

THIXCIN® R PC

Rheological Additive

INCI NAME:

Trihydroxystearin

APPLICATION:

- Face and Body Care
- Eye Pencils & Sticks
- Eye Shadow
- Mascara
- Lip Products
- Mascara
- Foundations
- Concealers
- Sun Care
- Hair Care
- Nail Polish

USE LEVEL:

0.2% to 10%

SUSTAINABILITY CREDENTIALS:

- COSMOS approved
- Natrue certified
- 100% naturally derived
- Vegan

Unique chemistry,
sustainable solutions



THIXCIN® R PC

The purely natural, multifunctional organic thickener

Natural / Clean Beauty continues to be the trend for consumers. While consumers are looking for great performing and multi-purpose skincare products, they prefer less ingredients, which is often a challenge for formulators to find the right ingredients.

THIXCIN® R PC is globally approved, 100% naturally derived and vegan. It is a derivative of castor oil that imparts a high degree of thixotropic thickening in cosmetics mineral, vegetable and silicone oils, as well as low-polarity aliphatic solvents.

THIXCIN® R PC provides thixotropy and imparts good pay-off in stick products; improves product stability when used in the oil phase of emulsions; and can be used as a binder in pressed powder formulations. It creates a range of interesting textures from lightly gelled oils to sorbets and sticks.

Features and Benefits

- **100% Natural, COSMOS and Natrue approved**
- **Builds viscosity in oil-based products and emulsions**
- **Acts as a binder in pressed powders**
- **Provides structure and stability to solid products**

Incorporation Guidelines

General

— Add to the emulsion's oil phase or, in non-emulsion-based formulations, at the beginning of the dispersion process, preferably by pre-mixing the solvent or oil for 5 minutes before other components are added

— High shear and proper temperature (the incorporation temperature depends on the polarity of the oil phase and the molecular weight of the ingredients in the oil phase) to develop full properties

— Hold activation temperature with high shear mixing for a minimum of 20 minutes, preferably 30 minutes

In liquids and oils

— Stirring while cooling down (No Stirring while cooling down = False body effect)

— Use level are 0.2 to 10% by weight of the system (or oil phase in emulsions)

In powders

— Can be used as a binder in dry powder formulations

— Use level (pressed powders, tablets, granules): 0.5 to 2%

In solid products

— Heat above melting point: >80-85°C (behaves more like a wax)

— Formulation becomes thick/stiff, but applies like a liquid

In surfactants as stabilizing / thickening agent

— Heat water and surfactants to 90°C, add THIXCIN® R PC slowly with gentle propeller stirring

— Ensure it is fully melted. Incorporation may be improved by adding with homogenization, but the product will need to be produced under vacuum

— Continue mixing at 90°C for 20-30 minutes to ensure proper incorporation

— Use level: 0.5 to 3%



*THIXCIN® R PC is a raw material approved by Ecocert Greenlife in accordance with the COSMOS Standard

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NOTE:

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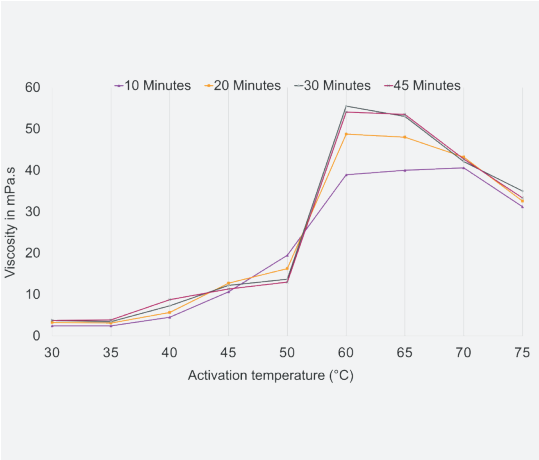
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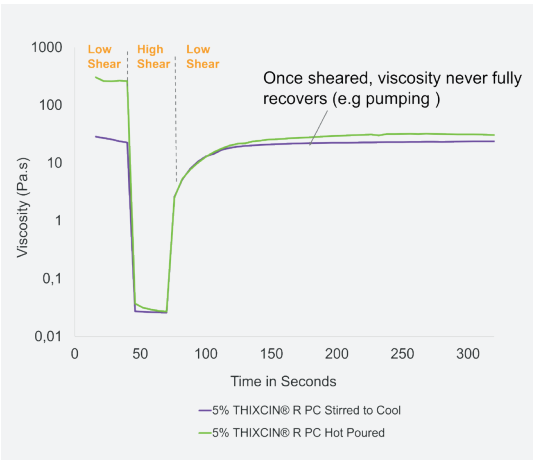
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Graphic 1. THIXCIN® R PC Activation Temperature and Time



Graphic 1 shows the activation temperature and time of THIXCIN® R PC. A viscosity maximum was seen at an activation temperature of 60°C, mixed for 30 minutes with high shear.

Graphic 2. Time Dependent Recovery Curve



Graphic 2 shows the time dependent recovery curve of THIXCIN® R PC with and without stirring on cooling at 55°C. In the graph, it shows that a higher viscosity is achieved when packed off hot (no stirring on cooling) in the first low shear area, which is never fully recovered after high shear (false body effect).

Formulation



Happy Baby Balm

With an in vitro SPF of 50+, this natural, water-free all-in-one baby balm is perfect for the sun, and can be used wherever a little protection is needed. THIXCIN® R PC acts as an oil thickener, providing structure to the formula and a soft touch on baby’s skin.



Solid to Milk Cleansing Stick

Swipe this natural cleansing stick on your face and rinse it off with water. The formula will transform into a milky lotion. THIXCIN® R PC acts as an emollient and texturizer, allowing an easy application with a melting sensation.

Phase A	
Palmerest 3595 (Caprylic/Capric Triglyceride) ¹	47.50
FANCOR® MEADOWFOAM SEED OIL (Limnanthes Alba (Meadowfoam) Seed Oil) ²	10.00
Prunus Amygdalus Dulcis (Sweet Almond) Oil	10.00
MEADOWESTOLIDE® (Meadowfoam Estolide) ²	1.00
Vitamin E (Tocopherol)	0.50
PHASE B	
Zinc Oxide (non-nano)	25.00
THIXCIN® R PC (Trihydroxystearin) ²	6.00

1 KLK Oleo 2 Elementis

Procedure:

1. Combine Phase A ingredients and mix well.
2. Add Phase B to A and homogenize for several minutes until perfectly dispersed.
3. Add Phase C and homogenize for 15-20 Minutes. Ensure to keep batch temperature below 25°C during homogenization process by using a cooling unit.
4. Full viscosity will build after 24 hours.

Phase A	
Palmerest 3595 (Caprylic/Capric Triglyceride) ¹	37.00
FANCOR® MEADOWFOAM SEED OIL (Limnanthes Alba (Meadowfoam) Seed Oil) ²	10.00
Tegosoft PC 41 (Polyglyceryl-4 Caprate) ³	10.00
Glycine Soja (Soy Bean) Oil	10.00
Lameform TGI (Polyglyceryl-3 Diisostearate) ⁴	5.00
PHASE B	
Lanette 18 (Stearyl Alcohol) ⁴	16.00
THIXCIN® R PC (Trihydroxystearin) ²	12.00

1 KLK Oleo 2 Elementis 3 Evonik 4 BASF

Procedure:

1. Combine Phase A ingredients and mix.
2. Add Phase B and heat to 85°C and mix.
3. Pour into sticks.