



CHEMPART® SCI 00

POLYSACCHARIDE RESIN

Balance Your Quality Equation

POLYSAC- CHARIDE RESIN

FOR ENAMEL PAINTS



CHEMICAL PARTNERS

Balance Your Quality Equation

Chempart SC100

Polysaccharide Resin

1.General Information

SC100 is polysaccharide resin that has been specially modified to become a film forming resin for preparation of water in oil emulsion

2.Properties:

- **Appearance:** clear to hazy liquid
- **Non Volatile :** minimum 50%
- **Viscosity at 25 C :** 100-150 cp
- **Density at 20C :** 1.25 ± 0.05 g/ml
- **PH:** 3-6

Theoretical values are listed actual values may vary depending on test method and coating composition

3.Benefits:

- Environmental friendly technology to produce solvent base paints meeting the VOC standards
- Significant cost saving by incorporating water in solvent base paints
- Improve yellowing resistance, dryness and gloss retention on finished product
- The final product is still solvent base and remains thinnable with aliphatic or aromatic solvents
- High stability at low and high temperature
- Improve mechanical properties and dry film appearance of paint



4.Dose:

- For direct use from 2% to 3% of the total formulation weight of the paint.
- For emulsion intermediate the dose should be recommended by paint formulator.

5.Application:

It can be used in solvent base paints based on long and medium alkyd resin

Emulsion intermediate

Material	Qty.
Alkyd	17%
White spirit	16%
SC100	7%
Water	60%
Total	100%

6.Stability test for emulsion intermediate:

•Viscosity test:

- Viscosity measured by K.U at 25°C must be in the range of 90-95 KU
- Measured by stormer or equivalent method

•Heat stability test:

- The test is done by putting a sample of Emulsion Intermediate in the oven at 60 °C for 48h.
- Check the sample, if there's any phase separation or not, if not the sample is OK.



8. Guide Formula:

Gloss White enamel formula with PSR

7. How to use:

• Emulsion intermediate: process:

- 1-Add alkyd resin
- 2-Add white spirit
- 3-Run mixer on low speed just for mixing around 3 to 5 minutes
- 4-Add SC100 and mix for 3 to 5 minutes
- 5-Increase mixer speed to 30 m/s tip speed
- 6-Start adding the water continues with the rate between 30/50 L/Min in the vortex center
- 7-After adding all the water continue mixing with the same speed for 30 minutes
- 8-Take sample to be tested

• Direct Addition of SC100: process:

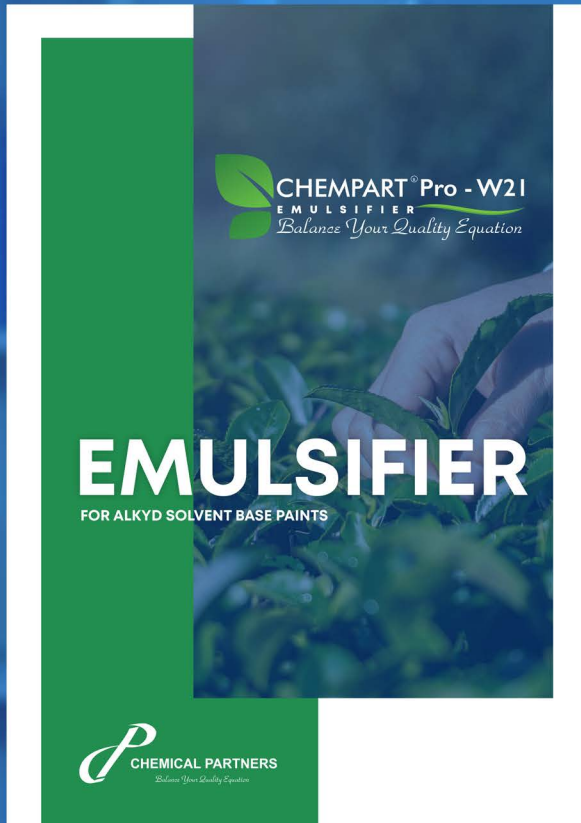
- 1- Mill base is prepared by normal process
- 2- SC100 added to the mill base
- 3- Mix for 5 minutes on medium speed
- 4-Increase mixing speed to 1100 to 1500 RPM
- 5-Start adding water slowly and continuously with addition rate 30-50 L/Min
- 6-Mix for 25 minutes on high speed

