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Results of U.S.P.H.S. Survey at Raybestos-Manhattan Asbestos Textile Plant, Charleston, SC., January 1971.

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15. Supplementary Notes

16. Abstract (Limit: 200 words)
Air sampling for asbestos dust was conducted by the United States Public Health Service at the Raybestos Manhattan Asbestos Textile Company in Charleston, South Carolina, during January 1971. Airborne concentrations of fibers greater than 5 microns in length per cubic centimeter (f/cc) ranged from 0.1 to 40.9f/cc. Average exposure in the mule spinning, ring spinning, spin doffing, dry twisting, winding, spool winding, winder fixing, and tape weaving areas exceeded the emergency temporary standard for asbestos dust of 5 fibers per milliliter greater than 5 microns in length for an 8-hour time weighted exposure. Forty-five samples exceeded the 15 minute concentration limit of 10 fibers per milliliter.

17. Document Analysis a. Descriptors
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RESULTS OF U.S.P.H.S. SURVEY

RAYBESTOS-MANHATTAN
Asbestos Textile Plant
Charleston, South Carolina

Report Prepared By:

Robert B. Weidner

December, 1971

National Institute for Occupational Safety & Health
550 Main Street Room 7017 FOB Cincinnati, Ohio 45202

December 16, 1971

Mr. George Ducker
General Manager
Raybestos - Manhattan
North Charleston, South Carolina

Dear Mr. Ducker:

Enclosed are the final results of the survey conducted in your plant in January, 1971. The results are listed by operation and job, our sample number and asbestos concentration of fibers/ml greater than 5μ in length. As you know, an emergency temporary standard for asbestos dust took effect upon the publication in the Federal Register on December 7, 1971. The standard states: "The 8-hour time-weighted average airborne concentration of asbestos dust to which employees are exposed shall not exceed 5 fibers per milliliter greater than 5 microns in length, as determined by the membrane filter method at 400-450X magnification (4 millimeter objective) phase contrast illumination. Concentrations above 5 fibers per milliliter but, not to exceed 10 fibers per milliliter, may be permitted up to a total of 15 minutes in an hour for up to 5 hours in an 8-hour day."

Average exposures in the following jobs exceeded the average standard:

1. Mule spinning
2. Ring spinning
3. Spin doffing
4. Dry twisting
5. Winding
6. Foster winding
7. Spool winding
8. Winder fixing
9. Tape weaving

In addition, there were 46 samples above the 15 minute level of 10 fibers per milliliter in the above listed jobs. The remaining jobs do not appear to present any serious problems. There are a few isolated samples which exceeded these limits and which should be further checked. Sampling times varied from about 1 hour up to 2 hours. Twenty-four percent (24%) of the samples were collected for approximately 60 minutes, 53% for approximately 90 minutes and 23% for approximately 120 minutes.

The results of the survey indicate that there were some definite problem areas associated with the operations and jobs mentioned above. In the event that production levels and control measures remain the same since the survey was conducted, it would appear that a serious and persistent health hazard probably exists. Corrective industrial hygiene practices are indicated in the areas where excessive concentrations were found.

If you have any questions, please feel free to contact me.

Very truly yours,

Robert B. Weidner
Acting Chief
Environmental Investigations Branch
Division of Field Studies and
Clinical Investigations

Enclosure

cc: Director, DFSCI
Acting Deputy Director, DFSCI
Regional Program Director, NIOSH, Region IV ✓ (for files - other letter sent to Region IV)
South Carolina State Board of Health
Dictator's file
Readers' file
Division
Central file (Cincinnati)
Plant file
Region IV file

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National Institute for Occupational Safety & Health
Division of Field Studies & Clinical Investigations
November 9, 1971 Asbestos Plant #313

Raybestos - Manhattan
Charleston South Carolina
Asbestos Textile Plant

U.S.P.H.S. Survey
January 1971
Personal Samples

	OPERATION & JOB	*SAMPLE #*	*CONCENTRATION FIBERS >5μ/cc*
100	*Fiber Preparation*		
	Blender Operator	14	3.8
	Blender Operator	198	7.0
	Blender Operator	197	10.9
	Blender Operator	19	14.7
	Blender Operator	10	6.9
	Blender Operator	196	0.4[1]
	Stock Packer	1	1.4
	Stock Packer	15	19.3
	Supervisor	17	3.7
110	*Carding*		
	Card Tender	90	5.3
	Card Tender	104	6.3
	Card Tender	101	4.5
	Card Tender	93	3.7
	Card Tender	200	8.8
	Card Tender	195	10.8
	Card Tender	118	11.2
	Card Tender	102	12.8
	Card Tender	98	12.6
	Card Tender	99	5.1
	Card Tender	86	6.7
	Card Tender	120	4.3
	Card Tender	199	1.9
	Card Filler	234	1.4
	Card Filler	227	7.0
	Card Filler	226	2.0
	Card Filler	225	0.7
	Card Filler	233	0.8
	Stock Roller	96	9.1
	Stock Roller	105	23.2
	Stock Roller	106	7.3
	Weigher (carding)	87	9.7

