

BUSINESS CONFIDENTIAL

MONTHLY REPORT

TO: Dr. F. E. Bailey, Jr.
FROM: J. J. Brezinski
DATE: May 19, 1967

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R. N. Wheeler

689G13 EXPLORATORY VINYL RESIN SCREENING

Chloride Content of Vinyl Resins. Laboratory study of the method of definition of chloride content of vinyl resin using the Paar bomb technique is in progress. The data developed with the QYTQ-7 resin indicates that a standard deviation of about ± 0.10 percent (calculated as poly(vinyl chloride)) may be possible. The major change from the present practice at the South Charleston plant laboratory is the use of potentiometric titration. Definition of resin drying conditions which yield accurate, precise values particularly with dense low molecular weight resins (i.e. QYAC-10) are required before the maximum precision can be established. Such studies are in progress.

G. H. Potter, S. E. Engle

Trace Metal Analysis in Vinyl Resins. The presence of certain trace metals in vinyl resins can have an appreciable effect on the thermal stability and other performance characteristics. Atomic absorption is the newest of the techniques which have been studied by analytical personnel of R and D (R. L. Anderson et al) and the South Charleston plant laboratory (J. W. Kearns et al). A method suitable for definition of the lead content of vinyl resins has been written by R. L. Anderson and C. E. Matheney and circulated for comment. Presently, the South Charleston plant laboratory is conducting a study of the use of atomic absorption for definition of sodium, calcium, iron and lead content of the VAGH resin using the technique developed in R and D by J. G. Harpold.

We have gone on record favoring the installation of atomic absorption equipment at the Texas City plant laboratory. The value of the instrument was further demonstrated by the iron analyses obtained during an earlier investigation of suspension resins of variable thermal stability.

G. H. Potter, C. E. Fry, R. L. Anderson

RESEARCH AND DEVELOPMENT DEPARTMENT
CHEMICALS AND PLASTICS
UNION CARBIDE CORPORATION

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Volume Resistivity of Vinyl Resins. The test method "Determination of Volume Resistivity in a Vinyl Resin Compound" has been formalized, circulated for comment and with several minor improvements recommended by Bound Brook personnel will be published as a Confidential Test Method.

J. W. Fields, H. J. Pazinski, T. Hazen

Extraction Studies of "O" Resins - FDA Status. Initial studies conducted by Dr. W. B. Ackart indicated, unexpectedly, that the heptane extract of the QXOM-7 resin Blend 3 (0.13 percent) was higher than the limit specified by FDA for the vinyl chloride-propylene copolymers (0.10 percent). Two additional samples (Blend 1 and Blend 6) supplied to Dr. Ackart also yielded high heptane extract (0.17, 0.18 percent). These results are still somewhat surprising as lower m.w. resins (QXOH-7) yield acceptably low extractables. Additional investigation of the phenomenon is planned at Bound Brook.

W. B. Ackart, J. J. Brezinski

Medium-Sized Plastisol Additive Resins - Test Development. A careful review of the procedure used to define the rheological behavior of rigidols (plastisols containing both a dispersion resin and a plastisol additive resin) suggests that improved precision of measurement is desired and that such improvement should result with the use of a slightly higher concentration of liquid in the formulation. Studies to define the optimum liquid level for characterization of medium-sized plastisol additive resins are in progress.

K. D. Cavender, J. L. Hockersmith

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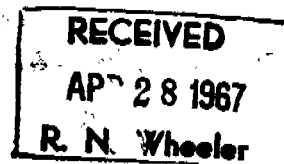
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R.D. Tarrytown
BUSINESS CONFIDENTIAL

MONTHLY REPORT

MEMORANDUM



TO: Dr. C. K. Fink
FROM: W. H. Bauer
DATE: April 25, 1967
SUBJECT: Vinyl Resin and Plasticizer Summary - Tarrytown Technical Center -
April, 1967

CALENDERING, FLOORING & RECORDS

CALENDERED FILM & SHEETING (333B50)

1. HARTE & COMPANY

A sample of plasticized vinyl sheeting currently being employed by Fisher Body Division, General Motors Corporation, is being analyzed for plasticizer type. The vinyl provides a Gardner gloss of 50 when tested according to the revised GMC fog test at 195°F. Harte & Company is searching for a commercially available plasticizer system that will provide the desired gloss reading of 76 when subjected to the GMC fog test at 195°F.

