

RHEOBYK-7590

Organic Gelling Agent for Oil Phases in Cosmetic Applications

Product Data

INCI Name

Trihydroxystearin

Product Description

RHEOBYK-7590 is a hydrogenated castor oil derivative for use in cosmetic and personal care applications as a rheological additive for the oil phase. RHEOBYK-7590 provides excellent thickening, package stability, pigment suspension and a high degree of thixotropy. The efficiency of RHEOBYK-7590 is sensitive to temperature and system polarity.

RHEOBYK-7590 is vegan and certified according to the natural and organic standards of ECOCERT.

Typical Properties

The values indicated in this data sheet are typical and do not constitute specification limits.

Form:	Free flowing powder
Color:	White
Density (20°C):	1.02 g/cm ³
Specific Density:	0.9 g/cm ³
Water Content:	max. 1 %
Particle Size:	100% < 48 µm
Dry Sieve Passing 325 mesh:	min. 99 %
Melting Range DSC:	84.0 - 88.0 °C
Recommended Incorporation Temperature:	45 – 65 °C

Recommended Use

RHEOBYK-7590 is recommended for aliphatic or low polar to medium polar oil or solvent systems.

Suitable solvents: Vegetable Oil, Mineral Oil, Silicone Oil

Application areas:

Personal Care:	Creams and Lotions Sunscreen Products Hair Care Products Antiperspirant deodorant sticks
Color Cosmetics:	Foundations Lipsticks Lipglosses Pressed Powders

Recommended Levels

RHEOBYK-7590 can be used in a loading range from 1 % to 7 % by weight of total formulation, depending on the rheological properties desired.

These levels are suggested as a guideline; optimal levels can be determined by laboratory tests.

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Incorporation and Processing Instructions

RHEOBYK-7590 should be added to the oil phase or at the beginning of the dispersion process, preferably by pre-mixing 5-10 minutes with the solvent or oil.

For optimal performance, RHEOBYK-7590 should be fully activated by heating the batch to a temperature between 45 °C and 65 °C and applying high shear mixing for 20 minutes while maintaining the temperature. Within this range, the appropriate temperature to activate RHEOBYK-7590 depends on the solvent used - less polar solvents need higher temperature for the activation.

RHEOBYK-7590 is sensitive to temperature. Seeding (building of soft gel-like particles) may occur if the activation temperature is not high enough or if the maximum activation temperature of 65°C is exceeded. If this happens, the lot may be reworked by bringing the batch up to activation temperature (55 – 65 °C) and applying intensive high shear.

Always avoid temperature-shocking of systems containing RHEOBYK-7590, for example quickly adding cold oils in let-downs or vehicles to a hot batch or packing hot batches in small containers and storing them in a cold warehouse.

Batches should always be agitated during cool-down to avoid the formation of "false body". "False body" is a structure that is easily broken by shearing and will not recover.

Special Notes

RHEOBYK-7590 can also be used in the oil phase of an emulsion to promote emulsion stability. RHEOBYK-7590 is also a skin conditioning agent and an occlusive or water repellent. In applications where high-temperature resistance is needed, CLAYTONE or GARAMITE rheology additives are recommended.

Storage and Transportation

RHEOBYK-7590 should be transported and stored dry in unopened, original packaging at temperature between 0°C and 30°C (32°F and 86°F).

Caution: Seeding may also occur if the finished product is stored in a manner that allows the product to reach 55°C during storage. This is a distinct possibility in hot climates.

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