

# Monsanto

FROM (NAME & LOCATION) St. Louis Organic Research

DATE : September 18, 1967  
SUBJECT : MEAD PACKAGING  
REFERENCE : Work Request 67-114  
TO : E. C. Wilde - EWILD  
B-3-N

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*Adhesives*

We have made considerable progress on this work request and wish to pass on the data we have obtained so far.

Plasticizers were incorporated into the emulsion AC-54 at the 10% level based on total weight (about 18% on solids). Plasticizers tested were:

- A. Control sample--contains unknown plasticizer, possibly B-40
- B. Benzoflex 40
- C. Santicizer 1548
- D. Santicizer 218A
- E. Santicizer 160/Aroclor 1254, 80/20
- F. Santicizer 835
- G. Santicizer 160/Santicizer 141/DCHP, 75/15/10
- H. Santicizer 160/Santicizer 8, 90/10

Wet Tack--fiber tear on kraft paper

From A to H, time to tear in seconds was 6, 8, 6, 5, 7, 10, 9, 8.

Initial Tack Development--index card test

Sample E took four seconds; A, B and F, three seconds; all others, two seconds.

Open Time--kraft paper

A, B, and D maintain adhesivity for 3 minutes; C, E, F, and H for 2.5 minutes; and G for only 2 minutes.

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#### Heat Delamination

This test was started at 140°F and the oven temperature was increased in 10°F increments. By the end of the first day's testing, the temperature was 300°F and there were still no failures. We started over again with new samples, using 300°F as the starting point. The first failure occurred at 340°F. This was Sample C, followed soon after by B and A. After one-half hour, the temperature was raised to 350°F. Samples fell in the following order: F, D, G, H, and E.

Although Sample E (Santicizer 160/Aroclor 1254) was definitely the best on heat delamination and will probably also be good on water resistance, it is not outstanding on "open time" which is presumably a very important point with Mead. Santicizer 218A looks like the choice for that property.

Time: 48 hours

C. D. Bias

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