

Date 14 November 1974

To E. J. Steck/Calvert City Subject EMULSIONS - VINYL CHLORIDE
From C. G. MacDonald/Calvert City EXPERIMENTS ON A-728 PRODUCT
☐ Take Action ☐ For Your Approval ☐ For Your Info ☐ Discuss With Me
☐ For Your Comments ☐ As Requested ☐ File ☐ Note & Return

We show below the results of laboratory and plant tests leading to reduction of residual VCM in A-728.

- A. The initial test work done at the request of Dr. Daniels (Middlesex) was reported by M. H. Stermon on 11/4/74 to E. Steck, copies attached. Essentially, two tests showed reduction of VCM from 39 ppm in the original to 10 and 3 ppm in two hours and 3 ppm and 1 ppm in four hours. The Redox ingredients (Formopon, TBHP, and iron) were at levels of 0.5% and 1 weight % respectively.

In the same group was a third test to reduce the VCM by an air flow over the Emulsion surface in the lab kettle. A reduction of 44 ppm to 8 ppm occurred in a 24-hour air blow over the surface.

- B. Two plant runs (L-27 and L-36) were made on 11/5 and 11/6 with both plant and lab tests. Essentially, the first batch (L-27) was given an extra 4-hour stripping under vacuum (normal strip - 98 ppm VC1, added 4-hour strip - 54 ppm VC1). The second batch (L-36) was treated by adding residual feed tanks of Formopon and hydrogen peroxide and otherwise treated normally. The samples tested as below:

<u>Sample No.</u>	<u>ppm VC1</u>	<u>ppm Aldehyde</u>	<u>ppm VOAc</u>
1	3	186	3245
2	3	187	3097
3	3	154	2810

Both batches were transferred to product storage tank #20 fitted with a Coppus blower exhaust outdoors, with a blower intake coming from the humidifier tanks, with agitation at 25 rpm, the tank 80% full. Test results are as follows:

	<u>ppm VC1</u>	<u>ppm Aldehyde</u>	<u>ppm VOAc</u>
A-728 UL-19CC 11/8/74	22	94	2712
(Both L-27 and L-36)	22	111	2529
(Both L-27 and L-36) 11/11/74	26	---	----

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B. (Cont'd.)

Laboratory test work was done on batch L-27 at varying levels of Redox treatments. The formulations are listed first:

Test No.	gms L-27	gm THBP	gm Formopon	mgm Iron (FAS)
1	945	1.0	1.0	25
2	913	0.5	0.5	25
3	919	0.2	0.2	25
4	877	0.5	0.5	none

The test batches were analyzed for vinyl chloride at intervals as shown below:

Test No.	Initial	After 2 Hrs.	After 4 Hrs.	After 7½ Hrs.
1	98	13	8	-no test
2	98	21	12	-no test
3	98	47	26	20
4	98	31	23	18

Under these conditions, the 0.5% level of Redox did well in a four-hour period, (i.e. Batch L-27 - 98 ppm to 8 ppm and the first set 39 ppm to 3 ppm in four hours).

The Coppus Blower exhaust test on actual tank #20 showed this method did not reduce the VCM content of the product (UL-19CC).

C. G. MacDonald
C. G. MACDONALD

CGM:s1

cc: L. Dranikoff/Piscataway
H. M. Konrad
J. D. Kramer
T. J. Medovich/South Brunswick
M. H. Stermon
H. L. Watson

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