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NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT
Final Report

Barium Chromate, Y-497-D

June, 1943 - August, 1943.

Period Covered:

FILE:

210.7

DATE:

5-26-44

NJ8838

N39985

YN-44-30

210.7

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Final Report

Title: Barium Chromate, Y-497-D

Period Covered: June, 1943 - August, 1943.

SUBMITTED BY: J. R. Borst

DATE SUBMITTED: 4/26/44

APPROVED BY: *J. R. Borst*
V. Chalupski

DATE ISSUED: 5-26-44

V. Chalupski May 24, 1944

N39985.01

DUP050150308

INTRODUCTION

The previous development work on barium chromate served merely to provide Philadelphia with material for testing purposes. The most recent work was undertaken in conjunction with the Chemical Warfare Service. The purpose of this study was to determine costs and to produce material to meet C.W.S. specifications.

SUMMARY AND CONCLUSIONS

Only three batches of Y-497-D were made in the semi works in the present study. The first two batches were made on the old K-9163 formula which was set up in 1938. Material made on this formula contained 2 per cent HCl insoluble material (presumably BaSO_4) which prevented its meeting the 99 per cent BaCrO_4 specification. In addition, this formula erroneously called for a large chrome excess.

A new formula (K-1927) was written to more closely balance the precipitants but no batches were struck on it. Instead, the present Y-497-D standard (K-1930) was formulated in an endeavor to minimize the amount of sulfate present in the color. This formula uses bichromate liquor neutralized with caustic soda instead of chromate liquor, since the latter may contain up to 2.5 per cent sodium sulfate, while the specification for the former material is 0.5 per cent sodium sulfate maximum. The only semi works batch struck on this formula had the following analysis:

98.87% Ba as BaCrO_4

99.62% Cr as BaCrO_4

.037% Cl

.08 % H_2O

No further work on this code was carried out subsequent to this batch made on the K-1930 formula.

EXPERIMENTAL DETAILS

DSN - 44-4