

APPROVED: SEPTEMBER 30, 1948

CHAMBERS WORKS PROCESS
FOR THE MANUFACTURE OF
"LITHOSOL" FAST VIOLET 4RNL PASTE

HISTORICAL

This is the first issue of a Chambers Works Process. The product has been developed during 1947 for the pigment trade. "Lithosol" Fast Violet 4RN Paste Crude was found to be more acceptable for this product than "Ponsol" Brilliant Violet 4RN Paste Crude.

PATENT STATUS

The patents on this product have expired. The original patent is U.S. 1,003,268 (1911) assigned to the Badische Company and U.S. 1,525,117 (1925) assigned to du Pont. See Carrollville Cases 621 and 621-A.

The milling of an anthraquinone color paste and the dispersion of this paste by means of Compound #8 (Leucanol) is not dominated by any existing patents. See AN-950 and 950 Supplement; also Carrollville Cases 715 and 715-A.

PRINCIPLE

"Lithosol" Fast Violet 4RN Paste Crude is charged to a mixer with not more than 0.1% of 30% Compound #8 and the paste is milled thoroughly using an F&B mill. The final product is packed through a 200-mesh screen.

EQUIPMENT

"Ponsol" Standards #1 - Building #181

Mixer: This may be any vertical steel or stainless steel tank, equipped with a gate type agitator which turns at the rate of 15 to 25 rpm. The agitator should not clear the sides of the vessel by more than 1 to 1-1/2 inches. The material in the vessel is discharged to an F&B mill or a centrifugal pump through a 2-inch bottom outlet.

Mill: A standard F&B mill with adjustable clearances is used for this work.

Pump: Any suitable pump, centrifugal or reciprocating.

Centrifuge: This is a Sharples high speed centrifuge rotating at 11,000 to 13,000 rpm. Heavy material separated from the paste is removed from the bowl by hand.

Screen: A 200-mesh Monel metal screen in a Universal riddle is used in conjunction with the Sharples centrifuge.

PROCEDURE

<u>Materials</u>	<u>Colors</u> <u>Lbs.</u> <u>100%</u>	<u>Lbs.</u> <u>Std.</u> <u>Equiv.</u>	<u>Other</u> <u>matls.</u> <u>lbs.</u>	<u>Pts./</u> <u>part</u> <u>product</u>
"Lithosol" Fast Violet 4RN Paste Crude	1100	10,000	-	1.0
Compound #8 100%, as a 30% solution	-	-	3	0.0003
"Lithosol" Fast Violet 4RNL Paste	-	10,000	-	1.0

Yield - 100%.

Charge the mixer with 10,000 pounds standard equivalent of "Lithosol" Fast Violet 4RNL Paste Crude. Add 10 pounds of 30% Compound #8, or less, and mix until a smooth paste is obtained. Then mill the lot with F&B mill with plates set close for 4 to 8 hours. Adjust the solids to 11.0% and send a sample to the Technical Laboratory to be tested as a "Lake". The initial report from the Technical Laboratory will aid in deciding how much more milling will be necessary.

When Technical Laboratory tests are satisfactory, pack the lot through the 200-mesh screen.

"Lithosol" Fast Violet 4RNL Paste

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Samples are taken at the beginning, middle, and end of the lot and submitted to the Technical Laboratory for "OK Ship", and for final solids. The packed material is tin-tagged and shipped to the Chambers Works Shipping House. In packing this material, care should be taken to keep the containers clean in order to avoid the necessity of repainting them.

Samples:

1. A sample of the lot is taken daily for determination of solids by the alcohol and ether method.
2. A mixer sample is taken before the lot is packed and run for float test.
3. A sample of the lot is taken daily and submitted to the Technical Laboratory for application tests.
4. Samples from the beginning, middle, and end of the packed lot are submitted for solids and "OK Ship" tests.

SPECIFICATIONS

1. "Lithosol" Fast Violet 4RN Paste Crude: A laboratory preliminary made by milling with 0.1% of 30% Compound #8 shall give a satisfactory "laking" test.

2. "Lithosol" Fast Violet 4RNL Paste: Shall be acceptable in shade and strength versus Lot 1.

Solids shall be 11.0% A&E.

HAZARDS

"Lithosol" Fast Violet 4RN is a chlorinated derivative of isodibenzanthrone. This dyestuff is known to produce dermatitis on some sensitive people and it may also be carcinogenic in its action, due to impurities which it may contain.

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PRINCIPLE:

"Lithosol" Fast Violet 4RN Paste Crude is charged to a mixer with not more than 0.1% of 30% Compound #8 and the paste is milled thoroughly using an F & B Mill.

The final product is packed through a 200 mesh screen.

EQUIPMENT: "Ponsol" Standard #1

Refer to Chambers Works Process for the manufacture of "Lithosol" Fast Violet 4RN Paste.

PROCEDURE:

Materials	Colors Lbs. 100%	Lbs. Std. Equiv.	Other Mat'ls	Pts/Pt Lbs. of Pro
"Lithosol" Fast Violet 4RN Paste Crude	1100	10,000	---	1.0
Compound #8 (100%) as a 30% Solution	--	--	3	0.0003
"Lithosol" Fast Violet 4RNL Paste	--	10,000	---	1.0

Yield - 100%

Charge the mixer with 10,000 lbs. standard equivalent of "Lithosol" Fast Violet 4RN Paste Crude. Add 10 lbs. of 30% Compound #8, or less, and mix until a smooth paste is obtained. Then mill the lot with F & B Mill with plates set close for 4 to 8 hours. Adjust the solids to 11.0% and send a sample to the Technical Laboratory to be

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1. "Lithosol" Fast Violet 4RN Paste Crude
A laboratory preliminary made by milling with 0.1% of 30% Compound #8 shall give a satisfactory "Laking" test.
2. "Lithosol" Fast Violet 4RNL Paste
 1. Shall be acceptable in shade and strength versus Lot 1.
 2. Solids shall be 11.0% A & E.

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A. J. Hayward

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