Monsanto

Polysulfide

FROM (NAME—LOCATION—PHONE) J. H. Orem - Galt Labs - 1730

DATE : June 22, 1978

cc:

SUBJECT : THIOKOL CHEMICAL CORP.
CUSTOMER CALL 6-14-78

REFERENCE : S. F. Hastay CR 6-14-78

TO :
J. A. Cannon
S. F. Hastay - 1940
T. G. Iversen - B3NC
C. N. Keeney
A. W. Morgan
J. T. Renshaw
P. Stordeur - 5045
J. VanOudenhove - 5040
N. W. Touchette
W. T. Vreeland - B3NC
J. S. Williams - 1940

FOR THIOKOL:	FOR MONSANTO:
Tony Castor, Marketing Mgr.	S. F. Hastay
Ted Grobelny, Marketing Program Mgr.	J. H. Orem
Mel Schulman, Mgr. Tech.-Service	

XA-1014A:

Status of the project for low durometer urethane rollers was reviewed by Messrs. Castor and Grobelny. They are rapidly approaching the decision point. Based upon their lab's work, XA-1014A is the technically superior product. One drum is required for a trial at a major customer.

Two additional one quart samples will be sent to S. F. Hastay. One is required for continued work in the low durometer urethane program; the other is for use in a new polyether urethane project.

Polysulfide Sealants For Insulated Windows:

Santicizer 278:

1. Mr. Schulman recently returned from a 2 week technical service trip to Europe. He found many of these sealants being made with Santicizer 160. No fogging concerns were raised. This S-160 use was found all over Western Europe including Italy and the south of France.

2. Based upon their laboratory evaluation results, today, Thiokol would recommend the use of chlorinated paraffins over Santicizer 278. In fact, there is a large volume being used; refer to my report on PRC.

3. Wet UV testing is conducted by immersing simulated window units (small lab size) under water, temperature is 170-180°F, and exposing to UV light. When the sealant parts, the bond at the glass-sealant interface begins to deteriorate. Thiokol will place these units under a vacuum and look for deflection. If the seal is good, the unit will deflect.

Suggested formulation for our work:

LP 2 or 32	100
Plasticizer	30
Hakuenka	30
Epoxy silane	3-2-1
Catalyst*	15

(* essentially 1:1 S-278/MnO_2 "D" grade)

The three levels of epoxy silane were suggested to permit a determination of the plasticizer's contribution to adhesion.

5. They inquired regarding the moisture pick-up of Santicizer 278 vis-a-vis CP's at 100% RH/100°F.

Chlorinated Paraffins:

1. use in the U.S is known by European sealant producers, and they are working with them in development programs.

2. outperform S-278 in MVT and wet UV. CP's are more hydrophobic.

3. are good tackifiers.

4. without calcium carbonate fillers will never cure; $CaCO_3$ is needed to absorb the HCl.

5. cannot be used to make a stable MnO_2 paste. Pastes with CP's lose activity.

6. as temperatures decrease, are more difficult to pump than is S-278. This was mentioned to Mr. Schulman by several European manufacturers of polysulfide sealants.

General:

In production of these sealants, the U.S. uses much more solvent than do European manufacturers. Europeans are reluctant to use solvents.

J. H. Orem

DSW 588384