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NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

Final Report

Improved Processes for "Monastral" Blue Lakes,
BL-220-D, BE-221-D

Period Covered: November 1944 to December 1945

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NEWARK PLANT

Final Report

Title: Improved Processes for "Monastral" Blue Lakes, BL-220-D, BE-221-D

Period Covered: November 1944 to December 1945

SUBMITTED BY: V. Chalupski DATE SUBMITTED: 11-20-45

V. Chalupski Nov. 27, 1945

APPROVED BY: V. Chalupski DATE ISSUED: 11-29-45

INTRODUCTION

It was found in the laboratory that the substitution of Compound #8 Flakes for Bindex in the BL-220-D formula, (a 10% "Monastral" Blue Lake on China Clay) resulted in a marked increase in strength as judged by the casein brushout method. This made it possible to reduce the amount of "Monastral" Blue in a lake of standard strength. This process has been standardized in the plant. The same effect was observed in the case of BE-221-D, which is more highly extended than BL-220-D. This product has also been standardized in the plant.

SUMMARY AND CONCLUSIONS

The new laboratory process for BL-220-D, K-2066, involves the simple substitution of Compound #8 (a condensation product of formaldehyde and naphthalene sulfonic acid) for Bindex, a lignin extract. Because of better dispersion and strength, this permitted a reduction in "Monastral" Blue content from 10% to 7.8% in the lake. (see Memorandum Report dated 10-17-44, file 223.4). A semi-works trial of this process gave satisfactory quality and yield and a number of batches were, therefore, made in the plant. Quality of these plant batches made in the Abbé Lenart Mixer and in the large Blue Mixer were satisfactory. However, yield performance was very poor, losses of up to 90 lbs. occurring in 750 lb. batches. Since this was obviously a mechanical loss occurring in a single piece of equipment, the problem of obtaining better yield was put up to the plant. Rather than continue research supervision of the new process in the plant, a mix of three plant batches which represented acceptable quality was made and set up as standard. In this mix, in order to insure acceptable manufacturing cost, the yield loss was made up with added extender; this was possible because of the excellent strength of the batches in the mix. A new formula for BL-220-D, K-2150, was set up as standard. This represents a savings of about 5-1/2 cents per pound in ingredient cost and 8 cents per pound in total cost.

BE-221-D is a lake similar to BL-220-D but considerably weaker. A comparison of the composition of the two lakes follows:-

	BL-220-D	BE-221-D
Copper Phthalocyanine	7.8%	3.4%
Clay	90.2	22.
Barytes	0	73.6
Treating Agent	2.	1.

The same principle used in BL-220-D described above was, therefore tried in BE-221-D, in the semi-works. Two batches indicated that the

use of Compound #8 would permit reduction in the toner content to give an ingredient saving of about 1¢ per lb. The process was then taken to the plant where quality was entirely satisfactory, but yields were low running between 91 and 95% compared with semi-works performance of about 98%. A mix of two plant batches has been proposed as a new standard, and a new standard formula, K-2234, has been written based on recent plant production.

EXPERIMENTAL DETAILS

See Development Section Data Book DSN-45-28.