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Monsanto

PLASTICIZER APPLICATION LABORATORY

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February 21, 1980

Mr. Witold Perlinski
National Starch & Chemical Corp.
10 Finderne Avenue
Bridgewater, N. J. 08807

Dear Mr. Perlinski:

It was a pleasure talking with you on the telephone on February 20th. I appreciated the opportunity to learn of your XA-2000 study and to convey the results of our most recent work. As you requested, I have attached a copy of my December 20, 1979 letter to Mr. Pruiksma. Also, I have enclosed copies of Monsanto's "EMA," - "The Chemistry of Scripset Resins," Santicizer® 160 and Santicizer 8 bulletins.

During our conversation, I said the iron oxide we used was a dispersion. This is not correct; we used red iron oxide powder.

Below is a summation of the information we discussed on the telephone.

Open Time: 5 mil wet coating applied to 0.25 inch Masonite, laminated by touch (ca 5 kg pressure), air dried for four days, pulled 2 inch lap shears:

<u>Minutes adhesive dried prior to lamination</u>	<u>Lap Shear (pounds)</u>	<u>Lap Shear Following Re-Wet (pounds)</u>
0	280	-
15	275	-
30	212	-
45	Dry	168
60	"	233
75	"	238
90	"	263
100	"	Dry

DSW 587045

STLCOPCB4092380

Water/Filler Study

XA-2000	50	50	50	50	50	50
Calcium Chloride	-	.5				
Magnesium Sulfate			.5			
Aluminum Sulfate				.5		
Iron Oxide					.5	
Aluminum Trihydrate (Hydral 710)						.5
2 inch Lap Shear (lbs.)	280	285	320	360	320	305
96 hour Water Soak, inches penetrated from side	.25	.12	.35	.25	.25	.25

Fabric-Fabric 180° T-Peel, for 2 mil wet coats after air drying for 48 hours:

<u>Substrate</u>	<u>XA-2000</u>	<u>A</u>	<u>B</u>
Cotton Polyester	0.25	0.45	3.25
Osnaburg	1.50	0.45	3.18
Acetate	0.50	2.65	1.70
Polyester (liner)	0.25	1.35	1.60
Nylon (tricot knit)	1.50	5.00	0.50

XA-2000 prepared as previously explained -

A, EMA-31 = 12.6/Santicizer® 8 = 19.9/water = 50

Santicizer 8 and EMA-31 were placed into a heated mixing vessel and stirred together to a temperature of 70°C at which time the water was added. Mixing was continued for 2-3 hours and then allowed to sit overnight. After simple stirring the following morning, the adhesive was used.

B. EMA-31 = 12.6/Santicizer 8 = 19.9/Santicizer 160 = 12.5/water = 50

Santicizer 8, Santicizer 160, EMA-31 were placed into the heated mixing vessel and stirred until reaching a temperature of 58°C. At this point, the water was added and mixing was continued as noted in "A" above.

Mr. Perlinski, we have entered into Part II of our study and expect to have some results within two months. Hopefully in mid-April, we will be able to review your progress and discuss the additional data we expect to have acquired.

Again, it was a pleasure talking with you. If you have any questions, please do not hesitate to call me or Mr. Bruce R. Dolimount. Mr. Dolimount is our sales representative responsible for our plasticizer business with National Starch and Chemical Corporation.

JHO/gls
encl.

Yours very truly,

DSW 587046

cc: Mr. Bruce R. Dolimount
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John H. Orem
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