

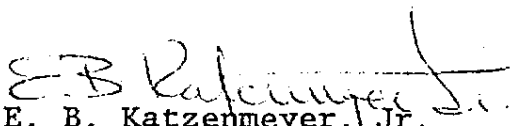
January 5, 1976

P. H. Lawrence, Louisville
J. L. Nelson, Cleveland Chemical

Attached is a copy of the report of the industrial hygiene survey conducted at the Louisville plant during August 1975.

Please note that Mr. Nash has made several recommendations. I would appreciate your advising me of their status.

If there are any questions or comments concerning this report, please contact me.


E. B. Katzenmeyer, Jr.
Manager, Industrial Hygiene

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cc: G. Pow
H. Waltemate
W.C. Holbrook
R.W. Strassburg
M.N. Johnson, M.D. ✓
A.V. Gold, M.D.

26090001

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TO P. H. Lawrence	FIELD POINT OR DEPT. & BLDG. NO. Louisville Plant	DATE YOUR LETTER
FROM R. B. Nash, Jr.	FIELD POINT OR DEPT. & BLDG. NO. Akron - D/0020, 5-H	DATE THIS LETTER 12/22/75
SUBJECT INDUSTRIAL HYGIENE SURVEY - LOUISVILLE PLANT		

On August 18-20, 1975, an industrial hygiene survey was conducted at the Louisville plant. Air samples were obtained in Abson (Bldg. 30) and Hycar (Bldg. 131) and analyzed for acrylonitrile, styrene, butadiene and vinyl chloride. Additional air samples were obtained in Hi-temp (Bldg. 4). All results were within acceptable levels for each material. Noise dosimeters were placed on several employees who were suspected of having a significant exposure to noise. The daily noise dose for all employees monitored was within acceptable levels under the present standard. Several dust samples were obtained, with individual samples being compared to standards for lead, antimony, carbon black and nuisance dusts. All 8-hour time weighted average exposures obtained were within acceptable limits for each material. The antimony sample exceeded what would be considered an acceptable excursion level under good industrial hygiene practices.

Gas detector tubes were employed to check carbon monoxide levels in the warehouse areas of Bldgs. 20 and 122. All samples indicated an ambient carbon monoxide level of less than 10 parts per million at the time of sampling. Samples obtained during cold weather may be significantly higher in concentration.

Recommendations:

1. Require employees to use hearing protective devices when working in noise hazardous areas (90 dbA or greater).
2. Make plug insert type hearing device protectors available for employees working in noise hazardous areas. Employees should be given a choice of muffs or plugs.
3. Maintain all respiratory protective equipment in a clean and sanitary condition when not in use. Do not leave respirators hanging on pipes or valves.
4. Maintain exhaust system at bale dusting stations in Bldg. 122 at peak performance to assure acceptable dust exposures.
5. Weigh all antimony and lead compounds inside the ventilated booths, not in areas where multiple personnel are weighing materials.
6. Monitor a random number of employees working in areas adjacent to vinyl chloride regulated areas for vinyl chloride exposure on a routine basis.

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Discussion:

Organic vapor sampling was conducted on employees in Abson (Bldg. 30) and Hycar (Bldg. 131) for exposure to acrylonitrile, butadiene, styrene, and vinyl chloride with results shown in Table I. All four materials could not be analyzed from a single carbon sampling tube, so two tubes were used for each employee, hence two numbers are listed under "Sampling Time" for the two periods of time that samples were on the employee. Acrylonitrile and butadiene were desorbed of the first tube which was worn during the morning period and styrene and vinyl chloride were desorbed off the second tube which was obtained during the afternoon period.

The present allowable levels are: acrylonitrile 20 parts per million (ppm); butadiene 1000 ppm; styrene 100 ppm and vinyl chloride 1 ppm. All sample results were within federally specified levels. Special attention should be given to the vinyl chloride results because these samples were obtained in non-regulated areas. These samples indicate that employees working in areas adjacent to the polymerization areas are receiving a vinyl chloride exposure approaching the action level of 0.5 ppm vinyl chloride. It is recommended that the plant's vinyl chloride monitoring program be expanded to include these employees to determine the source and level of their exposure. Air sampling should be conducted on a monthly monitoring schedule to assure that these areas are being maintained below 0.5 ppm of vinyl chloride.

Two samples were taken on an operator in Hi-temp (Bldg. 4) and analyzed for carbon tetrachloride. Both samples indicated a value of 0.1 ppm, well below the 10 ppm allowable level for carbon tetrachloride. Exposures such as these do not present an inhalation health hazard with respect to CCl_4 for employees working in Bldg. 4.

