

HEH2.13-39-2 (PASSIVE DOSIMETERS)

10525

NO REPORT WAS EVER ISSUED -- DATA IS ATTACHED TO LETTER

U.S. DISTRICT COURT
Western District of New York

HEH 2.13-39-2(2)

R&S 039583



DOW CHEMICAL U.S.A.

FYI

Sam

MIDLAND, MICHIGAN 48640

June 19, 1979

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10525

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REY

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PASSIVE DOSIMETERS FOR VINYL CHLORIDE AND VINYLIDENE CHLORIDE

On May 15, 1979, an experiment was conducted to determine the field response of two types of passive dosimeter, the Abcor Gasbadge and the 3M organic vapor monitor, to vinyl chloride and vinylidene chloride. The passive dosimeters were compared to simultaneous carbon tube samples. The results are shown in Table 1.

The passive dosimeters were analyzed at the 1803 Building Industrial Hygiene Laboratory, while the carbon tubes were analyzed at the 564 Building laboratory. Because of the poor results obtained on the carbon tube spike (74% recovery on vinyl chloride, 54% on vinylidene chloride), the results of this experiment must be judged as inconclusive. The experiment will be rerun, with the addition of the new DuPont passive dosimeter as one of the units tested.

An analysis of carbon tube spike data for the first quarter of 1979 shows that an occasional point was far below the expected values for vinyl chloride and vinylidene chloride. No significant error was noted in the positive direction, that is, no samples showed significantly higher than expected results. This would seem to indicate a loss of sample during storage, which is a reasonable possibility with vinyl chloride samples. A conversation with Dick Flaughner indicated that this problem would be investigated, with a possibility of using a refrigerator to store vinyl and vinylidene chloride samples. A series of spikes will be submitted to the 564 Building laboratory to verify the effectiveness of the new laboratory sample storage procedures.

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jdb/Enclosure

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Table 1. FIELD RESULTS OF THE ABCOR GASBADGE AND THE 3M ORGANIC VAPOR MONITOR COMPARED TO CARBON TUBE SAMPLES

<u>Location Number</u>	<u>Vinyl Chloride Concentration (ppm)</u>			<u>Vinylidene Chloride Concentration (ppm)</u>		
	<u>Tube</u>	<u>Abcor</u>	<u>3M</u>	<u>Tube</u>	<u>Abcor</u>	<u>3M</u>
1	8.81	1.73	11.1	11.9	8.47	5.22
2	0.62	0.32	0.54	0.09	1.34	0.18
3	2.81	0.42	2.22	0.05	0.59	0.09
4	1.19	ND*	0.42	0.06	ND	0.06
5	0.59	ND	0.42	0.06	0.54	0.06
6	2.01	0.41	1.14	0.31	0.48	0.3

Carbon Tube Spike Data

Actual Concentrations:

Reported Concentration (1803 Building IH Laboratory)

Reported Concentration (564 Building Laboratory)

V1 = 10.0 ppm V2 = 9.3 ppm

V1 = 10.4 ppm V2 = 9.1 ppm

V1 = 7.39 ppm V2 = 5.04 ppm

*ND - Not detected

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