

TO	R. N. Rylands	FIELD POINT OR DEPT. & BLDG. NO.	Avon Lake	DATE YOUR LETTER
FROM	T. S. Bialke	FIELD POINT OR DEPT. & BLDG. NO.	Akron - D/0020, 5-H	DATE THIS LETTER
SUBJECT				9-14-78

INDUSTRIAL HYGIENE SURVEY - AVON LAKE CHEMICAL PLANT

On July 24-27, 1978 I visited the Avon Lake GC plant to conduct an industrial hygiene survey.

The plant's program for controlling vinyl chloride and the medical management of all employees was reviewed and found to be in order.

Avon Lake has a good written program for respirator and asbestos handling; however, both programs need to be implemented at the worker level and monitored to assure their effectiveness.

Noise control procedures and plans were reviewed. In addition to this survey, I returned to Avon Lake in August to further discuss noise abatement plans. It is felt that certain steps need to be taken in addition to the plans already under design or consideration.

As in the past, I was impressed with the efficiency and professionalism demonstrated by all Avon Lake personnel and would like to thank them for their assistance and cooperation during this survey.

Thomas S. Bialke/vr

T. S. Bialke
Industrial Hygienist

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RECOMMENDATIONS:

1. Bldg. 433-Estane

- a. Implement the plant's procedure for cleaning hoods and ductwork of ventilation system over estane lines.
- b. Lower local exhaust hoods over mixer feed so that any vapors released are captured at the source.
- c. Reconnect ductwork to hood on #2 line.

2. Bldg. 437-Carbaset

Replace ammonia gas respirator with self-contained breathing apparatus.

3. Bldgs. 451 & 461

Initiate a program for repair of high pressure air and steam leaks to reduce background noise levels.

4. Asbestos

- a. Implement asbestos handling and labeling procedures.
- b. Properly dispose of large preformed pipe insulation stored in carpenter shop.
- c. Restrict purchase of insulation to asbestos-free types.

5. Respirators

- a. Require employees to wear the 3M-8710 respirator during clean-up of PVC resin spills. Make respirator available for PVC baggers use.
- b. Include procedure for periodic inspection of respirators assigned to individuals to insure their cleanliness and serviceability.

6. Noise

- a. Insulate bull gear housing on mill in Bldg. 441.
- b. Keep all cuber enclosure doors closed.
- c. Enclose mill drive on "C" line in Bldg. 438.
- d. Place double thickness of KoroKlear curtains across both entrances to cuber room. Overlap strips at least one-half way.

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Recommendations (con't)

6. Noise (con't)

- e. Insulate cooler motor and blower housings located outside from the duct work. Perform maintenance on motor and blower bearings to eliminate noisy operation.
- f. Proceed with the implementation of plans to revamp CML line cubing and bagging operations.

DISCUSSION:

Estane Bldg. 433

The local exhaust ventilation systems for both estane lines were coated on the inside with a thick layer of dust and condensed estane material. A plant requirement for periodic cleaning of the ductwork exists and the procedure was related to me. Such a procedure must be implemented on a periodic basis to insure that the efficiency of the local exhaust system is not compromised by dirty ductwork. The hoods over the mixer feeds need to be lowered closer to the feed opening so that it will capture any fumes produced at the emission source and before they get into the general work environment. The hood over the # 2 line extruder must be reconnected to the ductwork. Apparently the duct was not reconnected after the completion of a line modification.

Carboset Bldg. 437

A gas mask with an ammonia cannister is located near the exit to Bldg. 437. Its purpose is for emergency use during an ammonia leak. Such gas cannisters, unless periodically replaced, become out-dated and useless for emergency use only purposes. A self-contained breathing apparatus would be a better choice to be located near this exit.

Bldgs. 451 & 461

A number of steam and compressed air leaks were noticed in both Bldgs 451 and 461. In Bldg. 461 a pipefitter was observed working on the 2nd floor in an area that had sound level readings above 100 dBA without hearing protection. Noise dosimeter work on individuals working in Bldgs. 451 and 461 show that they are not overexposed to noise and that exposure times may be protective in that OSHA limits are not exceeded. Noise from steam and air leaks is particularly hazardous however, due to the high frequency component and exposure to it should be prevented whenever possible.

It is the intention of the BFGoodrich hearing conservation program to not only comply with government noise regulations, but to prevent hearing loss whenever possible. It should be reemphasized that when

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Avon Lake IH Survey
July 22-24, 1978

Discussion - Bldgs. 451/461 (con't)

an employee is required to perform non-routine work (maintenance for example) in a noise hazardous area, he should wear hearing protective devices. In addition, steps should be taken to reduce background noise levels in all areas of the plant by sealing steam and compressed air leaks in pipes, valves and actuators. Such a program will not only lower ambient noise levels, but the plant will realize significant energy savings.