Four dust samples were obtained and compared to the four standards for each material sampled with results shown in Table II. Sample No. 1 was taken on a weighman working with carbon black in a ventilated booth. His exposure to carbon black for the time sampled was within the allowable standard. Sample No. 2 was taken on a bagger on B-Line in Bldg. 122 where he dusts the bales before they are put into the bags. This man's exposure for the time sampled was within the nuisance dust standard. This value seemed high considering most of the operation was performed in a ventilated booth. Sample No. 4 was obtained on a weighman working with antimony trioxide in a three man weigh booth. Although his time-weighted average exposure was within acceptable limits, the level obtained during the sampling period was unacceptable compared to recommended permissible excursions for time-weighted average limits. For a compound such as antimony, exposures in excess of 1.5 mg/M^3 should not be permitted. If larger volumes of antimony and lead compounds were consumed at the plant, the employee's exposure may increase to a hazardous time-weighted average. Even at present consumption levels, antimony and lead weighing should be given increased controls beyond normal weighing procedures. It is recommended that these materials be weighed only in Bldg. 22 where individual exhaust ventilation booths are available and contamination of other employees would be avoided. Weighing operations must be restricted to the confines of ventilated booths.

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Several pieces of respirator protective equipment were observed laying around or hanging on pipes in the vinyl chloride regulated areas. All respirators assigned to personnel should be on the person in vinyl areas where it may be needed at a moments notice. Extra respirators must be kept in a clean and sanitary condition in an area specifically provided for clean respirator storage and not hanging on pipes and valves.

Noise hazardous areas have been identified through previous visits and were substantiated during this survey. In most noise hazardous areas, hearing protection was not being worn by the employees. This lack of protection may have been due to the choise of protective devices available to the employee. Ear muffs are an acceptable type of hearing protection, but are hard to carry when not needed. The plant should investigate the use of ear plugs which may be easier to carry around or to keep clean. It is recommended that employees be given a choice of either plug insert or muff type ear protective equipment. Examples of plugs acceptable to the Environmental Health Department are the American Optical "Hear Guard Ear Insert", Mine Safety Appliance's "Ear Defender", or the Marion Health & Safety "Silent Partner". With a program of proper fitting and instruction, these hearing protective devices can be an effective part of a hearing conservation program.

Noise dosimeters were placed on several employees to evaluate their noise exposure. The noise dosimeter integrates sound pressure levels over 90 dbA to achieve an average exposure for the time sampled. Under present allowable levels for noise, a reading of 100 would be the maximum acceptable number. As shown in Table III, all daily noise doses were less than 100, indicating acceptable noise exposures for the employees on the day tested under current standards. The employee who had the 98 reading was the only person wearing ear muffs as required by the assigned work area.

Gas detector tube measurements were made in the warehouse areas of Bldg. 20 and 122 for carbon monoxide. All results were less than 10 ppm of carbon monoxide, well within the 50 ppm acceptable level. Measurements made during cold weather, when most doors are closed, could be significantly higher.

I wish to thank your staff for their cooperation during my visit.

Robert B. Nash, Jr.
R. B. Nash, Jr.
Industrial Hygienist

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cc: J. Fannin, Louisville
A. Flynn, Louisville

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TABLE I.

ORGANIC VAPOR ANALYSIS RESULTS

Louisville Plant

<u>Sample</u>	<u>Employee</u>	<u>Job Class.</u>	<u>Sample Time (min.)</u>	<u>Location</u>	<u>Concentration (ppm)</u>				
					<u>VCL</u>	<u>BD</u>	<u>ST</u>	<u>ACR</u>	<u>CT</u>
1.	Mr. Bennett	Blowdown	150/130	Bldg. 131	0.2	11.2	-	0.3	
2.	Mr. Short	HRC Oper.	140/120	" 30	0.1	-	-	9.0	
3.	Mr. Bennett	Blowdown	170/140	" 131	0.4	4.8	-	0.8	
4.	Mr. Lafton	HRC Oper.	180/150	" 30	-	1.0	-	5.4	
5.	Mr. A. Williams	Oper.	145/120	" 4	-	-	-	-	0.1

VCL = Vinyl Chloride

BD = Butadiene

ST = Styrene

ACR = Acrylonitrile

CT = Carbon Tetrachloride

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TABLE II.