U.S.P.H.S. Asbestos Samples
Plant # 313

	OPERATION & JOB	SAMPLE #	CONCENTRATION FIBERS >5μ/cc
120	*Spinning*		
	Mule Spinner	80	9.9
	Mule Spinner	67	10.8
	Mule Spinner	64	5.7
	Mule Spinner	70	8.4
	Mule Spinner	61	21.6
	Mule Spinner	65	10.0
	Mule Spinner	75	19.3
	Mule Spinner	71	16.3
	Mule Spinner	63	20.2
	Mule Spinner	78	19.1
	Mule Spinner	69	12.6
	Ring Spinner	41	6.4
	Ring Spinner	208	3.8
	Ring Spinner	53	13.5
	Ring Spinner	48	11.3
	Ring Spinner	54	24.8
	Ring Spinner	56	15.5
	Ring Spinner	58	1.0
	Ring Spinner	52	18.0
	Ring Spinner	218	6.7
	Ring Spinner	46	13.6
	Ring Spinner	45	10.6
	Ring Spinner	44	5.6
	Ring Spinner	210	6.5
	Ring Spinner	209	3.9
	Ring Spinner	55	21.2
	Ring Spinner	212	5.2
	Ring Spinner	60	40.9
	Ring Spinner	57	19.7
	Doffer	43	7.5
	Doffer	77	3.7
	Doffer	100	16.0
	Doffer	51	11.1
	Yarn Weigher	50	5.7
	Spool Cutter	47	4.1
	Foreman (mule spinning)	66	18.2
130	*Twisting*		
	Dry Twister	203	25.3
	Dry Twister	201	12.1
	Dry Twister	95	15.3
	Dry Twister	91	16.0
	Wet Twister	100	8.5
	Doffer	183	3.6
	Twisting Quality Control Technician	92	1.1
	Twisting Quality Control Technician	119	0.5

U.S.P.H.S. Asbestos Samples
Plant #313

	OPERATION & JOB	SAMPLE #	CONCENTRATION FIBERS >5μ/cc
140	*Winding*		
	Winder	205	7.7
	Winder	204	8.1
	Winder	185	0.9
	Winder	79	13.9
	Winder	132	3.7
	Winder	133	7.0
	Winder	184	1.6
	Winder	34	6.8
	Winder	36	0.3
	Winder	130	8.6
	Winder	82	5.8
	Winder	94	7.7
	Winder	84	9.1
	Foster Winder	72	1.8
	Foster Winder	73	12.5
	Foster Winder	74	14.0
	Foster Winder	68	13.8
	Foster Winder	62	12.1
	Packer	175	0.1
	Packer	167	0.3
	Packer	172	2.2
	Packer	178	0.4
	Packer	171	0.3
	Packer	168	0.1
	Packer	177	0.2
	Packer	170	0.1
	Packer	179	0.5
	Packer	162	6.3
	Packer	161	1.8
	Packer	83	9.8
	Packer	176	0.0
	Winder Fixer	134	2.6
	Winder Fixer	16	16.6
	Winder Fixer	12	0.1
	Winder Fixer	9	2.2
	Spool Winder	206	17.9
	Spool Winder	207	10.8
	Winding Supervisor	81	14.6
	Packing Supervisor	180	0.3
	Winding Quality Control Technician	85	2.3

