

CONFIDENTIAL

INTER OFFICE MEMO

TENNECO CHEMICALS, INC.

DEC 7 1971

TO M. W. Williams AT Piscataway DATE December 2, 1971
FROM H. B. Carr AT Flemington COPY TO P. Gawason
SUBJECT QUALITY CONTROL AND A&E E. J. Hourihan
MONTHLY REPORT - NOVEMBER, 1971 C. W. Johnston
E. L. Kanyok
F. W. Kanzler
H. Landfield
J. McBroom
M. C. Spalding
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RESIN PLANTSRaw Materials1. Lauroyl Peroxide

- a. A sample of Cadet lauroyl peroxide was evaluated by Burlington Q.C. as an alternate source of supply. Assay results were within specification and, additionally, when the Cadet initiator was bottle polymerized in a 315 formulation, its conversion after 21 hours was in line with our current sources of supply. Arrangements were made to have Purchasing bring in 2,000 lbs. of this initiator for a plant trial monitored by Process Engineering.
- b. A shipment of lauroyl peroxide from Witco was discovered to contain some drums of benzoyl peroxide. A complete inventory check was made at Flemington and Burlington and the benzoyl peroxide drums isolated for return to the vendor. The vendor was alerted through Purchasing that immediate improvements in the control of their shipments will be required or they will be cut off as a source of supply.

2. Gelatin

A shipment of Atlantic 225B gelatin was found to contain metallic contamination, ca. 15 ferro magnetic particles per lb. This shipment was returned to the vendor and replaced. Atlantic representatives visited Burlington and assured us that this will not reoccur. Retained samples were examined for metallic contamination and a specification maximum of 5 particles per lb. will be instituted with Atlantic Gelatin.

3. VCM

A tank car of VCM from our Pasadena plant was received in Flemington and Q.C. testing indicated a higher than normal polymer content. While the polymer content was within the

COLORITE 011386

specification of less than 1,000 ppm, we still performed some additional testing to characterize the monomer. Dow testing utilizing our new bottle polymerizer resulted in similar conversion when compared to Burlington plant control VCM. The polymer from the Dow test, however, was off color (gray). Manufacturing and Quality Control will follow this monomer closely in the plant to assess its effect on fisheyes and heat stability.

Finished Resin

1. Suspension Resin Specifications

Homopolymer and copolymer specifications were reviewed with CSL, P.E. and Manufacturing and revised specifications were issued during the period. The specifications reflect Q.C.'s assessment of process capability and Marketing's definition of field requirements.

2. Dispersion Resin Specifications Review

Dispersion resin specifications will be reviewed in Burlington with Marketing, R&D and Manufacturing in a meeting tentatively set for 12/10/71. The meeting will target on establishing more realistic specifications with prime emphasis on process capability, market requirements and technical input (cost) required to achieve the agreed upon quality levels.

3. Record Resins

The revised suspension resin specifications mentioned in item 1 now include internal plant specifications for ferro magnetic count. The specification maximum will be 6 particles per lb. at which point resin will be diverted to nonrecord application silos. During the past two months, the plant has been in excellent control in this area. The specification is consistent with samples provided by Marketing of Pantasote 619 resin which had counts on two separate samples of 5 and 6 particles per lb.

General

1. Bottle Polymerizer

Burlington Q.C.'s bottle polymerizer has been put on stream. As mentioned previously, the polymerizer has been utilized to evaluate Cadet lauroyl peroxide as an alternate source supplier and in performing Dow tests on VCM. Emphasis during December will be on implementing bottle polymerizer testing for DHW-80.

2. Gardner Haze and Gloss Meter

A Capital Appropriation Request to purchase a Gardner Haze and Gloss Meter has been approved and the unit will be ordered. This equipment will upgrade significantly Q.C.'s ability to generate data on haze and gloss which are critical requirements for our flooring accounts. Based on the data, appropriate plant action will be coordinated to improve control in these areas.

3. Prominsa Support

- a. Samples of vinyl acetate monomer taken during periods of erratic particle size control at Prominsa were analyzed by Burlington Q.C. and by Celanese (U.S.A.). Data generated indicated that the VACM was a likely cause of the poor particle size control in that the monomer was uninhibited and most likely, as a result, high in acidity and polymer content. By gas chromatographic analysis, the VACM also contained high levels of crotonaldehyde and acetaldehyde which are known to cause problems with the gelatin protective colloid. A letter outlining these observations was issued to J. C. Hahn with recommendations for improved specification with Celanese Mexicana.
- b. Pablo Enriquez A. visited Burlington during the period and laboratory testing, test methods and safety practices were reviewed extensively with him. Considerable attention was devoted to the gas chromatographic method for the analysis of light and heavy end impurities in VCM.

4. Personnel

As a result of reorganization, E. L. Kanyok will be transferred to Burlington Q.C. as lab supervisor. H. R. Horton will become a junior chemist with responsibility for coordinating work requests in analytical control. M. C. Spalding is welcomed back from Nixon and will be group leader of Flemington Q.C. and A&E.