DUST SAMPLING RESULTS

Louisville Plant

<u>Sample</u>	<u>Employee</u>	<u>Bldg.-Location</u>	<u>Duration (min.)</u>	<u>Concentration (mg/M3)</u>	<u>TWA</u>	<u>Standard</u>
1.	Mr. Banks	20-Weigh Booth	115	2.0	0.5	3.5 Carbon Black
2.	Mr. Nanna	122-Bagger	305	7.8	7.8	15.0 Nuisance Dus
3.	--	20-Weigh Booth	110	0.25	0.05	0.2 Lead
4.	---	20-Weigh Booth	19	1.7	0.07	0.5 Antimony

TABLE III.

NOISE DOSIMETER RESULTS

Louisville Plant

<u>Sample</u>	<u>Employee</u>	<u>Bldg.-Location</u>	<u>Duration (min.)</u>	<u>Reading</u>	<u>Daily Noise Dose</u>	<u>115 Light</u>	<u>Hearing Protection</u>
1.	Mr. Williams	129-Spray Dryer	390	64	79	On	No
2.	Mr. Croner	121-2nd Floor	450	40	43	Off	No
3.	Mr. Ashley	122-Extruder	405	83	98	Off	Yes
4.	Mr. Cook	115-Pump Area	420	52	59	Off	No

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DUST SAMPLING RESULTS

Louisville Plant

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Inter-Organization Correspondence

BFGoodrich

TO	FIELD POINT OR DEPT. & BLDG. NO.	DATE YOUR LETTER
E. B. Katzenmeyer, Jr.	Dept. 0020-Bldg. 5H, Akron	
FROM	FIELD POINT OR DEPT. & BLDG. NO.	DATE THIS LETTER
F. M. Fister	Louisville	11/30/76
SUBJECT		

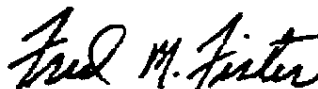
LOUISVILLE PLANT SURVEY SEPTEMBER 20-22

Mr. Nash's report on his September 20-22 survey of our plant and your accompanying letter indicate to me that, with the exception of one incident on weighing antimony, all of our pigment weighing areas do have adequate ventilation and all exposure levels are well below standard. As was mentioned in the report, I am sure we can solve that one problem by better handling procedures; and this we will do.*

As for the noise enclosures around our cubers, we have a real problem. Since, in many cases, these are remote to the operator, he has in the past depended on changes in sound levels to notify him of changes in operation. For this reason, the operators leave the doors ajar. This, of course, defeats the purpose of the enclosure. We are in the process of installing running lights on the critical equipment which will solve this problem. When this is complete, we will make certain that all doors remain closed.

While Bob was here, an employee mentioned the possibility of formaldehyde exposure from the latex freeze roll operation. The latex being frozen contains 1000 PPM of formaldehyde. After the latex is frozen, it is dropped to a melt tank where it is thawed. This tank is maintained at 110°F. We have ordered sampling tubes for formaldehyde; and as soon as we receive them, we will sample the area. I will report the results to you at that time.

Thank you.



Fred M. Fister

* The antimony compound must have this particular particle size for it to disperse properly in the compound. For this reason, we would not be able to use a less dusty form of this material.

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cs: R. B. Nash, Jr. (Akron) ✓
H. Waltemate (Cleveland)
P. H. Lawrence
M. D. Schrader
D. P. Anderson
V. W. Roberts

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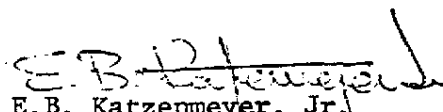
November 16, 1976

TO: P.H. LAWRENCE
LOUISVILLE PLANT

On September 20-22, 1976 - Mr. R.B. Nash performed an Industrial Hygiene Survey of manufacturing operations at the Louisville plant. The report of his investigations is attached. I would appreciate being advised of the status of the recommendations.

One item not mentioned in this report is that of employee exposure to formaldehyde at the cold roll in the latex building. I would like to have some more information regarding possible exposures and what information the plant needs to resolve any questions. You should note that the odor of formaldehyde is such to provide a fair warning. The presence of a formaldehyde odor would warrant the need for additional study.

Please contact me if you have any questions concerning this report.


