during dumping of "Caliria" RG-244 thixotropic agent into Hooker polyester resin #29391. The resin diluted with monomer was contained in a blend tank approximately 8 feet in diameter equipped with a Lightnin Mixer operating at relatively low rpm (a slight vortex was evident). The tank was covered except for a manhole approximately 24 inches in diameter. The liquid resin level was approximately 3-1/2 feet below the manhole and RG-244 was dumped by slitting the bags and slightly shaking during emptying. The empty bags were disposed of in a drum for that purpose. No local exhaust ventilation was provided. The test site was on the second story 10-foot level of an open bay area.

The sequence of operations and corresponding dust count data are shown in Table I. The allowable threshold limit value for airborne asbestos is summarized for reference in Table II.

THESE TESTS WERE CONDUCTED IN A MINERAL BOARD MILL, EMPLOYING A FOURDRINIER ~~PROCESS~~ MACHINE. SAMPLES WERE TAKEN THROUGHOUT THE MANUFACTURING PROCESS, FROM ADDITION OF ASBESTOS, THROUGH GRINDING OF THE BOARD.

X410530

COUNT SHEET

Sample #	3/ml	Ocul	ASB
time		9.75	
flow			
1	0	29	0
2	1	22	1
3	1	45	0
4	0	47	1
5	0	35	1
6	0	47	0
7	0	42	0
8	1	81	1
9	0	50	0
10	0	82	0
11	0		0
12	0		0
13	0		0
14	0		0
15	0		0
16	0		0
17	0		0
18	1		0
19	0		0
20	0		0
			2
TOTAL	4	480	~~480~~
AVG	0.2	24.0	~~24~~.
			0.1

FIELD AREA

FILTER AREA

VOLUME

CONCENTRATION

FIBER CNT X FILTER AREA / FIELD AREA X SAMPLE VOL. ml

X410531

COUNT SHEET

Sample #	3 FIB.	3 DUST	3 ASB	26 FIB	26 DUST	26 ASB	35 FIB	35 DUST	35 ASB
time	114 min →			232 →			208 →		
FLOW 1.6635 ~~2.0~~									
1	0	112	0	2	172	0	0	0	0
2	1	69	0	4	188	1	0	1	0
3	1	83	0	0	193	0	0	1	0
4	0	54	0	2	151	0	0	6	0
5	3	77	0	0	182	0	0	2	0
6	0	38	0	5	240	1	0	4	0
7	2	83	0	1	243	0	0	4	0
8	0	56	1	3	276	0	0	5	0
9	3	65	0	1	213	0	0	4	0
10	1	93	1	2	242	0	0	10	0
11	1	80	0	2		0	0	4	0
12	2	67	0	2		0	0	1	0
13	0	76	0	5		0	0	6	0
14	1	78	0	4		2	0	4	0
15	1	55	0	5		0	0	4	0
16	3	34	1	3		1	1	0	0
17	1	76	0	2		0	0	0	0
18	3	64	0	1		0	0	1	0
19	1	60	1	1		0	0	3	0
20	3	76	0	3		1	0	1	0
TOTAL	27	1302 (18)	4	43	2085 (10)	6	1	61	0
AVG	1.35	72.33	0.2	2.15	209.5	0.3	0.05	3.05	0
FIELD AREA	.006	.1067	.006	.006	.1067	.006	.006	.1067	.006
FILTER AREA	855 →								
VOLUME	228l →			264l →			416l →		
		8.04 %			9.31			.1468	
CONCENTRATION	.8737 f/ml	.072 mmpcf	0.125 f/ml	1.1605 f/ml	.199 mmpcf	.1619 f/ml	1.77 f/ml	.17 mmpcf	0

FIBER CNT X FILTER AREA
FIELD AREA X Sample Vol. ml

X410532

1400 X

Field ~~14.5~~

.115 X .053 @ 400

100 - 5u

100X

0.485 X 0.22

X410533

COUNT SHEET

Sample #	48 FIB	48 DUST	98 ASB.	27 FIB	27 DUST	27 ASB
time	7.47	→	→	9:33		
flow	2l/m	→	→	→	→	→
1	0	0	0	0	238	0
2	0	1	0	0	423	0
3	0	2	0	0	322	0
4	0	2	0	0	573	0
5	0	0	0	0	456	0
6	0	0	0	0	482	0
7	0	0	0	0	499	0
8	0	0	0	0	420	0
9	0	1	0	0	576	0
10	0	1	0	0	469	0
11	0	1	0	0		0
12	0	0	0	0		0
13	0	1	0	0		0
14	0	0	0	0		0
15	0	1	0	0		0
16	0	0	0	0		0
17	0	2	0	0		0
18	0	2	0	0		0
19	0	1	0	0		0
20	0	0	0	0		0
TOTAL	0	15	0	0	4865	0
AVG	0	0.75	0	0	486.5	0
FIELD AREA	.006	.1067	.006	.006	.1067	.006
FILTER AREA	855	→	→	→	→	→
VOLUME	15.34	→	→	18.66	→	→
		0.5415			0.6586	
CONCENTRATION	0	.01 MMCF	0	0	5.93 MMCF	0

