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AMERICAN BRAKE SHOE COMPANY
AMERICAN BRAKE BLOCK DIVISION
WINCHESTER, VIRGINIA
SURVEY OF ASBESTOS AND LEAD

OCTOBER 21, 1960



LOSS PREVENTION DEPARTMENT



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AMERICAN BRAKE SHOE COMPANY
AMERICAN BRAKE BLOCK DIVISION
WINCHESTER, VIRGINIA

SURVEY OF ASBESTOS AND LEAD

SUBMITTED BY
S.T. WAGNER
INDUSTRIAL HYGIENIST
OCTOBER 21, 1960

LIBERTY MUTUAL INSURANCE COMPANY

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AMERICAN BRAKE SHOE COMPANY
AMERICAN BRAKE BLOK DIVISION
WINCHESTER, VIRGINIA

SURVEY OF ASBESTOS AND LEAD

On September 20 and 21, 1960, air sampling was conducted to evaluate the changes in the dust exposures since the last survey in June 1959. The temperature during the survey averaged 75.0 degrees F with rather high humidity and the plant was "open". Production was slightly below normal.

CONCLUSIONS

1. Improved ventilation for Wet Compounding operations reduced the average asbestos dust level from 7.0 to 2.4 million particles per cubic foot. This value is well below the hygienic standard of 5 million particles per cubic foot.
2. Excellent control of the lead dust exposure has been achieved at "Dry Compound" weighing. Lead concentrations were reduced from 4.33 to 0.01 milligrams per cubic meter.
3. The health hazard from lead dust during Preforming is still well controlled.
4. The Allis Chalmers Pulverator (hog) may eventually produce a significant exposure to lead because of the leaks at the Roto Clone.

We would like to thank Mr. C. B. Mallory, Works Manager, and Mr. W. E. Baker, Personnel Manager, for the active interest and cooperation that was shown to us during this survey.

S. T. Wagner
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Loss Prevention Dept.

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DISCUSSION

Completion of the recommendation submitted as the result of the June 1959 survey has achieved excellent control of airborne asbestos and lead. As indicated by the data sheets, the environmental exposure to dust is well below the established hygienic standards.

WET COMPOUND

Throughout the entire cycle of asbestos handling, the dust level was constantly below the safe limit of .5 million particles. This reduction was accomplished through improved ventilation and the results of air sampling confirm this improvement.

DRY COMPOUND

The exposure from lead dust is now negligible since the operation was changed and local exhaust ventilation improved. The lead concentration during the entire work cycle was 0.01 milligrams. This is far below the established safe limit of 0.2 milligrams of lead per cubic meter.

Improved ventilation at the mixer reduced the dust level from 0.18 to 0.002 milligrams of lead. As a result, a borderline health hazard no longer exists.

BLOCK FINISHING

With continued operation, the Allis Chalmers Pulverator (hog) may produce a slight borderline health hazard. A concentration of 0.08 milligrams of lead was encountered after six minutes of operation. The hog itself was adequately exhausted but the Roto Clone collector leaked at doors and panels. Improved gasket material should eliminate this condition.

The change in the exhaust hood on the automatic burr and chamfer machine reduced the dust level from 0.06 to 0.01 milligrams per cubic meter.

GENERAL COMMENTS

The Torit Dust Collector at automatic Strip Finishing has been exhausted directly out of the department. This will prevent contamination of the work area should the filter tear or leak.

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RECOMMENDATIONS

1. Housekeeping in the area of the weigh scale at Wet Compounding should be improved to remove floor spillage and accumulations of asbestos.
2. The gaskets on the Roto Clone on the Allis Chalmers Pulverator (hog) should be replaced because visible dust was coming from the collector during operation of the hog.

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DATA.

AIRBORNE ASBESTOS DUST

Rygienic Standard: 5 million particles per cubic foot of air (MPPCF).

Method of Collecting: Willson pump with impingers and collected at a rate of 5 liters per minute in distilled water.

Method of Analysis: The samples were counted microscopically by the light field technique using a Spencer Bright Line Haemocytometer Counting Cell.

<u>Sample #</u>	<u>Date</u>	<u>Time</u>	<u>Department</u>	<u>Location</u>	<u>1960 MPPCF</u>	<u>1959 MPPCF</u>
1	8/20	4:35 PM 45 min.	Wet Compounding	Breathing zone during weigh up.	1.6	4.8
2	9/20	4:35 PM 45 min.	Wet Compounding	General room at weigh up area.	0.8	--
3	9/20	5:23 PM 45 min.	Wet Compounding	Breathing zone at No.1 hopper to Lancaster. (gasket leak)	2.7	6.0
4	9/20	5:23 PM 45 min.	Wet Compounding	Breathing zone at No. 2 Hopper to Lancaster.	4.6	--
5	9/20	7:00 PM 38 min.	Wet Compounding	General room at floor level at No.1 Lancaster.	1.7	13.1
6	9/20	7:00 PM 38 min.	Wet Compounding	General room at floor level at No. 2 Lancaster.	3.1	3.7

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DATA

AIRBORNE LEAD

Hygienic Standard: 0.2 milligrams lead per cubic meter of air (MgPb/Cu.M)

Method of Collecting: Willson, pump, Filter paper collecting cone, collected at a rate of 26 liters per minute.

Method of Analysis: Dithizone and read on Beckman Spectrophotometer.

Sample No.	Date	Time	Department	Location	1960 MgPb/CuM	1959 MgPb/CuM
1	9/21	10:00 AM 30 min.	Dry Compound	Breathing zone at weigh scale.	0.01	4.33
2	9/21	10:30 AM 40 min.	Dry Compound	Breathing zone during entire weigh cycle and withdrawing from bins.	0.01	---
3	9/21	1:45 PM 6 min.	Blok Finishing	Breathing zone at Allis Chalmers Pulverator (hog)	0.08	---
4	9/21	2:45 PM 30 min.	Blok Finishing	Breathing zone at automatic burr and chamfer. Exhaust improved.	0.01	0.06
5	9/21	2:28 PM 30 min.	Dry Compound	Breathing zone at mixed drop. Ex- haust improved.	0.002	0.18
6	9/21	3:05 PM 30 min.	Preforming	Breathing zone at press No.28	0.02	0.03
7	9/21	3:35 PM 35 min.	Preforming	Breathing zone at press No.30	0.02	0.04.

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