Monsanto

FROM (NAME & LOCATION) C. D. Bias - St. Louis Organic Research

DATE : May 12, 1969

SUBJECT : United Resins/Bacon Packaging

REFERENCE : Work Request 69-21

TO : Cumming Paton
CPATO

Hot melts.

cc: M. W. Farrar Res.
J. R. Darby Res.
W. F. Waychoff WWAYC
J. K. Lilly JLILL
C. P. Farley/P. R. Graham CFAI
W. E. Schalk WSCHA
J. A. Cannon Res.
~~A. W. M. Coaker~~ Res.
R. H. Mills Res.
N. W. Touchette Res.

You have asked that we take a quick look at the samples of bacon packaging hot melt which United Resins has picked up from a competitor. You indicated that five different suppliers have analyzed the hot melt and that United now has five different results. We can now probably add another, so they will have six.

Our results confirm that it does indeed start to melt at around 180° F and smokes at 290° F. None of the formulations which we tried melted or smoked quite so low.

We prepared several different formulations, using United's suggesting, and varying it slightly. We also included some Aroclor samples for comparison. The hot melts were heated in an oven, mixed thoroughly, and poured onto a plate so that films could be drawn down for subsequent tensile testing. Formulations used and results are:

	1	2	3	4	5	6	7
Competitive hot melt	100						
Elvax 260		24	24	20	24	24	20
Be Square Wax 190		28	36	32	28	36	32
Piccolyte S-70		48	40	48			
ARoclor 5460					48	40	48
Elongation, %	355	370	150	195	495	425	445
100% Modulus, PSI	690	360	420	390	510	560	590
Tensile Strength, PSI	1040	380	420	380	1170	910	1100
Toughness	8.4	4.8	2.3	2.4	12.1	13.5	12.8

Piccolyte S-70 seems to have a detrimental effect on tensile strength in the concentrations used. Also, from observation of the hot melt, there appears to be significantly more wax present than formula #2 indicates. If Piccolyte S-70 is actually the modifier being used, then we would suggest that the competitive formula is something on the order of 40% Elvax 260, 40% wax and 20% Piccolyte S-70. It may be

DSW 587539

IN-10 REV. 11-65

that the wax used is a much lower melting one than what we used, perhaps even a paraffinic oil. If so, that would explain the excessive smoking and lower melting of the competitive product.

As agreed by telephone, we will not pursue this work any further at this time.

Chuck

C. D. Bias

jp

DSW 587540

STLCOPCB4092876