E.B. Katzenmeyer, Jr.
Manager, Industrial Hygiene

k

cc: D. Anderson
W.C. Holbrook/K.J. Kaminski
J.L. Nelson
G.R. Pruitt
M.D. Shrader
H. Waltemate

Attachment:

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26091002

11-16-76

TO	P.H. LAWRENCE	FIELD POINT OR DEPT. & BLDG. NO.	LOUISVILLE, KENTUCKY PLANT	DATE YOUR LETTER
FROM	R.B. NASH, JR.	FIELD POINT OR DEPT. & BLDG. NO.	DEPT. 0020, BLDG. 5-H (AKRON)	DATE THIS LETTER
SUBJECT				11-16-76

LOUISVILLE, KENTUCKY - INDUSTRIAL HYGIENE SURVEY

On September 20-22, 1976 an Industrial Hygiene Survey was conducted at the Louisville plant. Several dust samples were obtained on weighmen and baggers with checks made for total dust, lead, antimony, chrome; or carbon black. Only the antimony sample exceeded acceptable levels for a short term exposure.

RECOMMENDATIONS

1. Require that doors on grinder noise enclosures remain closed. This practice will insure that noise exposure of operating personnel in adjacent areas remain below OSHA exposure limits of less than 90 dBA for an eight hour day.
2. Review chemical pre-weighing operations to make certain work practices and handling techniques are effective in minimizing dust generated during these operations and that they are conducted within the confines of the ventilated booths.
3. The supplier of the antimony compound should be contacted to see if this material could be supplied in a less dusty form. A similar problem involving a lead compound was solved at the Marietta GPC plant by this kind of product substitution.

DISCUSSION

Seven dust samples were obtained in the compounding and PVC bagging areas with results shown in the attached Table. The sample obtained on Mr. G. Cottrell, bagging PVC, was well below the 10 mg/M³ recommended for continuous exposure to PVC dusts. Samples 2, 3 and 7 were obtained on employees working at the new bulk weighing area. Compounds of interest were antimony, lead and Minex F. The sampling results showed that exposures to those materials were controlled to acceptable levels on an eight-hour time weighted average basis. The single sample for antimony collected during a 45 minute weighing period is noteworthy. The reported value is just below the recommended short term excursion value of 1.5 mg/M³ and is indicative of the need to tighten up work practices designed to minimize the generation of dust during weighing activities. During this sampling it was observed that individual handling techniques make the difference in dust exposures. The plant should make certain that weighing operations are conducted within the ventilated control area. The new exhaust system appears to be a great improvement over the old pre-weighing area. Samples 4 and 5 were collected on employees working in the color pigment pre-weigh area. This was a well ventilated area as the low chrome results indicates. No further improvements appear necessary at this time.

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DISCUSSION con't

A single sample was collected on an employee pre-weighing carbon black in a ventilated booth as the sampling result shows air concentrations of carbon black were well below recommended exposure limits of 3.5 mg/M³. This exposure does not present a inhalation health hazard with respect to carbon black to employees.

The noise enclosures around several of the grinders had the doors open to allow the operator to hear changes in the cutters speed which might indicate a malfunction. It is important that these doors remain closed so as to contain hazardous noise inside the grinder enclosures. The practice of allowing the open doors defeats the purpose of the installation and contributes to excessive noise exposure for employees working in areas around the grinders. The plant should investigate the operation to determine the reasons why doors are left open. If this practice is necessary additional engineering controls may be needed to further reduce operator exposure to noise.

I wish to thank you and your staff for their cooperation during my visit.

Robert B. Nash, Jr.
Industrial Hygienist

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Attachment:

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T A B L E I

DUST SAMPLING

SEPTEMBER 1976 - LOUISVILLE, KENTUCKY

<u>EMPLOYEE</u>	<u>JOB</u>	<u>TYPE DUST</u>	<u>SAMPLE TIME (MIN.)</u>	<u>ALLOWABLE LEVEL</u>	<u>MEASURED LEVEL</u>
G.K. Cottrell	East Paste Bagger	PVC	420	10 mg/M ³	1.6 mg/M ³
G. Gray	Bulk Pre-Weigh	Antimony	45	0.5 mg/M ³	1.36 mg/M ³
E. Hall	Bulk Pre-Weigh	Lead	123	0.2 mg/M ³	0.02 mg/M ³
G. Gray	Color Pre-Weigh	Chrome	347	0.5 mg/M ³	0.005 mg/M ³
W. Whitehovse	Color Pre-Weigh	Chrome	350	0.5 mg/M ³	0.006 mg/M ³
B. Bland	Carbon Black Pre-Weigh	Carbon Black	357	3.5 mg/M ³	0.7 mg/M ³
J. Bailey	Bulk Pre-Weigh	Total	358	10 mg/M ³	0.9 mg/M ³

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