

SD-1-3-51

MESSAGE

☐ INCOMING ☐ OUTGOING
☐ EMERGENCY ☒ REGULAR

JULY 10, 1952

SHELL CHEMICAL CORPORATION
50 WEST 50TH STREET
NEW YORK 20, NEW YORK

ATTENTION: MR. F.S. SWACKHAMER AND MR. T.G. NOCK

REUR 240. ADHESIVE VIII SAME FILLING WEIGHT ADHESIVE VI. ADHESIVE VIII
CANNOT BE CURED ROOM TEMPERATURE WITH DEAPA. WHEN CURED FOR SEVEN DAYS AT
ROOM TEMPERATURE WITH 8 PER DTA ROOM TEMPERATURE TENSILE SHEAR 2200 PSI. POT
LIFE ABOUT 1/2 HOUR. 180°F TENSILE SHEARS 1,000 PSI. ARE NOW GETTING -70 TENSILE
SHEAR.

SHELL DEVELOPMENT COMPANY - K. R. Edlund

HLP/ar

cc: Shell Chem. Corporation, N.Y., Attn: Mr. W.P. Gage
" " " " Mr. V.C. Irvine
" " " " Mr. D.C. Wells
" " " " Union Dr. D.S. Burr
" " " " S.F. Mr. S.T. Baycraft

cc: Messrs: K.R. Edlund
F.M. McMillan - D.W. Klan
H.L. Parry

LAM 028950

ABS-018156

SHELL CHEMICAL CORPORATION

**MANAGER, CHEMICAL PRODUCTS,
WESTERN DIVISION**

JULY 11, 1952

KPCN RESIN ADHESIVES

**HEAD OFFICE, RESINS & PLASTICS,
MANAGER**

SHELL DEVELOPMENT CO.	
REC'D JUL 11 1952	
TO HANDLE	
ANS'D	BY

As you know, the recent difficulty with KPCN Adhesive VI was found to be apparently due to variability in the allyl glycidyl ether concentration or characteristics, and it appears from both our own evaluations and those made by Lockheed and North American that replacement of KPCN 834 and allyl glycidyl ether with KPCN 828, using the minimum possible amount of allyl glycidyl ether, has successfully overcome the difficulties encountered by both of these users. In addition, this new compound has been found to have high-temperature characteristics equal to or better than those which have previously been obtained with the preliminary formulations of KPCN Adhesive VII. With regard to the latter, samples were not distributed as planned because the replacement of asbestos filler with a high concentration of iron oxide powder resulted in a very heavy material which would raise the cost of unit area of glue line and which would raise the weight of the glue line very excessively. In addition, it was the opinion of adhesive people at North American that the use of iron oxide would be undesirable wherever these adhesives were used in radar applications. The handling characteristics of this system were also found to be unsatisfactory. In view of these difficulties, work with KPCN Adhesive VII was temporarily postponed.

Since the new modification of KPCN Adhesive VI appears to offer considerable advantages, particularly at high temperatures and on long-time tensile loading at elevated temperatures, we should like to suggest that, as soon as possible, the new formulation be used to replace the original formula. This possibility has been discussed with our major users and it is their opinion that as long as we can assure them we have not depreciated any of the properties of the material, no extensive testing will be required by them to confirm that we can change over. However, we propose to submit samples to all of our major users as rapidly as possible. Since stocks of KPCN 828 are completely depleted, we will be unable to supply this new formulation until the Houston plant is again in production. We suggest that the change be made at that time. It is also suggested that the incorporation of dye in the curing agent and pigment in the resin portion be made at the same time, so that users can be advised of the change and be able to determine exactly which resin is new and which is old.

ABS-018157

LAM 028951

SHELL CHEMICAL CORPORATION

Head Office, Resins & Plastics

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July 10, 1952

The new adhesive using Curing Agent "A" did not appear to cure up satisfactorily under room-temperature cure conditions; however, it has been determined that substitution of diethylenetriamine for Curing Agent "A" produces a bond comparable to that obtained by room-temperature cure with our original EPON Adhesive VI. It will, therefore, be necessary to rewrite the entire data sheet incorporating all of the improved properties of the new formulation and also to recommend the use of DEA wherever room-temperature cure is necessary.

Since the laboratories have been working for a considerable period on EPON Adhesive VII and have developed a specific formulation under this name, it is recommended that the modified version of Adhesive VI should be called something other than Adhesive VII; EPON Adhesive VIII would be preferable. In our preliminary discussions with Lockheed and North American and one or two others, we have mentioned the change and indicated that, while we were calling it Adhesive VIa temporarily, this would not necessarily be the final designation for it.

In view of the very favorable properties obtained with this new formulation, it is recommended that tests be inaugurated as rapidly as possible to obtain Air Force approval under USAF Specification 1416. At the present time, it is not clear to us just what position EPON Adhesive VII should have in our adhesive program, as apparently the modified version of Adhesive VI has everything we were anticipating for VII and has certain preferable properties, particularly in handling characteristics when compared with the iron oxide-filled Adhesive VII.

JLM:GP

SC-17

cc: ED-Resins & Plastics
Shell Development Company

" " " (Dr. D. W. Riem) ~~Mr. D. W. Riem~~
" " " (Mr. W. R. Hawfuls)

LAM 028952

ABS-018153