Gloss white enamel formula			
S.N	Raw Material	Control formula (%)	Formula by SC100 (%)
1	Chempart 20/55 LRSW (70%)	50.00	39.10
2	White Spirit D40	19.70	7.00
3	Nuosperse 757	0.30	0.30
4	Bentone SD-2	0.10	0.10
5	BYK – 052 N	0.40	0.40
6	Titanium Dioxide	27.30	27.10
7	Ca 10%	1.00	0.60
8	Co 6%	0.40	0.20
9	Zr 18%	0.80	0.50
10	Antiskin	0.30	0.30
11	Chempart SCM 50 (E.I)		24.70
Total		100.00	100.00

- A) Fulfilling VOC regulations of REACH 2007/2010.
B) Reduce the cost around 18%


Results		
	Control formula	by SC100
VOC	387 g/l	272 g/l
Cost Saving (by Volume)	18%	
Cost Saving (by Weight)	6.10%	
Viscosity (KU)	78	82
Drying Time (hours)	3	2.5
Tack Free Time (hours)	5.5	5
Gloss (60/20)	91/84	91/83
Yellowness ASTM 1925	8.177	6.540
Whiteness CIF Genz 82	69.246	74.121
Whiteness Hunter 60	61.667	84.438
Hiding/Contrast Ratio	97.120	97.913

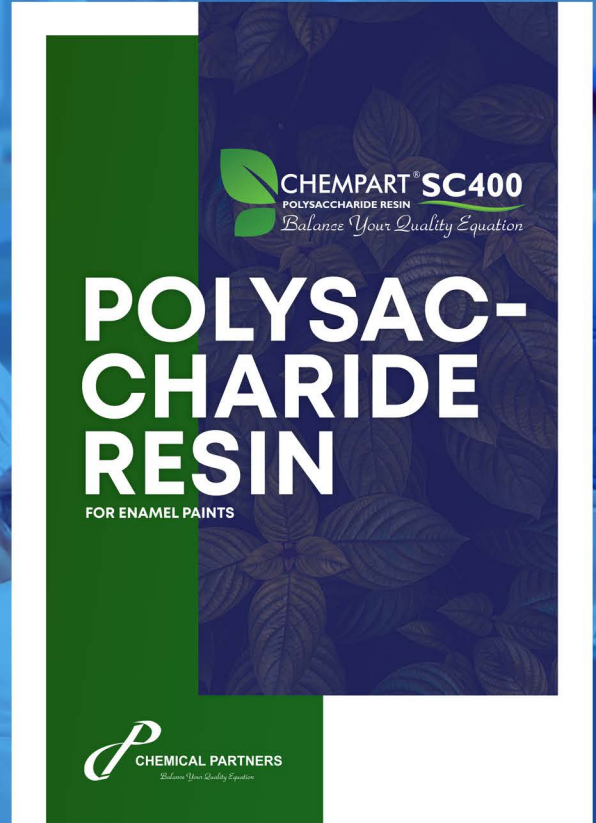
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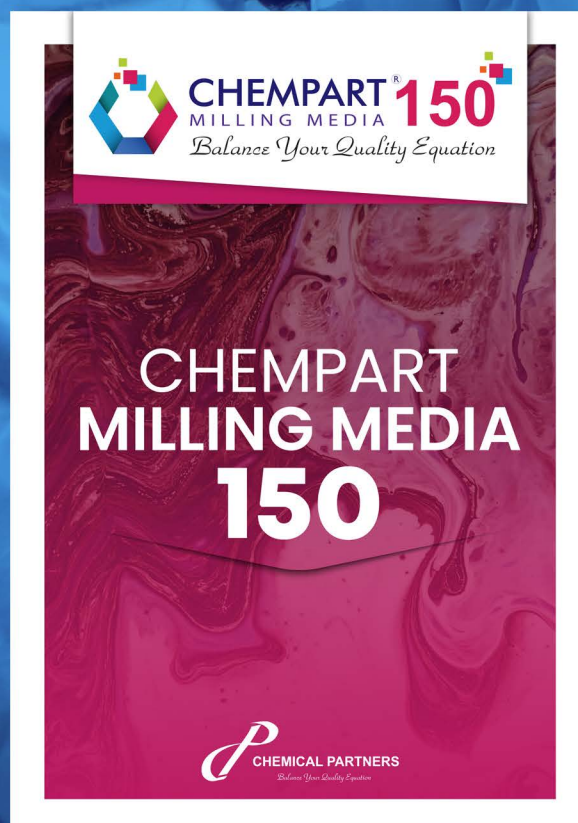
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