U.S.P.H.S. Asbestos Samples
Plant # 313

	OPERATION & JOB	SAMPLE #	CONCENTRATION FIBERS >5μ/cc
150	*Weaving*		
	Cloth Weaver	115	1.4
	Cloth Weaver	186	2.9
	Cloth Weaver	127	1.9
	Cloth Weaver	126	3.1
	Cloth Weaver	124	2.9
	Cloth Weaver	187	3.1
	Cloth Weaver	189	3.7
	Cloth Weaver	125	7.2
	Cloth Weaver	123	4.2
	Cloth Weaver	135	5.1
	Cloth Weaver	137	2.1
	Cloth Weaver	114	2.4
	Cloth Weaver	113	4.3
	Cloth Weaver	110	3.5
	Cloth Weaver	140	21.6
	Cloth Weaver	122	0.1
	Cloth Weaver	217	0.2
	Cloth Weaver	181	4.9
	Cloth Weaver	211	1.7
	Cloth Weaver	213	3.8
	Cloth Weaver	121	1.8
	Cloth Weaver	202	2.1
	Cloth Weaver	190	0.1
	Cloth Weaver	111	4.7
	Cloth Weaver	108	5.2
	Cloth Weaver	107	7.1
	Cloth Weaver	219	1.3
	Cloth Weaver	182	2.3
	Cloth Weaver	215	2.5
	Draper Weaver	4	2.5
	Draper Weaver	5	2.3
	Draper Weaver	7	6.2
	Draper Weaver	3	2.9
	Draper Weaver	37	1.7
	Draper Weaver	38	1.3
	Draper Weaver	11	4.1
	Draper Weaver	8	3.5
	Creeler	216	0.4
	Creeler	128	3.4

U.S.P.H.S. Asbestos Samples
Plant # 313

	OPERATION & JOB	SAMPLE #	CONCENTRATION FIBERS >5μ/cc
150	*Weaving (continued)*		
	Creeler	138	5.1
	Creeler	136	6.1
	Tape Weaver	220	10.7
	Tape Weaver	39	7.6
	Tape Weaver	40	5.0
	Weaving Inspector	112	6.0
	Weaving Inspector	109	2.2
	Weaving Inspector	117	0.9
	Weaving Inspector	116	0.3
	Foreman	6	4.7
	Foreman	33	9.1
160	*Rope, Wick, Braid & Cord*		
	Braid Winding Operator	164	1.0
	Braid Winding Operator	163	3.8
	Ring & Braid Press Operator	173	0.4
	Ring & Braid Press Operator	149	0.1
170	*Finishing*		
	Calender Operator	154	2.4
	Calender Operator	152	2.2
	Calender Operator	151	2.0
	Slitter Operator	160	0.3
	Slitter Operator	142	0.2
	Dryer Operator	153	0.1
	Finish Press Operator	150	1.0
	Inspector	139	2.1
180	*Miscellaneous*		
	Supply Room Clerk	22	0.2
	Supply Room Clerk	23	0.2
	Sheet Metal Maintenance	30	0.5
	Sheet Metal Maintenance	24	0.3
	Sheet Metal Maintenance	31	0.2
	Sheet Metal Maintenance	28	2.2
	Sheet Metal Maintenance	32	1.8
	Fly Puller	13	2.7
	Fly Puller	129	3.4
	Machine Shop Worker	26	0.5
	Machine Shop Worker	27	1.4
	Machine Shop Worker	21	1.0
	Machine Shop Worker	25	0.3
	Utility Operator	2	1.8

U.S.P.H.S. Asbestos Samples
Plant # 313

	OPERATION & JOB	SAMPLE #	CONCENTRATION FIBERS >5μ/cc
180	*Miscellaneous (continued)*		
	Utility Operator	42	3.4
	Utility Operator	49	8.4
	Utility Operator	141	1.9
	Mechanic	89	17.6
190	*New Operations*		
	Novatex Operation [2]		
	Weaver	232	1.9
	Weaver	222	0.8
	Weaver	223	1.4
	Weaver	224	0.1
	Weaver	221	1.4
	Spinner	191	1.8
	Spinner	192	1.5
	Carding & Extruder	193	0.3
	Carding & Extruder	194	0.2
	Revolite Operation		
	Mixer	239	2.3
	Mixer	240	0.9
	Mixer	238	---[3]
	Revolite Worker	230	0.2
	Revolite Worker	237	11.4
	Revolite Worker	235	0.2
	Revolite Worker	236	1.5
	Revolite Worker	231	0.2
	Revolite Worker	229	1.2
190	*Unknown Textile*		
	Packing Operator	145	0.5
	Extruding Operator	158	0.3
	Ring Press Operator	156	0.6
	Ring Press Operator	157	0.1
	Ring Press Operator	146	0.1
	Multipress Operator	143	0.2
	Multipress Operator	155	0.5
	Ring Inspector	147	0.6
	Ring Inspector	148	0.6

U.S.P.H.S. Asbestos Samples
Plant # 313

	OPERATION & JOB	SAMPLE #	CONCENTRATION FIBERS >5u/cc
191	*Office Workers*		
	Industrial Engineer	59	21.3[4]

1 *Worker or break*
2 *New process, all operations are wet*
3 *Background dust too high to get a good count*
4 *Engineer doing time studies in spinning*