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PROJECT REPORT

PLAINTIFF'S EXHIBIT
UC-3695

INDUSTRIAL HYGIENE SURVEY
AIR ANALYSES
BOUND BROOK PLANT

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SUMMARY A visit was made to the Bound Brook Plant January 27 and 28, 1972. The purpose of this visit was to meet with New Jersey inspection officials to discuss samples they had taken during an inspection in early-December, 1971. Since they were to be back in the plant during a scheduled bagging operation of pulverized resins, I was also asked to take air samples with them for comparison purposes.

Several other air samples were taken in the Fibers and Fabrics and the Phenolic Molding Materials Departments during my visit.

The discussion with the New Jersey officials should be helpful in getting them to take future samples which are more representative of the breathing zone of workers in the area. It may also influence their interpretation of data already collected.

Air samples taken for asbestos dust near Unit C, Building 3, show higher concentrations of asbestos fibers than previously collected data. One sample taken during the charging of raw materials exceeded the Occupational Safety and Health Act (OHSA) regulation. The major dust source during raw materials charging is empty bag handling. Consideration should be given to confining the dust raised during the handling of empty bags.

The samples taken in Building 105, Fibers and Fabrics, and at the Unit 4 bagging operation, Building 4, were well within OSHA requirements.

INTRODUCTION An inspection was made in six areas of the Bound Brook Plant by a New Jersey Department of Labor Inspector, Mr. W. Leahy, and a Senior Industrial Hygienist, Mr. W. Monastyrski, from the New Jersey Department of Health in December, 1971. During this inspection several dust samples were taken. As a result of these samples, there were several

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questions by Bound Brook personnel concerning the sampling equipment and procedure used by the State during the inspection. Since Messrs. Leahy and Monastyski were expected back in the plant on January 27 or 28 concerning a pulverized resin bagging operation, I was asked to also be present to discuss dust sampling procedures and to collect samples of the bagging operation with them.

Additional sampling was planned for other areas in the plant in the event these plans were aborted.

DISCUSSION Mr. Monastyski, the State Industrial Hygienist, took all dust samples during the inspection with a Staplex high-volume sampling device using Whatman 41 paper as the filter medium. The sampling rate through this equipment was approximately 16 cubic feet per minute at a correspondingly high velocity. His equipment is ideally suited to taking air samples in work areas where the dust load is light but uniformly distributed through the area. The major point discussed with Mr. Monastyski was the manner in which the equipment was used in the areas sampled.

Pulverized Resins Drumming, Building 4, Unit 3

The sampling equipment was placed on a fiber drum three to five feet from and behind the operator at his hip level. The placement was such that the sample was taken past and over the drum of resin the operator uses to adjust packing weights by shoveling resin into and out of the drum. This sample would be abnormally high and not representative of the breathing zone of the operator.

Pulverized Resins Drumming, Building 4, Unit 5

The sampling equipment was again placed on a fiber drum two to three feet from the operator at his hip level. This placement put the sampling equipment at the level of the drum being packed, resulting in a sample of the dust source rather than the breathing zone of the operator. Dust concentrations would be high at this sampling position.

Resins Bagging Station, Building 41

The sampling equipment was on a fiber drum about four feet from the bagging nozzle. This sample should also be high in dust concentration because it would be more representative of the dust source than the operator's breathing zone.

Carbon Black, Building 101, Bay 4

The samples were taken with the equipment on a fiber drum on the mezzanine near the north Banbury. This would not be representative of the operator's breathing zone. However, I would expect the results to exceed the Threshold Limit Value (TLV) at any location on the mezzanine level. I would also expect

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lower than normal results using the Whatman 41 filter paper because some of the very small carbon black particles would pass through the paper.

Vinyl Resin Dust, Building 105, Line 1000, Control Panel on the Mezzanine

Dust concentrations in this area are generally light and well dispersed throughout the work area. The sample that was taken should have been representative of the conditions at the time of sampling.

