

File - Vinyl Chloride

TO E. E. Tackett AT Carrollton, Ohio DATE July 11, 1975

FROM A. L. Gaudreau AT New Haven, Conn. COPY TO Mac Roy Gasque, M.D.
 E. J. Burton
 R. Henderson
 SUBJECT Vinyl Chloride Monomer in Air R. Y. LeVine
 G. Locke
 R. L. O'Connell, M.D.
 B. Stevens, R.N.

Olin Plant - Carrollton, Ohio

Sampling for vinyl chloride monomer in air in the blending operations (substantially a duplication of the testing performed on April 16 and 17, 1975) was conducted on June 11, 1975, after remedial actions to correct above permissible exposure to employees were completed.

The efforts of plant management were distinctive in the results and show excellent diligence and ability in coping with a potentially disheartening and costly program.

The results and recommendations of sampling are contained in this report.

Recommendations

1. This area can now qualify as a non-regulated area.
2. Compliance with the vinyl chloride standard 29CFR 1910.93(q) now requires actions as listed under paragraphs d(3), h, j, l(3), l(4), m, n(2), and h(3) only, with the method employed for monitoring in accordance with (d)(4). (See report dated April 7, 1975, for standard and sampling information.)
3. The cloth sleeve to the mixer from the additive hopper should be changed to an impervious type material.
4. The sleeve from the mixer to the cooler should be repaired.

Results

The results and locations of samples collected on charcoal with Sipin (personal samples) and Monitaire (area samples) pumps according to NIOSH recommendations follow:

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<u>Location</u>	<u>Vinyl Chloride Monomer Concentration</u>
<u>Compounding - Blending Room</u>	
1st shift employee at hood breathing zone	none detected
1st shift employee at hood breathing zone (9402 compound)	< 0.09 ppm
1st shift employee at floor scale	< 0.07 ppm
1st shift employee at floor scale (9402 compound)	< 0.10 ppm
2nd shift employee at hood	< 0.07 ppm
2nd shift employee at floor scale	none detected
Area sample megzanine 2nd shift (9402 compound)	< 0.04 ppm
Area sample megzanine 2nd shift	< 0.04 ppm
Area sample top of high speed mixer	*1.17 ppm
Area sample top of cooler near flex line from mixer	*0.40 ppm
Area sample top of surge hopper	< 0.06
Area sample at small additive hopper	< 0.07
Area sample no operations (6/9/75) (Mr. Burton's sample)	none detected
<u>Pipe Cutting</u>	
1st shift employee breathing zone	none detected

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<u>Location</u>	<u>Vinyl Chloride Monomer</u> <u>Concentration</u>
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Pipe Blending

1st shift employee breathing zone	none detected
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*No employee exposure

The symbol < indicates the presence of the vinyl chloride monomer but below quantifiable range of the method of analyses. Numbers derived from lowest detectable quantity .001 divided by volume of sample.

Analyses of samples was by a gas chromatographic method in accordance with recommended practice.

The permissible exposure limit as defined in Occupational Safety and Health Standard 29CFR 1910.93(q)(c)(1) and (2) is 1 ppm vinyl chloride gas averaged over any 8 hour period with no exposure greater than 5 ppm averaged over any period not exceeding 15 minutes.

Discussion

With the installation of a new vacuum bulk hopper, redirection of air return ducting to the out of doors, improvement in ventilation and the use of solid flexible lines the concentration of vinyl chloride monomer has been reduced to almost insignificant amounts. One more connection must be made, however, even though a vacuum is on the system, there is periodic excursion of dust and gas therein into the area of the mixer. This is the additive hopper connection on top of the mixer.

Two additional operations, pipe cutting, which showed a possible potential health problem through previous testing (possibly an unexplained aberration), and a pipe blending showed no detectable vinyl chloride monomer associated with them.

Housekeeping is vastly improved.

E. E. Tackett

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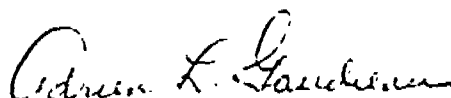
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Conclusion

Thoughtful action with diligence has brought a potential health hazard under control and removed the stigma of having to maintain a regulated area as required by present occupational safety and health regulations.

If I can be of further help, please contact me.


Adrian L. Gaudreau

ALG:sln

OLI 4333