

 **CHEMPART® SCI 00**
POLYSACCHARIDE RESIN
Balance Your Quality Equation



CHEMICAL PARTNERS

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Chemical Partners Industry (CPI)

has been incorporated in Egypt at 10th of Ramadan city as one of the largest Alkyd Resin plant over an area of 25000 square meters, with an installed capacity of 50,000 tons/year.

Chemical Partners Industry (CPI)

serves the customers through a wide network of agents and distributors in the Middle East, Africa, Europe, and some Asian countries



Chempart SC100 is Polysaccharide Resin that uniquely processed film forming resin. It is a coactive resin which will form a hydrogen bond with alkyd and stabilize water molecules with the enamel coating. Surrounds the dispersed water droplets impeding their attraction with each other, promoting steric stabilization of the water-in-oil emulsion. During water evaporation, (Chempart SC100) prevents voids and pinholes from forming in the film, and works to maintain the film's durability and performance.

It's technology

- 1- it's a new environmental-friendly technology to produce enamel paints which meet VOC requirement in REACH 2010
- 2- It's a system of incorporating water into enamel paints up to 35% in a process called Alkyd Emulsification.
- 3- This system can reduce the total cost of enamel paints up to 20 %
- 4- It's a blend of experience and knowledge designed to meet the market needs.
- 5- The final product is still solvent base as it diluted with aliphatic and aromatic solvents.
- 6- Chemical Partners experts can help you in formulating and implementing the technology to give you the maximum benefits in cost savings and performance.



Alkyd Resin+ White Spirit + Defoamer +

CHEMPART[®] SCI100
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Emulsification at high Shear →

Emulsion Intermediate
Chempart SCM 150

Production method

- 1- **Emulsion Intermediate:**
Alkyd Resin - Solvent - Water
Defoaming agent - Chempart SC100
- 2- **Mill Base**
- Pigment - Alkyd Resin
- Solvent + Bentone - Dispersing agent
- 3- **Letdown**
- Millbase + Emulsion Intermediate

Guide formula for Emulsion Intermediate and Stability tests

| # | Raw Materials | Function | Quantity |
|---|--------------------------|-----------------|----------|
| 1 | Chempart 20/55 LRSC 70 % | Resin | 17 % |
| 2 | White Spirit | Solvent | 16 % |
| 3 | Defoaming agent | Defoaming agent | 0.5 % |
| 4 | Chempart SC100 | Polysaccharide | 7 % |
| 5 | Water | Solvent | 59.5 % |
| 6 | Total | | 100 % |

- Required definite mixer speed < 20 M/S (1500-2000 rpm).
- Definite rate of water addition (60-100 L/M).
- Mixing time for 35 min.



Stability tests:

1 - Heat Stability Test

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

2- 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



The Formula of white enamel as the following:

| # | Raw Materials | Function | Quantity | Results |
|--|-------------------------|-----------------------------|----------|--|
| 1 | Chempart 20/55 LRSC 70% | Resin | 35.5% | <ul style="list-style-type: none"> - Gloss: 90.1(60 °C) - Density: 0.98 g/l - Viscosity: 480 CP - Drying time: Touch:1.5h Through Drying :3h |
| 2 | White Spirit | Solvent | 4.24% | |
| 3 | Ca 10% | Driers | 0.53% | |
| 4 | Bentone SD-1 | Rheological Additives | 0.25% | |
| 5 | Dispersing agent | Dispersing agent | 0.25% | |
| 6 | TiO2 | Pigment | 20% | |
| Mix well for 15 Min. to give finest 30 micron then add the following ingredient : | | | | |
| 7 | Chempart SCM 150 | Emulsion Intermediate (E.I) | 38.07% | |
| Mix well for 15 Min. to give finest 30 micron then add the following ingredient : | | | | |
| 8 | Co 10% | Driers | 0.3% | |
| 9 | Zr 12% | Driers | 0.45% | |
| 10 | Exkin 2 | Anti skining agent | 0.4% | |
| 11 | Tint Ayd AL 234 | Toner | 0.01% | |
| | Total | | 100.0% | |





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