A meeting was held with Messrs. Monastyrski and Leahy on January 28, 1972. Mr. Monastyrski agreed in principle that his sampling equipment is not ideally suited to all dust sampling problems. He also agreed that the location of his equipment while sampling would probably give higher dust concentrations in some situations. However, in the absence of standardized procedures, the requirements of his work force him to use his present methods. He will have to have some knowledge of the job requirements at each location to properly relate the analytical results to personnel exposure.

We then went to Building 4, Unit 4, to take samples during the bagging of pulverized phenolic resin. This time Mr. Monastrski placed his sampling equipment on a five-gallon can atop of a fiber drum which raised his equipment nearer to the breathing level of the operator. It was placed about four feet behind the operator so that it did not interfere with the work. The sample I took at the same time was at the face level of the operator. The results of these analyses were as follows:

Product being bagged: BRPA5858 B1332B

	Dust Concentration milligrams/meter^3
N. J. Dept. of Health	3.2
UCC R/D	1.3
This area was also sampled on 1-27-72	
UCC R/D	2.4

Other samples taken during this visit were for asbestos fibers in Building 3 and nuisance dust in Building 105.

Building 3, Phenolic Resins, Unit C

The data obtained are shown in Table I. The U. S. Department of Labor has issued an "emergency" asbestos standard of 5 fibers (of greater than 5 microns in length) per milliliter of air for an 8-hour time-weighted average. The standard covers exposure of asbestos to all workers and was based on the recommendation of the National Institute of Occupational Safety and Health (NIOSH). The standard permits 5 to 10 fibers per ml of air for up to 15 minutes in an hour, for up to 5 hours in any 8-hour work day.

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The major dust source when charging raw materials is due to the handling of the empty bags. The hood over the charging port controls the dust during the actual emptying of the bags. However, when the bags are removed from the hood, the shaking, stacking, and compressing of the bags creates a significant dust cloud in the area. The dust could be significantly reduced if this empty bag handling operation could be improved.

Building 105, Vinyl Resins, Mezzanine Work Area

One sample was taken in this area on January 28 to determine the dust level for comparison with previous data collected here. The result was as follows:

Sample Area	Time	Dust Concentration milligrams/meter^3
Along the control panels for Lines 1000, 2000, and 3000	8:53 a.m. to 9:53 a.m.	1.8

CONCLUSIONS The discussion with the New Jersey State Industrial Hygienist will not result in his changing his sampling equipment but may alter his placement of the equipment when future samples are required. It is hoped that the discussion will be helpful in influencing his interpretation of personnel exposure from the data collected.

The asbestos data from Unit C in Building 3 indicate the fiber count is higher than has been found in previous visits. This is probably due to the high asbestos content of the product being made. It certainly indicates that continued surveillance is needed in this area since one sample taken during raw materials charging on the third floor exceeds the OSHA requirements. The major dust source is the handling of empty bags after the raw materials have been charged. Consideration should be given to changing the handling and disposal of empty bags after raw materials have been charged.

The samples taken in Building 105, Fibers and Fabrics, and at Unit 4, Pulverized Resins, are well within the OSHA requirements.

Attachment:
1 Table

Manuscript Date: 2-22-72
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RWC:dww

R. W. Cope

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TABLE I

BUILDING 3, DEPARTMENT 014, UNIT C

Date: January 27, 1972 Product: BMRS 5310 BK25

Time	Sample Description and Location	Asbestos Fibers >5 microns/ml
1:45 p.m.	Taken at the charge roll on first floor.	1.4
2:10 p.m.	General area around Unit C on first floor. The operator was sweeping the area under the conveyor belts and shoveling the material into fiber drums during most of the run.	1.8
4:10 p.m.	Taken on the third floor immediately after raw materials were charged to the unit.	4.2
4:31 p.m.	Taken on the third floor during the charging of raw materials to the unit. It took 3 minutes to charge 15 bags of Chrysotile 7RF9 and 11.5 minutes to charge all of the raw materials.	9.9

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