

INDUSTRIAL HYGIENE STUDY
THE RUBBEROID COMPANY
ASBESTOS PLANT
DALLAS, TEXAS

Dallas WC 20530
July 31, 1951
August 2, 1951
August 3, 1951

GAF 11133

This report concerns the asbestos concentration in the asbestos plant and supplements the report of December 10, 1950.

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Method of Sampling and Analysis

Air-borne contaminants of hygienic significance in this report consist of dust samples collected with aidget impinger. The concentrations of dust and the particle size were determined by a light-field technique.

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FIGURE - 1

OPERATION

Employee dumps wheelbarrow full of ground scrap asbestos into the Johnson Batcher shown in the photograph as Figure 1. This operation contributes to the asbestos dust concentration in this area of the plant.

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Figure 1
Charging Johnson Ditcher

The engineer took an air sample while employees were charging Johnson Ditcher. Exhaust fan operating.

Analysis

<u>Sample Number</u>	<u>Date</u>	<u>Asbestos Dust Concentration</u>	<u>T. L. V. m.p./cu.ft.</u>	<u>Particles below 10 microns</u>
1	7/31/51	36.0 m.p./cu.ft.	5.0	80.0 %
	8/2/51	29.0 m.p./cu.ft.	5.0	80.0 %
	8/3/51	33.0 m.p./cu.ft.	5.0	85.0 %

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Figure 1 - A
Loading Wheelbarrows With Scrap for Johnson Batcher Charge

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FIGURE - 2

OPERATION

Employee places metal can on scales (at right background), dumps out of sacks required portion of ground materials and dumps contents of can into Veneer Hatcher. The open handling of these materials plus the agitation in the Hatcher creates some dust but the collector installed here apparently is collecting most of the dust generated by this operation. It is our opinion that most of the dust concentration found here comes from the scrap bin and Johnson Hatcher area.

Figure 2
Charging Veneer Latcher

A sample was taken at the Veneer latcher during the charging operation.
Exhaust fan operating.

Sample Number	Date	Analysis		
		Asbestos Dust Concentration	T. L. V. n.p./cu.ft.	Particles below 10 microns
2	7/31/51	6.0 n.p./cu.ft.	5.0	55.0 %
	8/2/51	2.0 n.p./cu.ft.	5.0	60.0 %
	8/3/51	1.1 n.p./cu.ft.	5.0	65.0 %

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FIGURE - 3

OPERATION

Employees load bags of materials onto hand truck for movement to belt conveyor and places bags on the belt conveyor. Some dust is generated as bags are handled to and onto the conveyor. Concentrations found here are typical of the conditions found in the warehouse area. Some of this dust may come from the Scrap Bin area which is located on the platform above this location.

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Figure 3
Loading: Batchelor Floor Conveyor

The engineer took a sample of air during the loading of the batchelor floor.

Analysis

<u>Sample Number</u>	<u>Date</u>	<u>Ambient Dust Concentration</u>	<u>% L. V. Rate/cu.ft.</u>	<u>Particles below 10 microns</u>
3	7/31/51	3.0 mg./cu.ft.	5.0	67.0
	1/2/ 1	7.5 mg./cu.ft.	5.0	65.0
	4/3/71	1.5 mg./cu.ft.	5.0	70.0

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FIGURE - 4

OPERATION

Employees load sacks of asbestos onto flats inside boxcars and move them into warehouse. Handling of sacks inside confined area of the car creates some fogging of dust. Concentrations in this area are slightly above the threshold limit value and exposure here is periodic and only for short duration.

