

INTERNAL CORRESPONDENCE

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FROM MR. R. H. HONEYCUTT/DR. E. F. LITZINGER/sf DATE MARCH 10, 1980

SUBJECT DUOLITE/321

We recently reported (see attached notes) that samples of the oldest Duolite (~45 months) stored in Whse. #9 showed a marked loss in acetaldehyde filter efficiency (AFE). Since the Duolite samples were much drier than when received, we rehydrated the material in hopes of restoring AFE. Rehydration had no restorative effects.

We talked to Dr. Abrams of Diamond Shamrock about the loss in aldehyde efficiency. He said the loss of activity was more likely due to a chemical change in the resin rather than a physical change. He said that over a long period of time, residual methylol groups can undergo further condensation with the Duolite amine groups. Any condensation reaction would irreversibly reduce resin efficiency for aldehydes. Abrams suggested, nevertheless, regeneration of the resin (acid/caustic/ water followed by acetic acid treatment) to see if the resin can be reactivated. Abrams is sending us a quart of fresh resin to be tested for acetaldehyde efficiency along with regenerated Duolite samples.

We have taken samples of the youngest and highest AFE Duolite lots in storage. These samples will be tested along with the regenerated samples and the new sample sent by Diamond Shamrock. The results of these evaluations will be reported in early April.

RHH

R. H. H.

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