Diamond Alkali Organic Chemicals Division, Inc.

INTER-OFFICE CORRESPONDENCE

DACO 482

DATE: July 2, 1953

TO: Mr. J. Burton

FROM: Mr. K. Shaffert

SUBJECT: Quality of Plant 2,4,5-TCP

The quality of TCP made in the recent plant run has, as determined by the standard caustic solubility test, was below par.

A series of test runs indicate that the degree of dilution prior to the settling step was insufficient. Instructions had called for a dilution to 2400 gallons. When a test batch was diluted to 4000 gallons the product gave excellent results to a standard caustic solubility test even after 2 hours of standing. Set point of the material dried over $CaCl_2$ was 57°C.

It should be noted that the rate of production attained during the recent run was possible in the existing equipment only because of the lesser degree of dilution.

In order to check on the effect of the change in raw materials ratio, two batches were run on the pilot plant ratio (2000# T_4CB, 1000# NaOH, 400 gallons MeOH). The first of these was diluted to 2400 gallons. Initially, the standard caustic solution was perfectly clear, but it became slightly hazy after 1 hour. Set point was 56°C.

The second one will be diluted to 4000 gallons. Results are not yet available. Clear.

Conclusions and Recommendations:

1. Greater dilution is required. If new acidification equipment is purchased, it should be sized for the handling of 4000 gallons of solution per batch.

2. When it is possible to operate the autoclave again furtherruns should be made at different T_4CB: NaOH ratios, while checking quality and yields, to determine the optimum charge.

KS:jp