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NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

PARA SOAP AND TURKEY RED OIL SUBSTITUTES,
BON REDS AND MAROONS

Period Covered May 8, 1951 to May 28, 1951

FILE: 122.1

DATE: 5/2/52

Serial No. KN-52-6

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Final Report

Title: PARA SOAP AND TURKEY RED OIL SUBSTITUTES,
BON REDS AND MAROONS

Period Covered: May 8, 1951 to May 28, 1951

Charge: 1100-31-36
1100-31-34

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DATE SUBMITTED: 4/10/52

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DATE ISSUED: 5/2/52

INTRODUCTION

Because of a government order allocating castor oil derivatives, it became necessary to consider replacements for para soap (N-39) and turkey red oil (N-75). This report covers the substitutes which were studied in the laboratory and plant in the BON Reds and Maroon Group.

SUMMARY AND CONCLUSIONS

Of the agents tried, none was observed to give an exact tinctorial match for the standard. In some cases, products stronger than standard were obtained, but not without changes in masstone depth and/or hue. It is conceivable that by combining some of these agents with other variables, OK straight quality might be attained. Also, an additional source of process variables is indicated, because of the pronounced effect on color exerted by some of these agents.

Omission of agent entirely, is not recommended, due to the adverse effect on texture and color.

DISCUSSION OF RESULTS

Direct substitutions of the para soap and turkey red oil were made on an equal weight basis in the standard formulas. The following agents were employed: Distoline (N-341), potassium laurate (N-358), Petronate (N-490), K wood rosin (N-239) and textile finishing oil (N-717). Tinctorial comparisons of laboratory material, as determined by varnish drier rubout, were made against the respective standards and are described as follows:

1) BON Red Dark RT-525-D (2B Acid → BON/Mn)

Petronate and textile finishing oil both yielded darker masstones, higher strength and yellowness. Rosin and potassium laurate gave lighter masstones and in the case of rosin, blueness. Material made with distoline was light in masstone, slightly weak and blue.

2) BON Maroon Dark, RT-521-D (TOB → BON/Mn)

The Distoline and potassium laurate products both were on the light side in masstone and strong in tint. Petronate supplied a slight gain in strength and yellowness. Rosin and textile finishing oil each contributed to masstone depth and weakness.

3) BON Maroon Medium RT-347-D (TOB → BON/Mn)

Petronate and potassium laurate both gave slightly darker and stronger material; in addition, a yellow tint was obtained with the Petronate. Textile finishing oil and rosin yielded material which was dark in masstone and weak. Material made with Distoline showed a loss in strength.

4) BON Maroon Light RT-533-D (PCAMSA → BON/Mn)

Textile finishing oil and rosin both provided greater masstone depth, higher strength and yellowness. Petronate material was equal in masstone depth, dull, slightly strong and yellow. Distoline and potassium laurate each yielded a slightly darker, strong and more yellow product.

Evaluations made by 24 hour ball milling revealed color values similar to those described for the varnish drier method. Overstripe bleed test revealed no deficiencies for any of the agents.

In the plant, under Quality Control supervision, several trials on the RT-525-D process were made employing textile finishing oil and Petronate in place of the para soap. Of the two batches made with textile finishing oil, one lot was light and dull in masstone, slightly weak and yellow compared to standard, the other being vvs dark, slightly weak and yellow vs standard. Both batches were manufactured with the accessory agent, OTMSA reduced from the standard amount of 3.6# to 2#. The Petronate lot was very dark, slightly strong, yellow and intense against standard. The normal 3.6# of OTMSA was used.

EXPERIMENTAL DETAILS

Lab. N.B. #1395 pages 180 - 185

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Quality Control Ledger June, 1951, RT-525-D, Lots 29306, 29230
and 29207.