

## Technical Information

## TEGOSOFT® PC 41 MB

## Hydrophilic emollient

## Intended use

Solubilizer, Co-emulsifier, Co-surfactant

## Benefits at a glance

- Excellent solubilizing properties
- PEG-free
- Based on polyglycerol
- Positive influence on skin structure

## INCI (PCPC name)

Polyglyceryl-4 Caprate

## Chemical and physical properties (not part of specifications)

Form	Viscous liquid
Appearance	Colorless to yellow; clear to slightly turbid
HLB value	Approx. 14
Solidification point	Approx. -8 °C

## Solubility (10%)

Water	Soluble
Ethanol	Soluble
1,2 Propandiol	Soluble
Ester oils	Soluble
Paraffin oil	insoluble
Isopropyl myristat	Insoluble
Vegetable oil	Insoluble

## Properties

TEGOSOFT® PC 41 MB is a PEG-free surfactant. It has excellent solubilizing properties and is non-irritant on skin.

TEGOSOFT® PC 41 MB is based on polyglycerol. It is nitrogen-free and therefore does not contribute to nitrosamine formation.

## Application

TEGOSOFT® PC 41 MB is used as PEG-free refatting agent especially in:

- Body washes
- Liquid soaps
- Bath oils

TEGOSOFT® PC 41 MB is used as emulsifier for self-emulsifying oil formulations, such as oil bath concentrates, which will spontaneously emulsify when added to water.

## Storage

Store at temperatures below 30 °C.

Under storage the product tends to get turbid. This is a typical behaviour and indicates no loss in application behaviour or performance. In case of small precipitate, the product should be homogenized at approx. 30 °C.

## Hazardous goods classification

## Information concerning

- classification and labelling according to regulations for transport of chemicals
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicological and ecotoxicological effects

is given in our safety data sheets.

## Guideline formulations

### Shower Gel, PEG-free (UM 289/9/2)

TEGOSOFT® PC 41 MB	2.00%
TEGIN® O V MB (Glyceryl Oleate)	0.50%
Ammonium Lauryl Sulfate (30%)	26.00%
Perfume	0.50%
Water	ad 100.00%
LACTIL® (Sodium Lactate; Sodium PCA; Glycine; Fructose; Urea; Niacinamide; Inositol; Sodium Benzoate; Lactic Acid)	1.00%
TEGO® Betain F 50 (Cocamidopropyl Betaine)	14.00%

#### Preparation

Blend TEGOSOFT® PC 41 MB and TEGIN® O V MB and heat it up until it is clear. Then add the other ingredients in the given order.

### Oil bath, PEG-free (UM 289/12)

TEGOSOFT® PC 41 MB	34.00%
Rosemary oil	30.00%
Water	ad 100.00%

#### Preparation

Solubilize the Rosemary oil in the TEGOSOFT® PC 41 MB. Then add the water slowly.

### Micellar Water for Facial Cleansing, PEG-free (UL 5803/9.1)

TEGOSOFT® PC 41 MB	1.00%
TEGO® Betain 810 (Capryl/Capramidopropyl Betaine)	1.30%
TEGO® Solve 61 MB (Polyglyceryl-6 Caprylate; Polyglyceryl-3 Cocoate; Polyglyceryl-4 Caprate; Polyglyceryl-6 Ricinoleate)	1.00%
Perfume	0.05%
Water	ad 100.00%
TEGO® Natural Betain (Betaine)	2.00%
Hexylene Glycol	1.40%
Glycerin	1.00%
Preservative	q.s.

#### Preparation

Blend ingredients in the given order.

#### Remarks

Clear, water-thin solution. pH = 5.0.  
3 in 1: cleanses, removes make-up, soothes. Removes even water-proof eye make-up.  
In vitro-mildness test result (RBC): basically non-irritant.  
Micelles have a droplet size of  $d = 14$  nm, detected by Dynamic Laser Light Scattering.  
Usage with a cotton-pad. No rinsing required.

A 02/19

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## Product specification

**Material** TEGOSOFT PC 41 MB  
**Spec.Code** K00 STANDARD

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Inspection Characteristics	Method	Limits	Units	Z
Colour to Gardner	GM_0140_01	< = 4.0	Gardner	X
Acid Value	GM_0010_01	< = 5.00	mg KOH/g	X
Saponification Value	GM_0030_01	50.0-70.0	mg KOH/g	X
Water Content	GM_0080_01	9.0-11.0	%	X

Report on inspection certificate: X = specific/actual value, C = unspecific value/conformity, T = not reported

colourless to yellowish, clear to slightly cloudy

This product contributes to the production of certified sustainable palm oil according to the rules set out by RSPO Supply Chain Mass Balance (MB).

RSPO Certification Number: RSPO-V-14-13553.

This document is computer printed and therefore valid without signature.

All warranty claims in respect of the conformity of our product are subject to our General Terms and Conditions of Sale and Delivery. The data listed above reflects the criteria for our internal quality tests. We do not hereby make any express or implied warranty, whether for specific properties or for fitness for any particular application or purpose. All values are valid for the product when despatched from the works.

The Standard Test Methods can be obtained from specialized publishers. Evonik's test methods are available on request.

Material: TEGOSOFT PC 41 MB		Spec-Code: K00 STANDARD	Page 1 from 1
Print date: 25.02.2019	Valid from: 19.02.2019	Version: 6	

**TEGOSOFT® PC 41 MB****Product data record (PDR)****1. General information****1.1 Supplier**

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**1.2 Product Description**

**1.2.1 Raw material category** Solubilizer

**1.2.2 Ingredients according to INCI**

Polyglyceryl-4 Caprate

**1.2.3 Composition**

Components	Source	Ratio
Polyglyceryl-4 Caprate	vegetable	approx. 90 %
Water		9 – 11 %

This composition information serves for information of our customers only.

