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UC-3693

ASBESTOS DUST

RESULTS OF AIR ANALYSES AT THE BOUND BROOK PLANT

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SUMMARY Air analyses for asbestos were taken at Units A, B, C, and R1 during the manufacture of phenolic resins. The work was requested by Mr. D. R. Albright as a part of the continuing Bound Brook Plant industrial hygiene program.

The results show that there are asbestos dust concentrations exceeding the OSHA emergency standard during the preparation of some products. These analyses amplify the need for air monitoring for all manufacturing conditions and products so that the exposure of personnel can be adequately defined and plans made to correct the dust problem areas.

INTRODUCTION Mr. D. R. Albright requested that several air samples be taken during the manufacture of phenolic resins containing asbestos. This visit was scheduled for May 18, 1972, when lines A, B, and C in Building 3 were all on asbestos modified materials.

DISCUSSION The most recent information from the National Institute for Occupational Safety and Health recommends that worker exposure to asbestos be monitored by personal exposure samples. During previous evaluations in Bound Brook Plant manufacturing areas, the sampling equipment was held as close as possible to the face level of the operators. The samples taken during this visit were obtained by placing the equipment directly on the operator at the working location in order to comply with the NIOSH recommendation.

The results of dust counts for Units A and B, Building 3, were about the same as has been found in previous determinations when products are being made with low asbestos concentrations, see Tables I and II. The percent of asbestos in the products was 9% on each unit. When the percentage of asbestos is low, the results of air analyses have been under the emergency standard of 5 fibers greater than 5 microns in length.

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Unit B was on a product containing 30% asbestos. Table III shows that the analytical results were correspondingly high. The only previous comparison we have was when Unit C was on product 5310. The concentration at the charging hood at that time was 9.2 fibers. The only difference apparent in the two units is that the Unit B charging hood is in a more confined area than the Unit C hood. This would tend to cause higher dust concentrations over short sampling periods.

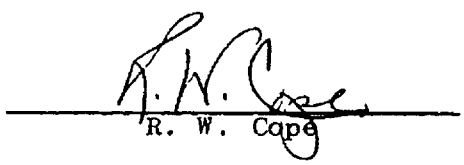
The area of highest asbestos fiber concentration over most of the work shift is at the charge roll of Unit R1, Building 6. The product was 3700 green containing 57% asbestos. The approximate 10 fibers found here exceed the emergency standard and will require respiratory protection. Both operators working in the area were wearing face masks. The mixer man is also exposed to very high asbestos concentrations when charging asbestos to the unit. This is only done about twice per shift but will still make respiratory protection mandatory. He was wearing a face mask.

CONCLUSIONS The results of these air analyses illustrate the need for monitoring units using asbestos for all manufacturing conditions and products. This is the only way we have of accurately defining the exposure of personnel to asbestos so that meaningful plans can be made for controlling any dust problems we find.

NOTEBOOK REFERENCES: 11CWR 3

Attachments: 4 Tables

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TABLE I

ASBESTOS DUST

BUILDING 3, UNIT C

Date	Time	Sampling Description and Location	Asbestos Fibers >5 Microns
5-18-72	9:45 a.m.	Product BMNS 5440. Personal sampler on the operator charging asbestos to the unit. Sampling time = 12 minutes. Time to charge 7 bags of asbestos = 1.75 minutes.	1.8
5-18-72	10:10 a.m.	Product BMNS 5440. Personal sampler on the operator at the charge roll. Sampling time = 30 minutes.	1.2

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TABLE II

ASBESTOS DUST

BUILDING 3, UNIT A

Date	Time	Sampling Description and Location	Asbestos Fibers >5 Microns
5-18-72	10:47 a.m.	Product BMNS 5333. Personal sampler on the operator at the charge roll. Sampling time = 20 minutes.	1.0
5-18-72	1:35 p.m.	Product BMNS 5333. Personal sampler on the operator charging asbestos to the unit. Sampling time = 6 minutes. Time to charge 4 bags of asbestos = 1 minute.	2.2

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TABLE III

ASBESTOS DUST

BUILDING 3, UNIT B

Date	Time	Sampling Description and Location	Asbestos Fibers >5 Microns
5-18-72	5:09 p.m.	Product BMND 5303. Personal sampler on the operator at the charge roll. Sampling time = 15 minutes.	5.3
5-18-72	5:38 p.m.	Product BMND 5303. Personal sampler on the operator charging asbestos to the unit. Sampling time = 6.3 minutes. Time to charge 13 bags of asbestos = 6 minutes.	18.0

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TABLE IV

ASBESTOS DUST

BUILDING 6, UNIT R1

Date	Time	Sampling Description and Location	Asbestos Fibers >5 Microns
5-18-72	1:50 p.m.	Product 3700 green. Personal sampler on the operator at the charge roll. Operator wearing face mask. Sampling time = 20 minutes.	9.8
5-18-72	4:40 p.m.	Product 3700 green. Personal sampler on the mixer man during the charging of asbestos. Sampling time = 11.5 minutes. Time to charge 29 bags of asbestos = 11.5 minutes.	49.5
			Total Dust mg/m^3
5-18-72	1:12 p.m.	Product 3700 green. Personal sampler on the mixer man. He made only one half a mix during the sampling period. Sampling time = 105 minutes.	6.6

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