

## PEG-free refatting agent for hair- and skin cleansing products

### INTENDED USE

Rheological additive

PEG-free emollient

### BENEFITS AT A GLANCE

- skin smoothing properties
- excellent thickening properties
- nitrogen-free
- based on polyglycerol

### INCI (PCPC NAME)

Polyglyceryl-3 Caprate

### CHEMICAL AND PHYSICAL PROPERTIES (NOT PART OF SPECIFICATIONS)

HLB value	approx. 10
Solidification point	app. -3 °C

#### Solubility (10%):

Water	dispersable
Aqueous surfactant solutions (e.g. laureth sulphate, cocamidopropyl betaine, laureth sulfosuccinate)	clearly soluble, builds highly viscous gels
Ethanol	soluble

### PROPERTIES

TEGOSOFT® PC 31 provides excellent re-fatting properties and gives a pleasant skin feel.

TEGOSOFT® PC 31 is a surfactant with skin smoothing properties. With laser-profilometry measurement this effect can be clearly detected (test report by the institute of skin physiology, Dr. K. Schrader).

When used in shampoos or shower gels TEGOSOFT® PC 31 will increase viscosity. The efficacy profile is similar to that of coco fatty acid ethanol amides but without their disadvantages.

TEGOSOFT® PC 31 is based on polyglycerol.

TEGOSOFT® PC 31 is a PEG-free surfactant. It is nitrogen-free and therefore does not contribute to nitrosamine formation.

TEGOSOFT® PC 31 is not skin irritating.

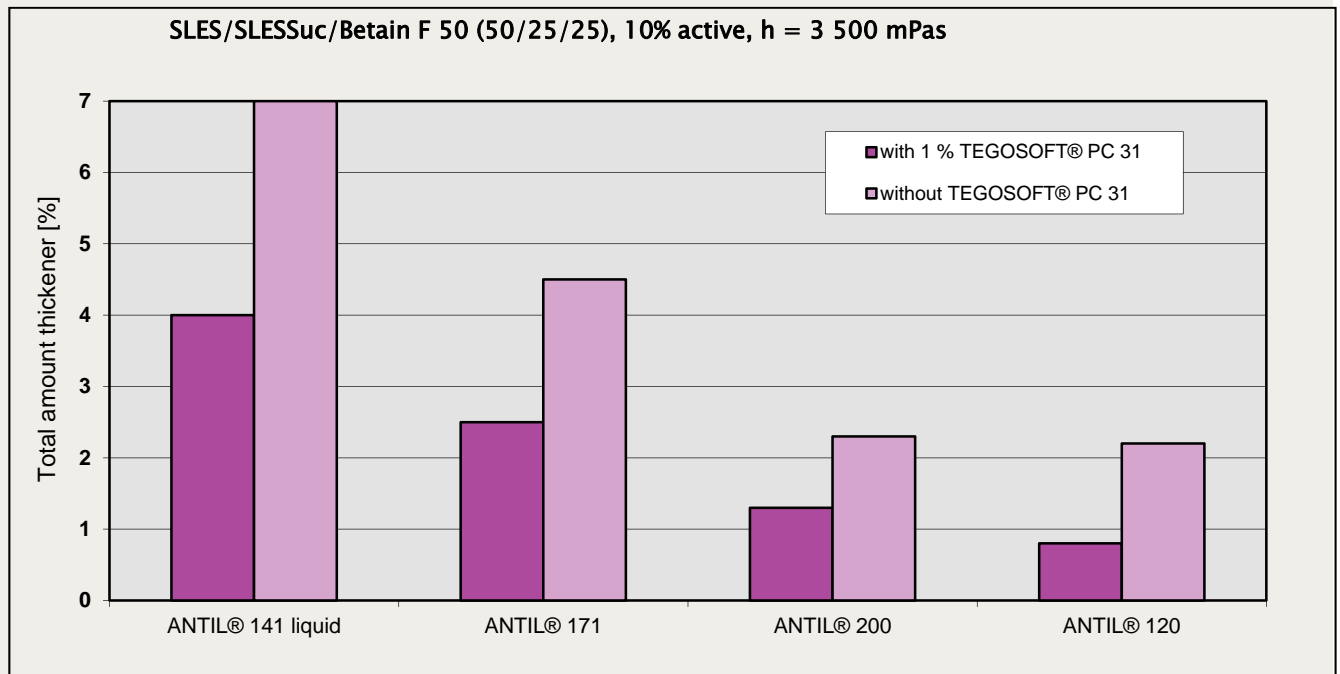
### APPLICATION

TEGOSOFT® PC 31 is used as a PEG-free refatting agent especially in:

- body washes
- liquid soaps
- bath oils

TEGOSOFT® PC 31 supports synergistically the viscosifying effect of thickening agents. Fig. 1 shows the amount of thickening agent needed to achieve

3500 mPas in surfactant solution. Here the thickening property of TEGOSOFT® PC 31 is obvious



ANTIL® 141 liquid

Propylene Glycol; PEG-55 Propylene Glycol Oleate

ANTIL® 171

PEG-18 Glyceryl Oleate/Cocoate

ANTIL® 200

PEG-200 Hydrogenated Glyceryl Palmate; PEG-7 Glyceryl Cocoate

ANTIL® 120 Plus

PEG-120 Methyl Glucose Dioleate

## STORAGE

The product may get turbid or even inhomogeneous during storage, which does not indicate a loss in quality. In this case heat the product to 50 - 60°C and homogenize to obtain a clear and homogeneous product again.

## HAZARDOUS GOODS CLASSIFICATION

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in case of accidents and fires
- toxicity and ecological effects

is given in our material safety data sheets.

## GUIDELINE FORMULATIONS

### Moisturizing Body Wash VK 16/1

#### Phase A

Water	ad 100.0%
TEGO® Carbomer 341 ER (Acrylates/C10-30 Alkyl Acrylates Crosspolymer)	0.3%
NaOH, 10%	0.3%

#### Phase B

Sodium Laureth Sulfate	38.0%
TEGOSOFT® PC 31	0.3%
REWOTERIC® AM C (Sodium Cocoamphoacetate)	25.0%
REWOPOL® SB CS 50 B (Disodium PEG-5 Laurylcitrate Sulfosuccinate; Sodium Laureth Sulfate)	4.0%
ANTIL® HS 60 (Cocamidopropyl Betaine; Glyceryl Laurate)	2.0%
Glycerin	3.0%

#### Phase C

Myristic Acid	5.3%
TEGOSOFT® TN (C 12-15 Alkyl Benzoate)	1.8%
Sunflower Oil	1.8%
Preservative, Perfume	q.s.
Lactic Acid	ad pH 6

#### Preparation:

Disperse the TEGO® Carbomer 341 ER in warm water (30 °C). Mix for 30 min. Neutralize with NaOH.

Prepare phases B and C separately. Add A to B while stirring. Heat phases A/B and C to 65 °C separately and mix C into A/B. Cool down while stirring gently.

Adjust pH to approx. 6.

### Facial Cleansing Foam FM 12036

REWOPOL® SB CS 50 B (Disodium PEG-5 Laurylcitrate Sulfosuccinate; Sodium Laureth Sulfate)	8.0%
REWOTERIC® AM C (Sodium Cocoamphoacetate)	12.0%
TEGO® Betain 810 (Capryl/Capramidopropyl Betaine)	2.0%
TEGOSOFT® PC 31	0.3%
TEGOSOFT® APM (PPG-3 Myristyl Ether)	0.5%
Water	ad 100.0%
D-Panthenol	0.2%
TEGO® Cosmo C 100 (Creatine)	0.5%
ABIL® Soft AF 100 (Methoxy PEG/PPG-7/3 Aminopropyl Dimethicone)	0.2%

#### Preparation:

Mix the ingredients in the given order. Adjust the pH value to 5.5 with Lactic Acid.

E 05/18

#### Disclaimer

This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments.

The customer is not released from the obligation to conduct careful inspection and testing of incoming goods. Performance of the product described herein should be verified by testing, which should be carried out only by qualified experts in the sole responsibility of a customer. Reference to trade names used by other companies is neither a recommendation, nor does it imply that similar products could not be used. (Status: April, 2008)

Evonik Nutrition & Care GmbH  
Goldschmidtstraße 100  
45127 Essen, Germany  
P.O. BOX 45116 Essen  
PHONE + 49 201 173-2546  
FAX +49 201 173 712546  
personal-care@evonik.com  
www.evonik.com/personal-care