

E. I. DU PONT DE NEMOURS & COMPANY
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NEWARK, NEW JERSEY

NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

Progress Report

Stable Strong Benzidine Yellow, X-1961

January 1944

Period Covered:

FILE: 221.4
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NEWARK PLANT

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Progress Report

Title: Stable Strong Benzidine Yellow, K-1961

Period Covered: January 1944

SUBMITTED BY: V. Chalupski

DATE SUBMITTED: 11-20-45

APPROVED BY: V. Chalupski

DATE ISSUED:

11-29-45

INTRODUCTION

A Benzidine Yellow of improved strength and good stability was developed in the laboratory by the use of addition of hydrous TiO_2 to the toner. Altho further laboratory work on this product was required, a semi-works trial of the formula was made. This was unsuccessful, and the K-1961 process as such, was dropped; however, the same principle has since been introduced in the YT-553-D process.

SUMMARY AND CONCLUSIONS

A single semi-works batch, 40 lbs., was made on the laboratory 1073-20 process, coded K-1961. This involved an orthodox coupling of 3,3'-dichlorobenzidine hydrochloride tetroazotized and coupled with aceto-acet-anilide. The coupled yellow is heat developed after the addition of titanyl sulfate solution, which is then neutralized with sodium hydroxide and the slurry quenched. The finished pigment contains about 78% of organic toner and 22% of hydrous TiO_2 . The role of the hydrous TiO_2 is to prevent loss of strength during storage of the dry pigment, a common phenomenon exhibited by ordinary Benzidine Yellows. The semi-works batch compared with the laboratory standard was light in masstone and quite weak in tint, being only about equal to the weak standard YT-459-D.

EXPERIMENTAL DETAILS

See DSN-45-27.