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NEWARK PLANT
PIGMENT COLOR RESEARCH REPORT

Final Report

GRINDING STUDY PIGMENT SCARLET LAKE

RL-211-D

Period Covered March 1950-June 1950

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NEWARK PLANT

PIGMENT COLOR RESEARCH REPORT

Final Report

Title: GRINDING STUDY PIGMENT SCARLET LAKE RL-C11-D

Period Covered: March 1950-June 1950

Charge: A-IC-39 (1100-12-39)

SUBMITTED BY: M. Fytelson M. Fytelson DATE SUBMITTED: 8/21/50

APPROVED BY: A. A. Brizzolara DATE ISSUED: 8/21/50

INTRODUCTION

There have been introduced in the trade several competitive Pigment Scarlet Lakes which pose a potential threat to our RL-211-D from the stand point of improved dispersion and greater money value. Among these are Calco's Pigment Scarlet Z and Paul Uhlich's #9000 Red.

In an effort to obtain improved dispersion of RL-211-D in vinyl, it was suggested that the use of the draft tube might be a means to that goal. A short series of three semi-works draft tube trials with various agents was carried out, as well as a comparison of the effect of low and high speed grinding on the draft-tube treated products. As a result of the observation that the high speed pulverized products showed better dispersion and strength than the normally pulverized material, it was decided to carry out a short grinding study on a number of plant lots of RL-211-D, selected at random, as representative of current production.

SUMMARY AND CONCLUSIONS

Draft tube treatment of reslurried RL-70-P (RL-211-D presscake) with either the estereemulsion or "Flexol", di-octyl phthalate, yields products with better dispersion and strength than the normally dried control.

High-speed pulverization of the draft-tube treated products gives better dispersion and strength than the regular pulverized products.

Recirculation through the draft tube with no treating agent yields material better than the control in dispersion.

The effect of high-speed versus regular speed pulverization on normally processed RL-211-D lump is negligible.

Both Calco's Pigment Scarlet Z and Uhlich's 9000 Red are superior to RL-211-D standard in dry dispersion in vinyl and approximately equal to standard on predispersion in the Masland vehicle.

It is recommended that a plant trial of either the ester emulsion or "Flexol" treatment be carried out in the plant unit, based on the results obtained from the limited work done to date.

DISCUSSION

Normally processed plant RL-70-P was reslurried in water and treated in the semi-works draft tube 1) with Resinous Oil X-1, 2) with an emulsion of 1% TEA-D_{12} ester-5% C Cl_4, and 3) with 5% DOP with and without the application of heat. The heated products were split for pulverization studies and a direct comparsion was made with the draft tube circulated untreated material as well as normally dried presscake.

The resinous oil treatment does not improve the dispersion of RL-211-D in vinyl whereas the ester-emulsion and DOP treatments showed a marked improvement in strength and dispersion. The application of heat to the draft tube treatment promotes the positive effect on texture as measured by dispersion in vinyl.

Varying the conditions of pulverization has no apparent effect on texture of normal RL-211-D, but the effect on draft tube processed material is quite pronounced.

EXPERIMENTAL DETAILS

Draft Tube Trials

RL-70-P, lot 72302		Pulverization	
1. 2252		Reg.	Hi
- 1	Recirculation through draft tube	A	B
- 2	Recirculation + 2 1/2% Resinous Oil X-1	A	
- 3	As 2 but heated	A	B
2. 2253			
- 1	Recirculation + ester emulsion	A	
- 2	As 1 but heated	A	B
- 3	"As is" dried presscake. Control	A	
3. 2254			
- 1	Recirculation + 5% "Flexol"	A	
- 2	As 1 but heated	A	B

GRINDING STUDY

RL-211-D

Parent Lot	Split Lot	Semi-works Reg. Speed	Semi-works High Speed
16485	16549	1239	1238
16614	16615	1241	1240
16673	16674	1243	1242
16723	16724	1245	1244
16919	16949	1247	1246

COMPETITIVE PIGMENTS

C-51931	Uhlich's	#9000 Red
C-53313	Calco's	Pigment Scarlet Z

GLOSSARY

RL-211-D (Anthranilic Acid-Na Salt/Ba) Kadox
RL-70-P RL-211-D press-cake.
Resinous Oil X-1 N-552
Flexol) Carbide & Carbon Chemical Corp. Di-octyl
DOP) phthalate
TEA-C_{12} ester Triethanolamine-lauric acid ester.
C Cl_4 Carbon Tetrachloride

REFERENCES

W/R 153 C Evaluation of draft tube treated products.
W/R 229 C Evaluation of semi-works pulverised - plant RL-211-D # 14 Bldg. Sw lots 2252 - 2254 incl.