

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

NEWARK PLANT
PICMENT COLOR RESEARCH REPORT
Progress Report

Silico Molybdic Acid Blue Toner, K-1962
Semi Works study

October 1943 - May 1944

Period Covered:

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SUBMITTED BY: V. Chalupski

DATE SUBMITTED: 10-4-44

APPROVED BY:

V. Chalupski

V. Chalupski Oct. 9, 1944

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INTRODUCTION:

This report discusses the semi-works study of a silico molybdic acid toner of Victoria Pure Blue BO, of particular interest because of its high strength compared with the Phospho Tungstic-Molybdic Toner BT-181-D and the Phospho Molybdic Toner BT-191-D. The laboratory standard is 25% stronger than BT-181-D, and should therefore equal the strength of a reported competitive sample at Menasha Printing Ink Company. It was found impossible to fully equal the strength of the laboratory standard in the semi-works.

It was finally recommended by Sales that no further attention be given to K-1962 because of its poor color retention on outside exposure compared with BT-181-D and BT-191-D. This inferiority would make it necessary to sell the new product at the PMA price, which is unattractive.

SUMMARY AND CONCLUSIONS:

Several closely related laboratory formulas were tried in the semi-works; small differences were obtained, but in all cases the final products were in the order of 10 to 15% weaker than the laboratory standard K-1962. Among the variables studied were changes in acidity, amount of dye, omission of Gallic Acid and omission of the Soda Ash used for final neutralization. The optimum amounts of dye and acid were not closely determined, but it is believed the formula amounts were fairly satisfactory. It appears that the omission of Gallic Acid did not injure the quality in any way. Omission of the Soda Ash also had no effect on quality, although its use may be desirable in the plant to permit the use of an iron filter press.

Attempts were made to determine the cause of weakness of semi-works products as compared to the laboratory standard. In a number of cases control samples taken from the vat were satisfactory in strength. Losses in strength during processing appeared to occur in two stages. (1) A loss of about 5% in strength during large scale filtration and washing as compared with laboratory filtration and washing. (2) A strength loss of about 10% which occurred during pulverization. Some detailed pulverization studies were made, comparing the 8 inch and 12 inch Mikropulverizers. Results of these experiments were not conclusive and no further work was done because of the Sales Department's decision to discontinue study of this pigment.

EXPERIMENTAL DETAILS:

See DSN-44-17