

RESULTS OF AIR SAMPLES

NATIONAL GYPSUM
New Orleans, Louisiana

January 1968

Report Prepared By:
Jeremiah R. Lynch

January, 1968

PLANT 29

32,39

File 03215

January 23, 1968

Mr. B. L. Kiernan
Plant Manager
National Gypsum Co.
New Orleans, Louisiana

Dear Mr. Kiernan:

The analysis of the air samples collected in your plant during our survey in March 1967 has been completed, and the results are attached. The impinger samples were counted during the survey using the American Conference of Governmental Industrial Hygienists' method. The membrane filters were rendered transparent with a 50-50 mixture of diethyl oxalate, dimethyl phthalate and counted at 430X magnification with phase contrast illumination.

The dust concentrations as measured by impinger exceeded the 5 million particles per cubic foot Threshold Limit Value currently in use, in a number of locations. The membrane filter method is experimental and no standard has been set for its interpretation in this country. (The British Occupational Hygiene Society has issued "Hygiene Standards for Chrysotile Asbestos Dust" for the 5 μ + fiber counts in fibers/cc as follows: Negligible, Less than 0.5; Low, 0.5-2.0; Medium, 2.0-10.0; High, More than 10.0. They also recommend that "When it is necessary to work in a 'high dust' area an approved mask should be worn," The standards are for three-month averages.) Some relationships between the impinger and filter measurement, and some results of surveys of other asbestos product areas, are discussed in the enclosed reprints.

Your cooperation in this study is sincerely appreciated and the data gained from your plant is of considerable value.

Sincerely yours,

Jeremiah E. Lynch
Asst. Chief, Environmental
Activities
Field Studies
Occupational Health Program

cc: Mr. V. H. Zimmerman
Mr. George Wright
Dr. Cralley
Prog. Mgmt. Office

Enclosure

JRLYNCH:ms

Results of Air Samples of March 1967
National Gypsum, New Orleans, Louisiana

Operation		Impinger		Membrane Filter			
		Sample #	mppcf	Sample #	Total	Fibers/cc 5 μ +	
Mixing Boatman	B	303	1.1	304	71.2	15.1	
				306	123.9	29.0	
		309	4.2	308			
		311	0.4	310	34.4	6.2	
		303	4.6	302	34.9	11.3	
		301	1.0	300	74.0	15.2	
		216	6.7	217	174.0	45.2	
		214	2.8	215	17.5	6.1	
			211	58.8	18.9		
		F			136	16.5	3.4
					100	64.4	16.6
					101		
					103	66.0	16.9
					126	63.3	28.0
					127	34.3	9.1
				129	17.6	3.8	
	G	207	0.6				
		218	15.1				
Scrap Grinder	B	276	76.1	277	163.9	91.4	
	F			104	3.7	3.9	
				110	34.8	7.0	
				134	21.9	6.1	
				410	22.8	9.1	
	B	212	1.0	213	8.3	2.1	
	F	108					

NOTES:

- B - Breathing zone simultaneous impinger-membrane filter samples.
- F - Personal membrane filter samples collected by a sampling pump worn by the worker.
- G - General air samples.

National Gypsum

Operation		Impinger		Membrana Filter	
		Sample #	mpcf	Sample #	Fibers/cc Total 5 u +
Mixing					
Sheet Metal Handler	F			105	21.1 1.3
Ware Housing					
Warehouse Man	P			102	18.1 11.0
				106	32.1 7.1
Box Car Unloader	F			107	39.1 8.9
				111	16.1 8.6
Forming					
Shingle Machine					
Tender	B	327	1.7	326	26.7 8.7
		323	0.4	322	1.2 0.0
		321	0.4	320	4.8 0.5
		125	0.5	124	1.8 0.4
		235	0.6	236	3.1 0.7
	P			128	15.2 3.4
				130	33.4 12.5
				131	10.3 1.1
				132	
				135	8.1 1.4
				137	12.7 2.1
				112	3.8 2.6
				115	9.0 1.6
				114	5.9 0.9
				116	7.8 1.3
				117	15.9 3.0
				118	9.2 2.0
				119	0.1 0.8
				120	8.6 1.6
				121	0.1 0.8
				122	15.5 2.1
				123	
				109	0.5 1.4
				408	17.5 3.7
				402	
				245	6.2 1.8
				244	9.8 1.7
				237	1.8 0.4
				2	8.4 1.8
Roller Man	B	365	8.2	364	3.9 0.2