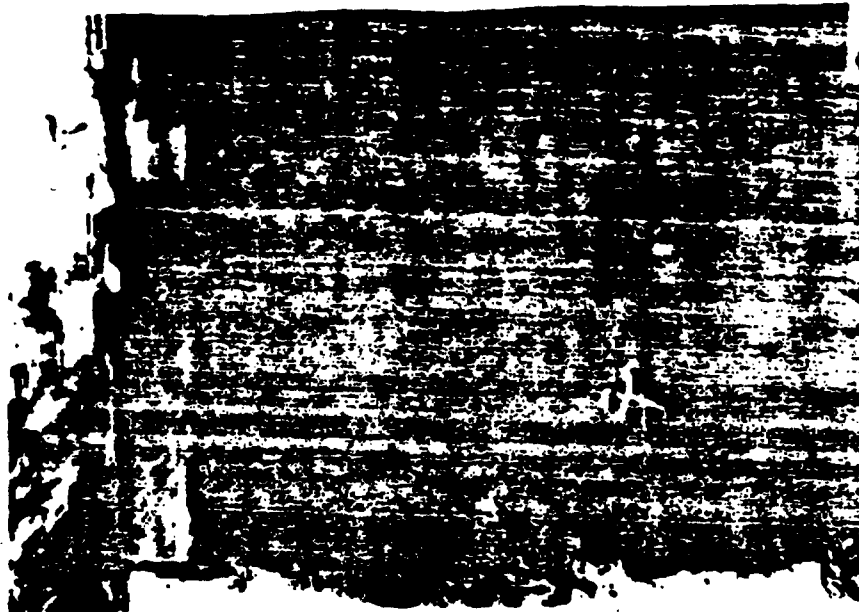


Figure 1
Inhalation: Vermont Asbestos

An air sample was collected near employee unloading box car of Vermont Asbestos.

Sample Number	Date	Analysis		
		Asbestos Part Concentration	T. P. V. No. Cu. Ft.	Particles below 10 microns
1	7/11/71	2.0 mg./cu.ft.	5.0	70.0 %
	7/12/71	7.5 mg./cu.ft.	5.0	72.0 %
	7/13/71	6.0 mg./cu.ft.	5.0	70.0 %

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Figure 5
Waxing Operation

The engineer took an air sample at the feed end of the waxing machine.

Analysis

<u>Sample Number</u>	<u>Date</u>	<u>Asbestos Dust Concentration</u>	<u>T. L. V. mg./cu.ft.</u>	<u>Particles below 10 microns</u>
5	1/11/71	3.6 mg./cu.ft.	5.0	62.0 %

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Figure 6
Inspection on Mixing Machine

A sample was taken while inspecting the siding processed in Mixing Machine.

Analysis

<u>Sample Number</u>	<u>Date</u>	<u>Asbestos Dust Concentration</u>	<u>W. L. V. S.C./cu.ft.</u>	<u>Particles below 10 microns</u>
6	7/31/51	7.5 m.p./cu.ft.	5.0	72.0 %

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Figure 7
Waxing Operation Take Off End

The engineer took a sample of air near the take-off end of waxing operation.

Analysis

<u>Sample Number</u>	<u>Date</u>	<u>Asbestos Dust Concentration</u>	<u>T. L. V. mg./cu.ft.</u>	<u>Particles below 10 microns</u>
7	7/31/51	4.0 mg./cu.ft.	5.0	6,000

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Figure 8
Feeding Stub Trimmer

An air sample was collected near the employee feeding the stub trimmer on potassium carbonate coating machine.

Analysis

<u>Sample Number</u>	<u>Date</u>	<u>Asbestos Dust Concentration</u>	<u>T. L. V. m.p./cu.ft.</u>	<u>Particles below 10 microns</u>
8	6/2/51	2.4 m.p./cu.ft.	5.0	50.0 %
	6/1/51	2.1 m.p./cu.ft.	5.0	60.0 %

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Figure 9
Take-Off End of Potassium Carbonate Coating

The engineer took an air sample at the take-off end of the Potassium Carbonate Coating Machine.

