



THE DOW CHEMICAL COMPANY

MIDLAND, Michigan
January 4, 1967

✓ R. G. Vaughn
Safety Department
LOUISIANA DIVISION

Dear Bob:

I am including with this letter a summary of the concentrations of vinyl chloride found at various locations in the vinyl plant and laboratory. These concentrations are all very low, as we expected. You remember that we did these measurements to check on the changes of procedure that had been worked out in the lab after our previous series of measurements. It would appear that putting the operation where vinyl is allowed to bubble through the solution, I believe this is an acid determination, in the hood was quite effective in cleaning up the air in the laboratory.

You will also notice that I am reporting the analysis of these same samples for the six materials which we analyzed in the glycol plant. This analysis was more or less run by mistake since our technician didn't understand that these samples were from a different block. I am very puzzled by the results you will see here. Indication is that there is a fair amount of propylene dichloride, some ethylene dichloride, and even some propylene chlorohydrin in these samples. Although it is not impossible that these materials could reach the vinyl block under suitable circumstances of wind speed and direction, I didn't expect these results. I wonder if you could discuss these puzzling results with suitable people and see if there might be some explanation. One possibility that occurs to me is that there may be something in the vinyl block that comes out on VPC at about the same point as the propylene dichloride. If you have any candidates as a result of your conversation, send an ounce of each along and we will try them out on the column that we used for this analysis.

Best wishes for the New Year.


H. R. Hoyle
Biochemical Research Laboratory
1701 Building

HRH:sjl

Enc.

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→ - Fr. Li: Vinyl - En: 11.5;
- copy to V₁

VINYL BLOCK

Sample Number	Sample Description	Concentration, parts per million*						
		VC1	EO	PO	PDC	EDC	ECH	PCH
XX	Breathing zone while filling flasks on laboratory bench. Four samples.	0.4			5.3			
XXI	Sample in area in front of the hood. Samples bubbling through solution in the hood.	0.6			9.6			
XXII	Making up ethylene dichloride composite.	0.7			6.0	3.8		
XXIII	Breathing zone while taking initial boiling point on C5 Bottoms in the control room.	0.2			21.9			
XXIV	Grab sample while blowing flask dry.	<0.2			6.6	100		2.8

Industrial Hygiene Standard

*VC1 (Vinyl chloride)	50 ppm (Dow)
EO (Ethylene oxide)	50 ppm
PO (Propylene oxide)	100 ppm
PDC (Propylene dichloride)	75 ppm
EDC (Ethylene dichloride)	50 ppm
ECH (Ethylene chlorohydrin)	5 ppm
PCH (Propylene chlorohydrin)	5-10 ppm