

# CRAYVALLAC® PC

Micronised hydrogenated castor oil derivative surface additive for powder coatings

## Castor derivative

### TYPICAL CHARACTERISTICS

Nature	<b>Castor derivatives</b>
Appearance	<b>Off-white micronized powder</b>
Solid Content (%)	<b>100</b>
Active Content (%)	<b>100</b>
Specific gravity	<b>1.1</b>
Particle size distribution	<b>DV.2 min: 4 µm / DV.8 max: 20 µm</b>

### DESCRIPTION

CRAYVALLAC® PC is a micronised hydrogenated castor oil derivative surface enhancing additive for powder coatings based on PRIMID, hybrid and TGIC technologies. CRAYVALLAC® PC is easily incorporated using conventional pre-mixing techniques prior to extrusion. The use of CRAYVALLAC® PC leads to a substantial improvement in the appearance of the final cured powder coating. This improvement is due to CRAYVALLAC® PC enhancing the flow, levelling and degassing processes during cure. This is the result of CRAYVALLAC® PC greatly reducing the melt viscosity during this critical levelling stage in the cure cycle. This viscosity reduction also enhances the performance of other additives such as acrylic levelling agents and the degassing agent benzoin. CRAYVALLAC® PC works well in both clear and pigmented powder coating systems based on PRIMID, Hybrid and TGIC technologies.

### RECOMMENDED ADDITION LEVEL

0.5-2.0% under simple dispersion and blending with other powder components

### STANDARD PACKAGING

Other packaging may be available upon request

- 20 Kg Bag

### HANDLING & STORAGE

It should be stored in the original containers in a dry place at temperatures between 5°C (41°F) and 30°C (86°F). Avoid exposure to direct sunlight or frost. In these conditions, this product should be used within 48 months from production.

### PROCESSING INSTRUCTIONS

CRAYVALLAC® PC works well in both clear and pigmented powder coating systems based on PRIMID, Hybrid and TGIC technologies.

### HEALTH AND ENVIRONMENTAL DATA

For safe handling please refer to the Safety Data Sheet. For more information about health and environmental data, please contact us.

### MARKET

#### Coatings & Inks

- Industrial Coating

### KEY BENEFITS

#### FORMULATION

- **Compatibility**
- **Ready to use**
- **Easy handling**



#### APPLICATION

- **Air release**



#### FILM PROPERTIES

- **Defects reduction**
- **Gloss**
- **Levelling**



- **APEO free** Yes
- **Bacteria resistance** Yes
- **Bio content (%)** 100
- **Heavy metal free** Yes
- **Solvent-free** Yes

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### PROCESSING INSTRUCTIONS

CRAYVALLAC® ANTISETTLE CVP is best incorporated during the pigment dispersion stage using a high-speed disperser operating at no greater than 55°C (131°F). In order to obtain the maximum performance from CRAYVALLAC® ANTISETTLE CVP, the dispersion process should be maintained for a period of 20 – 40 minutes at a temperature of 30 – 55°C (86 – 131°F). The use of high-speed dispersers is ideal in that they generate both the necessary shear and temperature required for full dispersion and activation. The activation process constitutes the conversion of the CRAYVALLAC® ANTISETTLE CVP particles to an interacting network of fiber like particles. It is this network that gives rise to the final coating's shear thinning rheology. This shear-thinning characteristic provides a very high viscosity under the low shear rates associated with sedimentation, and a low viscosity at the much higher application shear rates. The net result is excellent control of sedimentation combined with ease of application. Immediately following application, where low shear conditions again predominate, the coating's viscosity undergoes a time dependent recovery as the network reestablishes itself. This time dependence is known as thixotropy and enables the final coating to attain very good levelling. Activation at temperatures less than 30°C (86°F), or greater than 55°C (131°F), or for too short a time will result in the formation of an inefficient interacting network. Too low a temperature and too short a time results in under-activation, while too high a temperature results dissolving of the fibrous network. Partial dissolving of CRAYVALLAC® ANTISETTLE CVP during coating manufacture manifests itself on cooling in the form of seeding. This is the result of dissolved material crystallizing out in an uncontrolled manner. As with all rheology modifiers based on hydrogenated castor oil, coatings prepared using CRAYVALLAC® ANTISETTLE CVP may sometimes develop an excessively high structure, or falsebody. This results when the hot coating is allowed to cool in the absence of stirring. This effect is minimized by cooling the coating with stirring to less than 40°C (104°F), or more preferably to less than 30°C (86°F), prior to discharge. Fortunately, this false-body phenomenon is a temporary effect and can be removed by the application of shear. Due to the potential for false-body to occur, care must be taken to ensure that process and quality control tests are not carried out on affected samples. This is best achieved by preconditioning all samples by mechanical stirring for several minutes prior to testing.

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### VISCOSITY CONTRIBUTION

Low Shear contribution

