

Inter-organization Correspondence

BFGoodrich

TO	FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.	AKRON FIELD
B.M.G. Zwicker	Cleveland, Dept. 5004	
FROM	FIELD POINT OR AKRON DEPARTMENT & BLDG. NO.	DATE THIS LETTER
J.A. Klupar	Cleveland	4/24/75
SUBJECT		

MONITORING FOR TOXIC SUBSTANCE OTHER THAN VCM

Per your request, here is the first monthly report.

AKRON CHEMICALACRYLONITRILE

D/0020 (J. McCool) issued a report (3/7/75) on acrylonitrile. Acrylonitrile and butadiene levels were found to be consistently below the recommended TLV's. Recommended use of airline respirators while cleaning polymerizers and continued VCN monitoring. Airline respirators are now in use in the cleaning of polymerizers.

Continued sampling for VCN has uncovered a problem in the coagulating of Hycar 1091-50 (see report 4/15/75). Although none of the charcoal tube samples taken on an operator exceeds the TLV of 20 ppm for VCN, they are fairly close. This, along with the fact that samples taken with stationary charcoal tubes and with Drager tubes indicate that higher VCN levels are present in the immediate area.

Examples of this are the 25 ppm VCN near the holding tank and the 31.8 ppm VCN found between the coagulation tanks.

AVON LAKEMDI

On April 16, three 3 hour MDI samples were taken in Bldg. 433 (Estane). Two were personnel samples. These resulted in readings of 0.5 ppb and 2.0 ppb respectively. The third, an area sample at the extruder die resulted in a 5.2 ppb reading. The 8 hour TWA exposure limit is 5.0 ppb.

In the coming month additional MDI samples will be taken and a carbon monoxide study at Bldg. 438 (Compound West) started.

CALVERT CITYMERCURY

There is a continuing area monitoring program in the chlorine production area to measure the levels of mercury vapor in the air. The standard acid-permanganate absorbant solution is used to collect the mercury in the air and the analysis is performed by atomic absorption. Several locations are monitored each week and appropriate actions are taken when levels exceed the .10 mg/m³ standard. Attempts are being made to reduce all levels to below .05 mg/m³.

A personnel monitoring program for mercury is planned to begin around September this year. The method employing a hopcalite granules collection medium and an atomic absorption analysis has not yet been used by the Calvert City laboratory. Current plans are for completion of setting up the test method by August and initial monitoring to begin in late September.

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CALVERT CITY (continued)BENZENE

An area monitoring test for benzene has been established by the Calvert City laboratory. This test is also suitable for personnel monitoring. A variation of the VCM test using charcoal collection tubes and a Bendix flasher is being used to evaluate the benzene levels in the Acrylic acid Building. Current work shows levels in some areas occasionally exceeding 10 ppm and emphasis is placed on finding and correcting leaks. The H-NU photo ionization analyzer or the Century OVA is used to find the source of the leaks.

Personnel monitoring for benzene will probably begin in May on a limited basis in the Acrylic Acid building. This program will be expanded to include the ethylene by-product areas containing benzene by mid-summer. Benzene exposures in the cracking plants will be done on the same samples taken for VCM as soon as that program is expanded.

ALLYL CHLORIDE

The Acrylic Acid Carbopol process occasionally uses allyl chloride in a batch type operation. The benzene monitoring test will provide the capability of measuring allyl chloride in air and is now ready for use. Initial samples will be taken in May.

CHLORINATED HYDROCARBONS

The current VCM personnel monitoring test gives EDC (Ethylene Dichloride) exposures on the same sample. The EDC results are being computerized on the same program as the one used for VCM data. The "Bendix TWA" column is being used for this EDC data storage.

The VCM program may be expanded by mid to late summer to include chloroprene, carbon tetrachloride, benzene and chloroform. The gas chromatograph calibration gas is being ordered with those components to permit evaluation of the test.

A computer program is being worked on to calculate the gas chromatograph data. This would eliminate hand calculation of peaks on chromatograph charts and grant a large cost savings.

OTHER TOXIC SUBSTANCES

The other major chemicals in the Calvert City Plant that currently have lower priorities on personnel monitoring are hydrogen chloride, chlorine, styrene and carbon monoxide. Drager tubes are occasionally used to "spot-check" levels of these chemicals.

HENRYp-NITROANILINE

Three silica gel cartridges were exposed and sent to ALTC for analysis.

ISOPROPYL ALCOHOL AND H₂S

Drager tubes are being used routinely.

BENZENE

Samples have been taken and sent to an outside lab for analysis.

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LONG BEACH

No monitoring was performed.

LOUISVILLECHLOROFORM AND CARBON TETRACHLORIDE

Twenty-five carbon tube samples (2.5 to 5.0 hrs.) were taken in Buildings 2 and 4, and sent to ALTC for analysis. The results are considered satisfactory based on proposed TWA standards of 10 ppm for each. No short-term samples were taken. Present plans are to continue monitoring at a rate of 3 to 4 samples per week.

CARBON MONOXIDE

This work is presently aimed at identifying lift trucks which emit abnormally high amounts of CO. Readings on trailers being loaded ranged from 75 to 500 ppm. These levels are undesirable. The TWA for CO is 50 ppm.

LEAD, ANTIMONY AND DUST

D/OO20 (Shepler) issued a report (2-28-75) with specific recommendation for reducing the exposure to lead, antimony and dust. The survey was a result of the 9/17/74 OSHA citation.

ORANGEBENZENE

Six charcoal tube analyses for benzene were received from Brecksville R&D Center on April 8. Five of these samples were collected from three different CB sample catchers on February 19 and 21. Of the five samples collected, one was in excess of the benzene ceiling of 25 ppm and one was in excess of the benzene TWA of 10 ppm. Back mounted respirators with a larger cartridge have been ordered for use by the CB sample catchers. Delivery is expected in April and these will be placed in service as soon as possible.

The other sample was collected from a Maintenance Craftsman during the change out of a demister paid in CB poly on January 19. This sample was in excess of the benzene ceiling of 25 ppm and will be reviewed by the Task Force for respiratory protection requirements.

The plant laboratory is developing the analytical procedures for charcoal tube analysis using a Bendix Flasher. It is expected that the equipment and procedure will be ready for service in April. When it is ready, a monitoring program for the thorough evaluation of benzene exposure in the CB unit will be initiated.

PEDRICKTOWNLEAD

Blood and urine samples were taken from 40 employees in February for their yearly lead check. All results, negative.

No additional monitoring is planned for the near future.

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PORT NECHES
STYRENE

The Port Neches SBR plant recently de-emphasized a styrene vapor monitoring program. Atmospheric styrene vapor concentrations proved to be well within specified limits. Monitoring will be resumed as production returns to normal, and warm weather favors increased vapor emissions.

A technical report of the styrene monitoring methodology developed at the Port Neches facility is in progress.

J.A. Klupar

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