Asbestos

A procedure for safe handling of asbestos with government required labeling has been developed and written. However, the procedure is not being followed as insulation from the demolition of the old VCL tank was not labeled or disposed of properly. Table I contains the results of the analysis of various samples of insulation for asbestos. A sample of the large 2" ID x 8" OD (sample #2) stored in the carpenter shop was analyzed and found to contain asbestos. Such material must not be used in the plant and should be properly disposed of. All insulation purchased by the plant must be of the non-asbestos containing type.

Respirators

Respirators are required to be worn during the bagging of PVC resins. This requirement does not appear to be necessary, based on past total dust monitoring performed by the plant. Currently OSHA has no TWA for PVC dust. Also, the ACGIH has not published an exposure standard. Therefore, PVC dust should be classified as a nuisance dust with an OSHA TLV of 15 mg/M³. BFG has an internal nuisance dust standard of 10 mg/M³ of total dust. Monitoring by the plant has not consistently shown that the baggers' exposure to PVC is above this 10 mg/M³ total dust limit. Therefore, respirators or further engineering controls at this time are not necessary. Clean-up of PVC spills has been measured and exposures documented above the 10 mg/M³ BFG TWA. In these instances dust respirators must be used. Respirators should be made available to baggers who wish to wear them during normal operations.

The plant has a good written respirator program, but many personal respirators were found to be in need of cleaning or repair. The program needs to be implemented and procedures initiated for the periodic inspection of all respirators assigned to individuals to insure their cleanliness and serviceability. In addition, one individual should be assigned the responsibility to monitor the effectiveness of the respirator program.

Noise

Much time was spent evaluating the effectiveness of noise control procedures for the abatement of the OSHA noise citation at the Banbury line and Bldg. 441. Also, noise control efforts for CML line exposure was evaluated. The Banbury line, based on previous plant monitoring, is in compliance. Unfortunately, all noise dosimeter data obtained

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Discussion-Noise (con't)

during two consecutive days of monitoring cannot be considered to be representative of worker's exposure. Table II contains the results of noise dosimeter readings. As noted in the table, on both days the lines monitored were not operating for a majority of the work shift. Consequently, such data cannot be used to evaluate compliance.

Based on plant dosimeter work and sound pressure readings, Bldg. 441 cubing line needs additional work. Plans are to enclose mill drives located outside the mill room. The bull gear in the mill room is also to be enclosed or insulated. Cuber room doors must be kept closed or a double layer of KoroKlear installed across the opening.

Bldg. 438 "C" line also requires some additional work. Plans have been submitted to enclose mill drives on the "C" line and a complete renovation of cubing and bagging operations has been proposed. Such a renovation, with particular emphasis on noise control, i.e. sound absorbent materials, noise efficient cube transport systems and motor, etc., will greatly reduce potential noise exposure. Immediate steps can be taken to reduce noise exposure to operators by installing a double layer of KoroKlear material across entrances to cubers and insuring that they remain in place.

The cooler motor and blower located outside the building is in need of maintenance or should be isolated from the ductwork leading into the building as high frequency noise is transmitted into the building from this equipment. The blower was implicated as the principal noise source since, when it was turned off, there was a readily apparent reduction in noise at the bagging station.

Physical Examinations

Requirements for physical examinations were reviewed and found to be in order. The vinyl chloride program was reviewed and found adequate.

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TABLE I.

AVON LAKE INSULATION SAMPLES

July 22-24, 1978

	<u>Sample Location</u>	<u>Constituent</u>
Sample #1 - 1½" Block	Carpenter Shop	Woody fibers in fine matrix
Sample #2 - 2" ID x 8" OD Preformed Insulation	" "	Asbestos
Sample #3 - 1½" ID x 3" OD Preformed Insulation	" "	Fiberglas & wood; no asbestos
Sample #5 - Old vinyl tank farm demolition		Asbestos

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TABLE II.

AVON LAKE AUDIODOSIMETER RESULTS
July 22-24, 1978

<u>Employee</u>	<u>Job Class.</u>	<u>Location</u>	<u>Exposure Time (min.)</u>	<u>% 8-Hr. Exposure 90 dBA Base</u>
J. Copa	Weighman	B & C CML	317	13.6
T. Yuhus	Bagger	CML	259	16.6
J. Rosso	Mill Operator	B & C CML	255	88
W. Waldecki	" "	"	255	63

All exposure periods above include a changeover.

W. Lee	Mill Operator	Banbury Line	331	11.6
M. Little	Relief Operator	" "	330	58
E. Gressler	Weighman	" "	330	10.2
R. Rosso	Bagger	" "	329	23
E. Meyer	Operator	" "	328	19

Banbury line shut down for over 1/2 of shift.

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