

Monsanto

FROM (NAME & LOCATION): Gene Wilde - General Offices

DATE

October 16, 1967

cc

Al Morgan - JFQ
J. R. Darby - JFQ

SUBJECT

PLASTICIZER EVALUATIONS-
POLYSULFIDE POLYMERS

REFERENCE

TO

N. W. Touchette
JFQ

In our conversation about the report we got back from Essex on the work that we have done on plasticizers for polysulfide sealants, you asked for a work request on the new work that we must come up with using a new competitive product Flexchlor 60. Please add any future work onto the continuing work request which you already have. This is No. 129.

Ed Kaiser made the presentation to Essex using the data that you and Al Morgan generated. Much to our disgust, we found out that Essex have changed signals again and have now decided that Flexchlor 60 is the better chlorinated paraffin and have dropped their work with Chlorowax 500. Ed has picked up a sample, one quart, of the Flexchlor 60 from Essex. This is being sent air-mail to Al Morgan for immediate test evaluation. Essex gave Kaiser this sample with the request that we also run this material through the same type of testing procedure that we used on the other product.

Essex was very surprised to see that we had found exudation, a form of incompatibility, using Chlorowax 500 with the U.V. Westinghouse lamp. They claim that they exposed their materials to U.V. and found in no cases any exudation. They would not tell us what their test method was for the U.V. exposure. However, Ed tells me that it generated enough information and presented them with some concern to the extent that they are now again going to run the Chlorowax 500 through their testing again just to determine whether or not they have made a mistake.

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On the tests that we ran, I was somewhat surprised to hear Ed say that Essex considers volatility, fogging, water sensitivity, and U.V. exposure to be the most important tests to them. They paid little or no attention to the physicals, claiming that these were not very important for automotive windshield sealers. In addition to these tests, they also run an acidity evaluation of the plasticizer per se because they say acidity does cause them problems when the sealers are compounded by the automotive companies. The background on this is that initially when they began selling materials to the automotive companies, the automotive companies had trouble in curing rates depending upon what time of the year they were applying the sealants. According to Essex, their work was considerable in trying to stabilize or come up with a constant curing rate so that the sealant would cure in relatively the same time whether or not the time of the year was in July or in December and January.

They checked the acidity of the plasticizer per se by washing the plasticizer with water. They take water and the plasticizer and shake it in a flask and then measure the pH of the water after the washing procedure.

To check their curing cycles and rates, they take the two component system and compound it into a system and cure it under the regular curing cycle. They record the time for curing to take place. After this is done, they then take the two components and heat age them separately, not compounded into a sealant, at 130° F. for 24 hours and then compound the two components into a sealant and repeat the curing cycle again recording times to accomplish complete cure. They cannot stand much differences between the two because this then will affect the curing rate of the sealant when applied to the automobile.

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When you get the sample of Flexochlor 60, we would like you to run in both the polysulfide and in the catalyst the following tests:

- Volatility
- Acidity
- Westinghouse Fluorescent sun lamp
- Loop compatibility
- Dry heat stability
- Fogging
- Water sensitivity

As a precaution, I think I would keep some samples around just in case they change their minds once again and ask for physicals, so that we can run tensile elongation and modulus if they request it later.

For your information, it is difficult at the moment to assess whether or not we are going to be successful. The one item that will keep haunting us is the very low price of the chlorinated paraffins. Needless to say, Thiokol and Essex both like very much the Santicizer 278 performance and both will run it through a screening evaluation procedure. The cost, of course, is the critical item. They cannot pay 35¢ per pound for a plasticizer for this type of product, so they say. Santicizer 1707 has been accepted as a material they should evaluate immediately, and samples have been given to both companies for a thorough evaluation. Our next presentation will be at Sonnenborn and at PPG, and as the information develops, if it is something that will change our evaluation program, I will let you know immediately.

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Is it possible at all, Norm, to give me some
kind of a target date to shoot for when this
Flexchlor 60 work will be completed.

Gene
Gene Wilde *per*

dbw

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