<u>Sample</u> <u>Number</u>	<u>Date</u>	<u>Analysis</u>		
		<u>Airborne Dust</u> <u>Concentration</u>	<u>T. S. V.</u> <u>mg./cu.ft.</u>	<u>Particles</u> <u>below 10 microns</u>
9	2/2/71	1.0 mg./cu.ft.	5.0	22.0 %
	2/3/71	1.2 mg./cu.ft.	5.0	60.0 %

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SUMMARY TABLE

Sample Number	Date Collected	Operation	Asbestos Dust Concentration	T. L. V. n.p./cu.ft.	Particles below 10
1	7/31/51	Chargin: Johnson	3.3 n.p./cu.ft.	5.0	80.0
	8/2/51	atcher	13.3 n.p./cu.ft.	5.0	80.0
	8/3/51		13.3 n.p./cu.ft.	5.0	30.0
2	7/31/51	Chargin: Veneer	6.3 n.p./cu.ft.	5.0	55.0
	8/2/51	atcher	3.0 n.p./cu.ft.	5.0	65.0
	8/3/51		6.1 n.p./cu.ft.	5.0	65.0
3	7/31/51	Loading: Datcher	3.3 n.p./cu.ft.	5.0	67.0
	8/2/51	Floor Conveyor	7.5 n.p./cu.ft.	5.0	65.0
	8/3/51		1.8 n.p./cu.ft.	5.0	75.0
4	7/31/51	Unloading: Vermont	9.3 n.p./cu.ft.	5.0	70.0
	8/2/51	Asbestos	7.0 n.p./cu.ft.	5.0	74.0
	8/3/51		6.3 n.p./cu.ft.	5.0	70.0
5	7/31/51	Feed End Wax Machine	3.0 n.p./cu.ft.	5.0	62.0
6	7/31/51	Wax Machine Inspection	7.5 n.p./cu.ft.	5.0	70.0
7	7/31/51	Take-Off End wax Machine	1.8 n.p./cu.ft.	5.0	60.0
8	8/2/51	Feeding Potassium Carbonate	2.4 n.p./cu.ft.	5.0	50.0
	8/3/51	Coating Machine Stub Trimmer	2.1 n.p./cu.ft.	5.0	50.0
9	8/2/51	Take-Off End of Potassium	1.5 n.p./cu.ft.	5.0	52.0
	8/3/51	Carbonate Coating Machine	1.2 n.p./cu.ft.	5.0	60.0

Note: The Waxing Machine was not in operation during our visit on 8/2/51 and 8/3/51.
 The Potassium Carbonate Coating Machine was down for repair during our visit on 7/31/51.

COMPARISON TABLE

Operation	Dust Concentration mg./cu.ft.					
	<u>1/1/54</u>	<u>11/1/54</u>	<u>12/10/50</u>	<u>7/31/51</u>	<u>5/2/51</u>	<u>5/3/51</u>
Clearing Johnson Ratchet	6.5	14.9	2.46	36.0	30.0	33.0
Clearing Vaneer Ratchet	6.5	17.4	5.46	6.0	3.0	6.1
Loading Ratchet Floor Conveyor	5.3	—	0.34	3.0	7.5	4.8
Unloading Vermont Asbestos	—	—	—	9.0	7.5	6.0
Feed End Wax Machine	—	—	—	3.6	—	—
Wax Machine Inspection	—	—	—	7.5	—	—
Feed End Stab Trimmer	5.9	9.3	—	—	2.4	2.1
Take-Off End Conting. Machine or Inspection Halt	3.6	12.2	—	—	2.5	1.2

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COMMENTS AND RECOMMENDATION

The replacement of the old scrap grinding equipment with the new equipment has materially reduced the dust concentration in the Potassium Carbonate Coating, Wax Coating and Stub Trimmer area.

Batcher Weight Floor

The dust concentration (See Summary Table) in this area is above the threshold limit value and should be reduced. The use of ground scrap mechanical handling equipment might be investigated. This has been discussed with Mr. M. B. Young.

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