

January 17, 1969

Mr. Robert B. Wynne
Hewlett and Packard
Avondale Division
Route 41
Avondale, Pennsylvania 19311

Dear Mr. Wynne:

Enclosed are the two jets out of our instrument. The jet in position "A" is the one on which we performed the vinyl chloride monomer analysis over the past three weeks, with about two to three injects per day. The "B" jet was used only for routine analysis and during dual column operation. The jets have been in use since October, 1968. The detector temperature ranged from 80°C - 300°C at various times.

The following conditions were employed:

Temperatures:

Flame Detector	140°C
Oven	30°C
Inject Port	30°C
Aux.	50°C

Flows:

Carrier Helium 67 ml at
end of column
Hydrogen Rotameter read 2.5
17 psig in line
Air Rotameter read 5.1
41 psig in line

Column:

10' x 1/4" OD SS and 12.8' x 1/4" OD SS 30% Tri-n-Butyl
Phosphate on Chromosorb P 60 - 80 mesh.

Sample and Sample Size:

Gas phase of vinyl chloride monomer
1.1 ml sample loop
The sample valve is left in inject position throughout the
scan.

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In addition to the above mentioned columns we used:

12' x 1/4" OD SS 15% Tricresyl Phosphate on Anakrom ABS
70 - 80 mesh

12' x 1/4" OD SS 15% Tricresyl Phosphate on Chromosorb P AW
60 - 80 mesh

12' x 1/4" OD SS 10% DECS on Chromosorb W AW 60 - 80 mesh

To check a probable contamination with higher boilers a 10' x 1/4" OD SS 3% SGR SE30 on Anakrom ABS 70 - 80 mesh was heated to 300°C after vinyl chloride elution with the result of showing the same heavy background contamination as demonstrated during the other chromatographic scans. A dual column operation resulted in better initial sensitivity but also in the background contamination just as shown during single column operation. Raising of the Inject Port temperature did not lead to any different results. If the column is disconnected at the end of the day, all the heaters left on, the instrument is back to normal the following morning. All the results described gives rise to the theory that the background contamination is caused by a reaction of the eluting vinyl chloride with the copper.

It would be very useful to us if you could give us some suggestions as to how to overcome this problem.

Very truly yours,

TENNECO PLASTICS DIVISION
Tenneco Manufacturing Company

Fred W. Kanaler

FWK/rjl

Enclosure: (2)

cc: File