FIBER CNT × FILTER AREA
FIELD AREA × SAMPLE VOL. ml

X410534

COUNT SHEET

SAMPLE #	8 FIB.	8 DUST	8 ASB	43 FIB	43 DUST	43 ASB	23 FIB	23 DUST	23 ASB
time	43	43	43	46	46	46	115	115	11
flow	2 l/m								
1	1	1	1	2	73	1	0	53	0
2	0	3	0	0	68	0	0	68	0
3	0	50	0	1	77	0	0	85	0
4	0	40	0	1	90	0	0	55	0
5	0	38	0	0	107	0	0	77	0
6	0	17	0	0	98	0	0	69	0
7	0	30	0	2	87	0	2	76	1
8	2	37	1	1	88	0	1	64	0
9	0	38	0	0	89	0	1	61	0
10	0	49	0	2	68	0	2	82	1
11	0	59	0	1		1	2		1
12	0	44	0	1		0	0		0
13	0		0	0		0	0		0
14	0		0	0		0	1		0
15	0		0	2		0	0		0
16	0		0	1		0	1		0
17	0		0	0		0	0		0
18	1		0	0		0	3		0
19	0		0	2		1	2		1
20	0		0	0		0	1		0
TOTAL	4	401	2	18	840	3	16	690	4
AVG	0.2	40.1	0.1	0.9	84	.15	.8 ~~.75~~	69	.2
FIELD AREA	.006	.062	.006	.006	.062	.006	.006	.062	.00
FILTER AREA	855								
VOLUME	8 l	8 l	8 l	92 l	92 l	92 l	230 l	230 l	23
		3.035 T			32476			8.44	
CONCENTRATION	.331 f/l	106 s/T	.17 f/l	1.39	.207	.2323	.4954	.068	.123
FIBER CNT X FILTER AREA									
FIELD AREA X SAMPLE VOL									

VA 10535

CONWED CORPORATION DUST COUNTS

X410536

Published by AsbestosClaims.Law
asbestosclaims.law/library/18921/9

The results of microscope counts for air samples collected at Conwed Corporation, Cloquet, Minnesota, August 9th and 10th, 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

Three 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) Asbestos Fiber - Any material, 5 microns or longer, having an aspect ratio of 3 or greater, which in the judgement of the operator could possibly be asbestos. Reported as fibers per milliliter.

3) 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.

X410537

SUMMARY OF DUST COUNTS

I.B. No.	Description	Asbestos Fiber Count Fibers/ml > 5 μ	Total Fiber Count Fibers/ml > 5 μ	Total Dust mg
	BOARD & PULP MILL			
929-2-1	Personal (7.67 min.) - Bulk fiber bagger - operator	0	0	0.16
929-2-2	Environmental (114 min.) - No. 3 board machine run-out section- 4' from end of conveyor dumping mineral wool into stock chest	0.15	1.01	0.55
929-2-3	Environmental (132 min.) - Mineral slurry hydropulper tub - eye level above tub 2 bags asbestos dumped every 20 minutes (HP Pellets)	0.19	1.40	1.02
929-2-4	Personal (2.08 min.) - Same as #3, during dumping	1.03	2.06	0.85
	COATING MAKE-UP AREA			
929-2-5	Environmental (145 min.) - Coating make-up deck between #35 mix tank and separan tank	0	0	2.85
929-2-6	Personal (9.33 min.) - Coating make-up deck on coating make-up man as batch of #31 coating is prepared	0	0	31.38
	FINISHING DEPARTMENT			
929-2-7	Environmental (43 min.) - No. 3 trimmer - operator's desk	0.20	0.40	1.09
929-2-8	Environmental (46 min.) - No. 4 trimmer - 9' off floor on catwalk by 2nd arbor	0.28	1.68	0.58
929-2-9	Environmental (115 min.) - Between #1 and #3 board dryers - by W. broke hydropulper 6' off floor	0.15	0.60	0.53
292-2-10	Environmental (194 min.) - No. 3 dry end coating line - slitter area - south side - 6' off floor	0.09	0.64	0.51
292-2-11	Environmental (138 min.) - No. 3 dry end coating line - station B. East grading station - 6' off floor	0.16	0.50	0.43
	TUFFLEX DEPARTMENT			
929-2-12	Environmental (75 min.) - No. 2 Tufflex line - shredder area eye level mount between cotton linter feeder and E. Shredder [10 min. blow-down with 3 air hoses during sampling]	0	0.17	1.20

X4 10538

I.B. No.	Description	Asbestos Fiber Count Fibers/ml > 5.4	Total Fiber Count Fibers/ml > 5.4	Total Dust [illegible]
1929-2-13	Personal (9.75 min.) - No. 2 Tufflex machine - transfer section on backtender's helper	0.88	1.76	[illegible]
	CONWED FABRICS DEPARTMENT			
1929-2-14	Personal (7.0 min.) - Conwed Farbics fiber preparation room - operator feeding cotton linters into P&S feeders	0	5.51	2.35
	LO-TONE DEPARTMENT			
1929-2-15	Environmental (104 min.) - Lo-Tone #4 - line grinder area 6' off floor	0.16	1.44	0.76

410539

Published by AsbestosClaims.Law
asbestosclaims.law/library/18921/13