(L. G. Krauskopf)

2. PLASTIC CALENDERING CORPORATION

Samples of vinyl sheeting designed for U. S. Government plastic portfolios were tested for tear strength at the request of this customer.

(L. G. Krauskopf)

FLOORING PLASTICIZERS (333D50)

Samples of 2-ethylhexyl, acetoxyethyl phthalate containing varied "x" values ("x" referring to the number of mols of ethylene oxide per mole of plasticizer) have been subjected to performance tests in vinyl compounds. Results showed that only slight variations occurred in volatility efficiency and stain resistance as a function of the "x" value. More significant variation was noted in water extraction and solvating characteristics, as a direct function of the value of "x". However, it appears that these variations are not deleterious within the range of "x" values believed reasonably attainable in plant production of the plasticizer.

(L. G. Krauskopf)

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PLASTISOLS (343G50)

1. EFKA PLASTICS

On April 10, 1967, a visit was made to Efka Plastics, Bayonne, New Jersey, to discuss a plastisol viscosity problem encountered with a recent shipment of FLEXOL PM-4048. A 10% increase in plasticizer concentration was necessary to maintain the desired flow characteristics. After a lengthy discussion, the cause was narrowed down to possible contamination. Although the problem was reproducible in the laboratory, no contamination of the plasticizer blend, nor any other factor could be cited as the cause.

(E. B. Harris)

PLASTICIZERS GENERAL (333X50)

1. n-PHTHALATES

Most of the laboratory work in the evaluation of di-normal-alkyl phthalates is complete. Additional data analysis remains to be done before the project is complete.

(E. B. Harris)

PLASTISOLS (343G50)

1. BRABENDER PLASTISOL EVALUATION

Two days were spent trying out the SPI test procedure for evaluating plastisols on the Brabender Plasti-Corder. The method appears to show promise as a tool for characterizing plastisols, but, at present, is limited in application.

(E. B. Harris)

GENERAL (333X50)

1. COMPUTER PROGRAM

Noteworthy programs run during April were:

1. n-phthalate data analysis
2. Formulation development for Commercial Standard CS-230-60, vinyl weatherstripping
3. Customer Problem - Plastic Calendering Corporation, Farmingdale, N. Y.

(E. B. Harris)

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MOLDING & EXTRUSION (211E50)

1. MIDLAND PLASTICS

The tensile/elongation properties of waterstop compound based on FLEXOL plasticizer 426 were found to be too borderline. Formulation modifications were suggested based on FLEXOL plasticizers DOP and NODP.

(L. G. Krauskopf)

WIRE & CABLE (223C50)

1. PACKARD ELECTRIC DIVISION, GENERAL MOTORS CORPORATION

Pursuant to a technical call, we have forwarded a group of Technical Service Bulletins and Technical Service Reports concerning laboratory studies previously conducted in the applications areas of interest to Packard Electric. In addition, a laboratory sample of FLEXOL 1050 was supplied for evaluation in 105 degree type wire. It was pointed out that the odor, of the laboratory sample, is not typical of that expected from future plant runs. Our major objective is to obtain a customer appraisal of the performance characteristics of FLEXOL 1050.

(L. G. Krauskopf)

2. FLEXOL 63

A new lot of Cereclor 42 was examined in FLEXOL 63, PM-4638, for electrical properties and found to be acceptable for shipment. The deleterious effect of copper in contact with Cereclor 42 is still under study in South Charleston. The results are expected to confirm those obtained by this laboratory which showed that Cereclor 42 should not be stored in the presence of copper, particularly if the copper is at elevated temperature.

(E. B. Harris)

MOLDING & EXTRUSION (211E50)

A three day school was held at Tarrytown for seventy members of the Molding and Extrusion Department. All members of the group participated in the technical session on vinyl resins and plasticizers relating specifically to their use in this area.

(ALL)

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