COMPOUND PLANT

1. Color Matching

Roger E. Eckman has been appointed color matcher of the Burlington Compound Plant. During December, he will undergo a training program with D. L. Franzyshe and it is expected that he will commence his new assignment on 1/1/72.

2. Raw Material Code Numbers

Compound Q.C. is continuing the assignment of pigment code numbers for the Nixon, Newton and Arlington Heights plants. An interdivisional meeting is planned to define the system by which the standard raw material code number assignments, that have been previously established, will continue.

3. Nuostab V-1571

Nuostab V-1571 was evaluated under SPA 3086 as a replacement for V-1313. The V-1571 performed well in clear applications and will be our new standard Ba/Cd stabilizer. This stabilizer is available at a lower cost and indications are that it provides improved clarity and heat stability.

4. During the period, the Compound Plant had returns from General Cable, WE-534 (CaCO₃ separation?) and Samuel Moore, 2900 Natural (rough extrusion). R&D and Q.C. are jointly testing samples and reviewing revised procedures necessary to preclude a recurrence.

5. SPA's

During November, the Compound Plant produced 3.6 M lbs. of compound of which 1.7 M lbs. were under SPA. A list of the SPA's will be prepared and a meeting will be held with R&D and Marketing to determine field acceptance such that these products may be AMP'd.

6. Personnel

Mr. E. Lynn returned to work after his recent illness. Since the Compound Plant will be going on a 7-day, 4-shift operation, the opening for a sixth technician was posted and the job will be filled.

A&E

1. Switchboard Wire Insulation Compound

Analysis of a competitive switchboard wire insulation compound revealed that the compound was composed of 63% of a PVC copolymer (R.V. 2.24), 25% TIOTM and lead stabilized (1% Pb). This analysis is part of our program to develop a competitive compound in this area.

2. General Foam Support

Two plastisol samples from General Foam and a Geon 576 sample were analyzed to determine the cause for poor heat sealability

December 2, 1971

in General Foam's product which is utilized as an adhesive for fabric coatings. The analysis indicated that the General Foam products were low in plasticizer, 22 and 25 phr vs. 36 phr, and low in relative viscosity, 2.83 and 2.68 vs. 3.10.

3. November Time Allotment

Shown below is A&E's November time allotment versus the September and October levels:

	Sept., 1971 %	Oct., 1971 %	Nov., 1971 %
CSL	29.6	35.0	22.1
P.D.	28.9	37.5	35.0
Nixon	25.2	13.5	12.0
Q.C.	12.4	1.0	11.2
P.R.	2.2	--	10.9
Safety	1.7	13.0	8.8
	100.0	100.0	100.0

4. Physical Testing

Attached is a summary prepared by A. W. Luckert of physical testing work requests completed during November.



H. B. Carr

HBC:em

Att.

PHYSICAL TESTING - NOVEMBER, 1971

Work Requests Received (10/28 to 11/29/71 incl.)

Physicals

CSL	6
Product Development (Plastisols)	3
Product Development (Rigids)	4
	<u>13</u>

Rheology 0

Work Requests Completed (10/28 to 11/29/71 incl.)

Physicals

CSL	9
Product Development (Plastisols)	2
Product Development (Rigids)	4
	<u>15</u>

Rheology 0

Physical and rheological testing for the completed work requests were required for the reasons indicated on the attached.

AWL:map
11/29/71

COLORITE 011391

PHYSICAL TESTING REPORT - NOVEMBER, 1971

<u>V.R. No.</u>	<u>Compound</u>	<u>Reason for Test</u>	<u>No. of Specimens</u>	<u>Calc. Operations</u>	<u>Total Hours</u>
<u>CSL & Product Development (Flexibles) Group</u>					
2762	Wire Insulation	Retention of elongation	30	162	5.5
2763	Wire Insulation	Product development for wire coating	18	90	5.0
2777	Wire Insulation	Blends of DOP/Straight Chain phthates can meet MIL specifications	18	162	5.5
2791	Switchboard Wire Insul.	U.L. submittal	30	150	8.0
2799	Customer (Colorite)	Customer request	48	288	10.0
2805	Wire Insulation	Secondary plasticizer evaluation	40	192	7.0
2813	Wire Insulation	U.L. submittal	20	96	4.0
2817	Wire & Jacket Insulation	Improve marginal oil aging properties	48	216	7.0
2819	Insulation Moulding	Development for Circle "F"	6	24	2.0
<u>Product Development (Plastisol) Group</u>					
2782	High Acetate Dispersion Resins	New product development	188	1048	38.5
<u>CSL Product Development (Plastisol) Group</u>					
2786	Blending Resins	Tenneco Newsletter	45	189	9.5
<u>Product Development (Rigids) Group</u>					
2806	Calendering Version	Data for marketing brochure	10	56	7.0
2807	Food Grade (Octyl-tin) Bottle	Comparison with competitive	18	84	8.0
2808	Injection Moulding	PVC/ABS to displace ABS	15	99	8.0
<u>Product Development (Nixon)</u>					
2804	Calendering Sheetting	Comparison with competitive	28	38*	5.0*

*Balance of calculations by rigids group.

AWL:map
11/29/71

COLORITE 011392