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Operation		Impinger		Membrane Filter				
		Sample #	mpcf	Sample #	Total	Fibers/cc		
Roller Man	P			158	6.1	1.0		
				401	6.6	1.9		
				409	2.9	0.4		
				411	4.9	1.0		
				155	0.5	0.1		
				156	2.7	0.4		
				157	1.2	0.1		
				160	1.9	0.4		
		240	6.0	0.8				
Forming	Vaccum Lift Operator	B	426	1.8	427	5.8	1.0	
			323	1.2	324	8.0	1.2	
	P				159	27.2	8.2	
					407	3.0	0.6	
					133	2.1	0.3	
Scrap Handler	P				238	2.7	0.5	
					239	2.4	0.6	
					138	5.6	1.8	
Finishing	Saw Operator	B	339	0.5	338	5.8	1.2	
			341	10.1	340	65.7	39.7	
			317	0.8	316	1.5	0.0	
			151	1.8	150	11.5	4.3	
			167	1.5	166	11.1	3.8	
			458	10.3	459	25.2	11.5	
			462	5.8	463	34.5	17.3	
	440	4.1	441	32.3	15.1			
	P					246	58.4	34.1
						243		
						242	34.4	13.7
						241		
						148	2.1	0.4
						147	1.6	0.4
						145	2.8	0.5
						142	11.0	3.7
						140	13.1	5.8
					435	13.6	4.7	
		431	3.7	1.5				
		428	6.1	1.5				

National Gypsum

Operation		Impinger		Membrane Filter		
		Sample #	mppcf	Sample #	Total	Fibers/cc 5 µ +
Saw Operator	G	260	0.4			
		270	5.4			
		250	1.0			
		221	0.7			
Sander	B	319	2.0	318	8.2	2.1
		351	21.7	350	99.9	61.4
		315	1.3	314	11.3	1.9
	F			144	4.3	1.4
				154	3.7	0.7
Finishing Punch Press Operator	B	460	2.8	461	25.8	9.1
		456	2.2	457	7.2	1.7
		389	1.2	328	7.4	1.5
	F			466	10.1	5.0
Painter	B	337	0.7	336	5.1	0.5
		335	0.3	334	4.1	0.8
		349	3.9	348	6.2	2.5
	F			412	5.7	2.2
				415	8.3	2.8
				439	23.9	1.9
				448	2.2	1.0
Material Handler	B	442	0.6	443	6.5	1.0
		343	1.9	342	17.3	9.7
	F			139	10.6	3.4
				141	4.5	1.2
				143	9.8	3.5
				145	4.6	0.9
				149	4.6	1.6
				414	6.6	1.8
				433	6.4	1.5
				436	4.5	1.0
				444	4.9	2.8
				452	7.4	3.8
				471	4.3	2.0
				247	33.0	14.5
				248	40.4	17.8
				438	4.8	1.4

National Gypsum

Operation		Impinger		Membrane Filter		
		Sample #	mpcf	Sample #	Total	Fibers/cc
Material Handler	F			446	3.0	2.0
				453	6.0	4.7
				162	2.3	0.8
				445	7.1	5.1
Packing Packer	G	273	0.3			
		232	0.4			
	B	331	0.4	330	1.9	0.5
		424	0.7	425	17.0	6.0
	F	417		417	3.2	1.4
				418	3.5	1.5
				419	2.1	0.9
				422	4.8	2.0
				423	1.0	0.6
				430	4.3	0.9
				434	3.5	0.9
				437	4.5	1.3
				450	14.6	8.0
	Labeler	B	347	0.8	346	3.7
F				454	5.3	4.5
				455	6.3	5.1
			463	2.8	0.5	
Inspector	B	345	0.9	344	12.9	8.0
	-			421	4.7	1.0
				413	5.9	1.2
				416	7.0	2.6
				432	4.6	0.6
				447	0.5	0.4
				449	1.3	1.3
				472	17.0	11.5
				473	7.0	4.5
				475	6.2	2.3

National Gypsum

Operation		Impinger		Membrane Filter		
		Sample #	ppcf	Sample #	Total 5 u + Fibers/cc	
Miscellaneous Sample Man	P			152	5.9	0.6
				161	3.9	0.4
				467	4.3	3.6
				468	8.9	5.2
				469	4.2	3.0
Foreman	P					
Millright	M	335	0.4	332	7.5	1.5
Lift Truck Driver	P			406	3.1	0.6
				420	3.1	1.0
				451	3.1	2.2
				464	0.3	0.2
				474	5.9	2.5
		429	3.9	1.4		
Sweeper	P			400	27.3	8.6
Machins Maintenance Man	P			162	3.2	0.5