

INTER-OFFICE MEMO

TENNECO CHEMICALS, INC.

TO J.W. Poarch
FROM E. Young
SUBJECT Sodium Acetate Buffer Study

AT Burlington
AT Burlington

DATE August 14, 1975

COPY TO W.C. Champion
E.W. Kanzler
File

As was requested, a bottle polymerization run was made, buffering the reaction mixture with sodium acetate.

The following formulation was used:

Bottles 1 and 2: 40 gms 2% solution of gelatin "A"
 40 gms 2% solution of gelatin "B"
 70 gms demineralized water
 0.1 gms L_2O_2
 68 gms VCM
 0.44 gms TCE
 12 gms MVAc

The gelatin solutions, water and L_2O_2 were mixed and frozen. The VCM was then added after which a chilled mixture of the MVAc and TCE were added.

Bottles 2 and 3: The same formulation as above except 0.136 gms of sodium acetate was added to the water gelatin, L₂O₂ mix prior to freezing.

All four bottles produced bottle resin.

pH

The pH of the mother liquor after polymerization was measured. The results are in Table I. The buffered system is an average of approximately 0.7 pH units higher than the unbuffered system. Even considering previous data for unbuffered "A"/"B" systems, the pH is still sufficiently higher.

Screen Analyses

Screen analysis data is recorded on Table II. The buffered system shows no significant difference in particle size distribution from the unbuffered system.

Based upon the bottle polymerization study, it appears that a buffered system will yield good resin, however, the writer would have much more confidence in the conclusion if bench scale equipment had been available for this study.

E. Young (it)
E. Young

Attachments (2)

EY/jst

TABLE I

PH OF MOTHER LIQUOR

Unbuffered:	<u>Bottle</u>	<u>pH</u>
	1	3.45 •
	2	3.64

Buffered System:	<u>Bottle</u>	<u>pH</u>
	3	4.25
	4	4.19

Previous Unbuffered Runs:	<u>pH</u>
	3.78
	3.65
	4.01
	3.95

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TABLE II
SCREEN ANALYSIS

Bottles:	1	2	3
on 35	4	6	4
on 60	18	24	18
on 80	48	38	48
on 100	64	72	64
on 140	72	80	68
on 200	98	98	96
Thru	2	2	4

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