

CRAYVALLAC[®] SF

Amide-Modified Hydrogenated Castor Oil Rheology Modifier

Product Benefits

CRAYVALLAC[®] SF is a proprietary amide-modified hydrogenated castor oil rheology modifier in micronised powder form with an enhanced tolerance to temperature and solvent strength.

CRAYVALLAC[®] SF is suited to coating systems based on a variety of different solvent systems e.g. aromatic hydrocarbons and aromatic hydrocarbon/alcohol blends. Compared to other hydrogenated castor oil based rheology modifiers, CRAYVALLAC[®] SF is more tolerant to strong solvents and high processing temperatures due to the presence of its unique performance enhancing amide. This also results in a lowered risk of problems such as seeding and false-body.

The following table gives processing temperature guidelines for some solvent systems commonly used in coatings:

Aromatic hydrocarbons 30 - 65°C (86 - 149°F)

Aromatic hydrocarbon/ 30 - 65°C (86 - 149°F)

Alcohol blends

Although CRAYVALLAC[®] SF may also be used in aromatic hydrocarbons blended with glycol ethers or esters, extra care must be taken to avoid using too high a temperature.

CRAYVALLAC[®] SF is best incorporated during the pigment dispersion stage using a high-speed disperser operating at a temperature within the recommended guidelines. In order to obtain the maximum performance from CRAYVALLAC[®] SF, the dispersion process should be maintained for a period of 20 – 40 minutes at the recommended temperature.

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[®] SF particles to an interacting network of fibre-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 re-establishes itself. This time dependence is known as thixotropy and enables the final coating to attain very good levelling. Activation at too low a temperature, or too high a temperature, or for too short a time, will result in the formation of an inefficient interacting network. The use of too high a temperature will result in the network dissolving. Partial dissolving of CRAYVALLAC[®] SF during coating manufacture manifests itself on cooling in the form of seeding. This is when dissolved material crystallises out in an uncontrolled manner.

As with all rheology modifiers based on hydrogenated castor oil, coatings prepared using CRAYVALLAC[®] SF may sometimes develop an excessively high structure, or false-body.

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Performance Benefits	<ul style="list-style-type: none">• 100% active• Imparts shear thinning rheology with thixotropic viscosity recovery• Tolerant to high temperatures• Tolerant of strong solvents• Very good sag resistance• Good anti-settle properties• Good recoatability	
Recommendations for Use	Anti-Settle and Sag Resistance	0.2 – 1.5%
Sales Specifications	Particle size distribution: (Malvern Mastersizer S laser particle size analyser) (CR 005)	DV. 2 min. 4 µm DV. 8 max. 20 µm
	DSC Melting Point (CR 004)	130-140°C (266-284°F)
Other Properties	Density at 25°C (77°F), g/cm ³ (CR006)	1.02
	Bulk density, g/cm ³ (CR 016)	0.4-0.6
	Appearance	Off White Powder

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Product Safety

Before handling the materials listed in this bulletin, read and understand the product MSDS (Material Safety Data Sheet) for additional information on personal protective equipment and for safety, health and environmental information. For environmental, safety and toxicological information, contact our Customer Service Department at 1-866-837-5532 to find an MSDS, or visit our web site: www.arkemacoatingresins.com

No chemical should be used as or in a food, drug, medical device, or cosmetic, or in a product or process in which it may contact a food, drug, medical device, or cosmetic until the user has determined the suitability and legality of the use. Since government regulations and use conditions are subject to change, it is the user's responsibility to determine that this information is appropriate and suitable under current, applicable laws and regulations.

Arkema Coating Resins requests that the customer read, understand, and comply with the information contained in this publication and the current MSDS(s). The customer should furnish the information in this publication to its employees, contractors, and customers, or any other users of the product(s), and request that they do the same.

Storage and Handling

Follow procedures typically recommended for polymer dispersions. Use corrosion-resistant storage tanks and piping. Air-operated diaphragm pumps are preferred. Avoid temperature extremes. Do not freeze; store between 5° - 30°C. Under these conditions the product may be stored for up to 4 years from production date.



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