It is neither relevant for the composition listing according to Regulation (EC) No 1223/2009, nor does it reflect the chemical composition according to the different chemical regulations in the world which is disclosed in the table "information on ingredients/hazardous components" in the relevant parts of the respective (Material) Safety Data Sheets.

**1.2.4 Solvents, preservatives and other additives**

	CAS No.	EINECS / EC No.	content	Function
Water	7732-18-5	231-791-2	9 – 11 %	solvent

Unless mentioned in our PDR under section 2.1 (By products) or 2.2 (CMR), no components which are listed in Annex II of the Regulation (EC) No 1223/2009 and its modifications and updates are added to and are not to be expected in the above mentioned product due to the raw materials used and the production process.

## 2. Information on production process

General description of production process:  
 Conversion of polyglycerol with fatty acids

The product is not irradiated.

TEGOSOFT® PC 41 MB is produced in the strictest absence of any animal derived material of any type.

Residual plant based source (dominant origin of main constituents): rapeseed oil, palm kernel oil

GMO-Status:

The item contains ingredients derived from rapeseed (including oils and other refined ingredients), but these ingredients are sourced from an "Identity Preserved" programme and can be certified NON-GM.

However max 0.9 % cross-contamination is possible. Any protein or DNA is not present. Consequently the product will be PCR negative when tested.

### 2.1 By products

		method
1,4-Dioxane	not applicable	
Residual solvents	not applicable	
Dichloroacetic acid	not applicable	Chromatography
Monochloroacetic acid	not applicable	Chromatography
Free amines	not applicable	
Pesticides	meets the valid regulatory requirements for limits on agricultural pesticides	
Nitrosamines	not applicable	
Total heavy metals	max. 20 ppm	AAS-ICP
As, Cd, Co, Cr, Hg, Ni, Pb, Sb	Each < 1 ppm	AAS-ICP
Latex	not to be expected in the product due to the raw materials used and the production process	
VOC	< 3 % according to SR (Swiss Right) 814.018	

### 2.2 CMR (Carcinogenic, Mutagenic or Reprotoxic)

The use in cosmetic products of substances classified as CMR substances, of category 1A or 1B or 2 under Part 3 of Annex VI to Regulation (EC) No 1272/2008 shall be prohibited.

Further Information:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:342:0059:0209:en:PDF>

Some of the CMR substances mentioned below and listed in Annex VI to Regulation (EC) No 1272/2008 are used as starting materials or solvents for the production of our cosmetic raw

materials and may require reporting under California Proposition 65 or the Safe Cosmetics Act, SB 484.

The presence of these prohibited substances has to be seen as non-intended. It is stemming from impurities of the starting materials or the manufacturing process which is technically unavoidable in good manufacturing practice.

CMR substance	Starting material	max. concentration	method
Ethylene Oxide	no		
Propylene Oxide	no		
Octamethylcyclotetrasiloxane (D4)	no		
2-Ethylhexanoic Acid	no		
n-Hexane	no		
Methyl Chloride	no		
Dimethyl Sulphate	no		

### 2.3 “Allergens” according to the Regulation (EC) No 1223/2009

The presence of substances, the mentioning of which is required under the column ‘Other’ in Annex III, shall be indicated in the list of ingredients in addition to the terms perfume or aroma.

The cosmetic raw materials and the cosmetic actives supplied by Evonik Personal Care are manufactured without the use of perfumes and fragrances. An analytical proof for the absence in traces of the substances to be mentioned in addition to the terms perfume or aroma is not performed in cosmetic raw materials, which are chemically produced.

None of these substances have been intentionally added to our cosmetic raw materials or are formed during the manufacturing process according to our knowledge of the chemistry.

### 2.4 Food Ingredients listed in Annex II of Regulation (EU) No 1169/2011

None of these substances have been intentionally added to our cosmetic raw materials or are formed during the manufacturing process according to our knowledge of the chemistry.

## 3. Microbiological status

Total Viable Count                      max. 100 cfu/g  
 Pathogens\*                                      absent/g

\*Pathogens are: Enterobacteria, Pseudomonas, Enterococci, Candida albicans, Staphylococci

## 4. Shelf life / storage conditions

720 days after production (unopened original packaging)

## 5. Regulatory Status

5.1 HS-Code 340290  
 EU-CN-Code 34029010

### 5.2 Regulatory status (chemical regulations)

Europe

Components	REACH status	CAS No.	EINECS / EC No.
Polyglyceryl-4 Caprate	Polymer	74504-65-7	Polymer

Other countries

Country		yes / no	Remark
Australia	AICS:	no	
China	IECSC:	yes	
Canada	DSL: NDSL:	no	but notified by Evonik Canada Inc. for up to 10 t/year, CAS No. is on the revised ICL list
Taiwan	TCSI:	yes	

In the following countries the relevant authorities currently do not require pre-market approval for cosmetic raw materials:

Brazil, Japan, South Korea, Philippines, USA

#### 5.2.1 Regulatory status (cosmetic regulation)

Country		yes / no	Remark
China	CFDA:	yes	
Japan	JSQI:	no	

## 6. Toxicology and Ecotoxicology

Refer to summary of ecotoxicological and toxicological data

## 7. Packaging

400 kg (16 x 25 kg drum)