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INTERNAL CORRESPONDENCE

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CHEMICALS AND PLASTICS

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To: Mr. Arnold,

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Date

July 2, 1974

Originating Dept.

Research and Development

Subject

VCl Monomer in
Resins: ASTM Study

Gentlemen:

The ASTM task group studying methods for quantitative determination of VCl monomer in PVC resins held their initial meeting on June 26. Gas chromatographic methods were submitted and the essentials of these procedures were summarized in the attached sheet by the task group chairman, Mr. Ed DeCapita of B. F. Goodrich. These methods used a solution of the vinyl resin in either THF (UCC method) or in dimethyl acetamide.

The initial round robin study will include 3 homopolymer resins (2 to contain ~10 ppm residual VCl) to be provided as solid resin and as 5% solution in THF and dimethylacetamide. Methods provided by Goodrich and Dow will be investigated in the initial study. Approximately 18 laboratories plan to participate.

On the basis of the discussions it is concluded that the current UCC procedure is technically sound and capable of detection of VCl at a level equivalent to the methods used in the industry.

The Goodrich method, which will be obtained soon, is being installed to monitor production at all the Goodrich plants: the output is handled by a computer. At the moment, we see no advantage to this system over the UCC procedure.

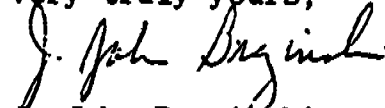
The Dow system uses a "silicone" column which may provide a satisfactory approach for the definition of vinylidene chloride in the presence of water. This column will be investigated.

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We plan to participate in these round robin studies and will promote the evaluation of vinyl chloride-vinyl acetate copolymers in subsequent investigations.

Very truly yours,

A handwritten signature in cursive script, appearing to read "J. John Breziński".

J. John Breziński

JJB:noh

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RVCM IN POLYVINYL CHLORIDE
SUMMARY OF ANALYTICAL PROCEDURES

<u>Company</u>	<u>Column Type</u>	<u>Polymer Solvent</u>	<u>Polymer Conc. %</u>	<u>Inj. Temp. °C</u>	<u>Det. Temp. °C</u>	<u>Col. Temp. °C</u>	<u>Sample Size µl</u>	<u>Analysis Time</u>	<u>Calibration Type</u>
Firestone	1/8" OD X 6' S.S., Poropak S, 80/100	THF	5	---	---	150	3	---	Ext.
Union Carbide	1/8" OD X 8', SC , Poropak Q	THF	9	---	---	150	1	---	Ext.
Goodyear	1/8" OD X 22' S.S., 10% OV 225, 80/110 Chrom. W-HP	THF	5	150	150	60	15	---	Int. 2-Methyl Pentane BF
Olin	1/8" OD X 30' S.S. 23% UCON 50 HB 5100 70/80 Chrom. W-NAW	THF	1	75	300	50	1	---	Ext.
Dow	3mm ID X 20' Glass, 10% OV-17, 100/120 Chrom. W-HP	DMP, THF DMAC	5	125	---	80	2.5	---	Ext.
Diamond	1/8" X 12' S.S., 10% UC-98, 80/100 Chrom. W-HP	DMAC	3.6	200	260	70	2-20	---	Ext.
Uniroyal	1/8" OD X 2m, 10% C-98 80/100 Chrom. W-HP	THF	5	150	280	40	10	---	Ext.
PPO	1/8" OD X 2m, 10% CW-20m, 60/80 Gaspack F + 1/8" OD X 2m, 15% Apiezon L, 80/100 Gaschrom. P	THF	10	110	280	105	10	---	Ext.
BFG	1/8" X 1' + 1/8" X 2', 80/100 Poropak QS	DMAC	5	200	250	140	10	15"	Int. Pentane BF

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