

Interoffice Communication

To R. W. McPherson
 From P. L. Fetzer
 Date June 1, 1978
 Subject Documentation of Hydroquinone Interference
 in Carbonyl Analysis

In your phone call of 5/30/78 two problems were mentioned: 1) high carbonyl results on the last two shipments to Brazil and 2) erroneous acetaldehyde analyses due to hydroquinone interference.

I've checked the analyses of both shipments and the acetaldehyde values of the shore tanks were below 0.18 ppm. The acetaldehyde values obtained after hydroquinone has been added are in error due to an interference from the hydroquinone when our analytical method No. 114-76 is used to complete the analysis. The 8-20 ppm acetaldehyde values obtained in Brazil differ by a factor of 100 from our analysis. This may or may not be a coincidence although their analytical capabilities were adequate when the original check out of methodology was accomplished.

The hydroquinone interference was checked out by analyzing a vinyl sample and repeating the analysis after adding 3 ppm hydroquinone to the weathering solution. Comparative spectra illustrating the interference are attached. Determination of the apparent acetaldehyde content of the hydroquinone spiked samples shows a seven fold increase over the pure vinyl sample. The respective acetaldehyde values were 0.83 and 0.12 ppm.

Although the presence of hydroquinone would cause the apparent acetaldehyde to be abnormally increased, the seven fold increase observed in our lab does not agree with the increase observed in Brazil. This data may indicate an analytical error in Brazil to be the problem.

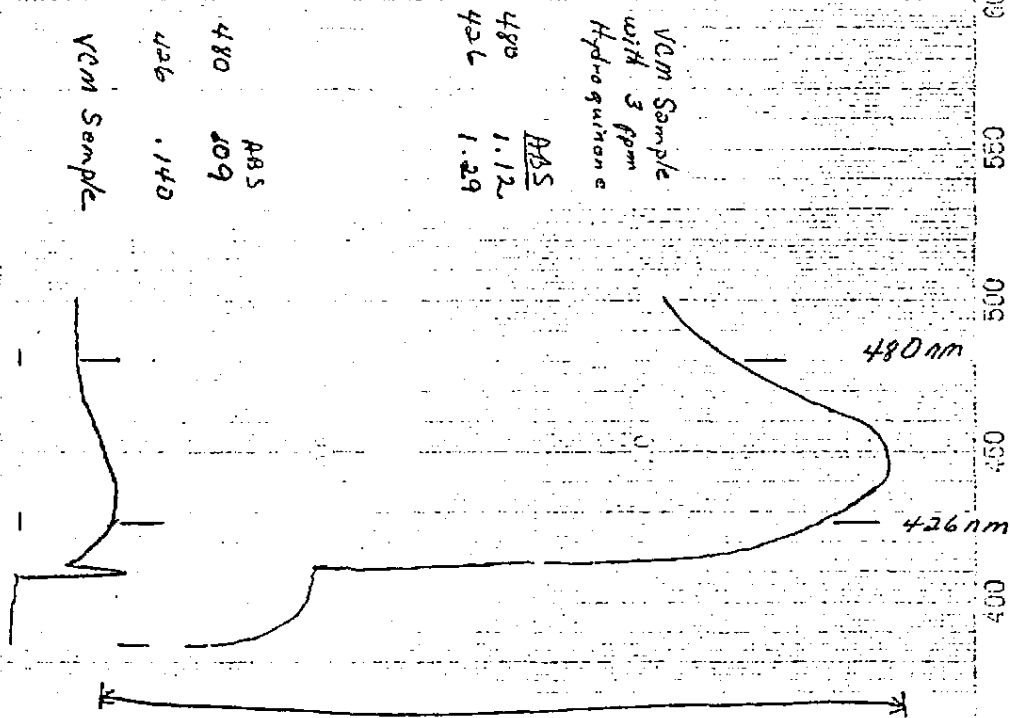
We will recheck the hydroquinone interference to determine if the apparent acetaldehyde increase remains constant; i.e., near a seven fold increase.

I trust this information may be of help in resolving the problem.

P. L. Fetzer
 P. L. Fetzer

br
 cc:
 RDG-JAD-HDG-GLF

VVC 000019359



WAVELENGTH (nm)		SCAN SPEED - <i>fast</i>	OPERATOR <i>W. Cooper</i>
SLIT <i>100</i>		DATE <i>5-30-78</i>	
PERKIN ELMER		REF. NO.	
PART NO. 402-5000			
REMARKS			
SOLVENT			
CONCENTRATION			
CELL PATH <i>1 cm</i>			
REFERENCE <i>Blank sol.</i>			