

TEGOSOFT® PC 41

Hydrophilic emollient

Intended use

Emulsifier

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 | app. -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 is a PEG-free surfactant.

It has excellent solubilizing properties and is non-irritant on skin.

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

Application

TEGOSOFT® PC 41 is used as PEG-free re-fatting agents especially in:

- body washes
- liquid soaps
- bath oils

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

Packaging

400 kg pallet (16 x 25 kg hobbock)

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

| Shower Gel, PEG-free UM 289/9/2 | |
|--|--------|
| TEGOSOFT® PC 41 | 2.00% |
| TEGIN® O V (Glyceryl Oleate) | 0.50% |
| Ammonium Lauryl Sulfate (30%) | 26.00% |
| Perfume | 0.50% |
| Water | 56.00% |
| 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 and TEGIN® O 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 | 34.00% |
| Rosemary oil | 30.00% |
| Water | 36.00% |
| Preparation: Solubilize the Rosemary oil in the TEGOSOFT® PC 41. Then add the water slowly. | |

| PEG-free Wet Wipe solution base SG 870/6 | |
|--|--------|
| TEGOSOFT® PC 41 | 2.00% |
| TEGIN® M (Isopropyl Myristate)000000000000000000 | 0.20% |
| Phenoxyethanol; Methylparaben; Ethylparaben; Butylparaben; Propylparaben; Isobutylparaben (Phenonip) | 0.60% |
| Perfume | 0.10% |
| Propylene Glycol | 3.00% |
| Water | 93.85% |
| Cetrimonium Bromide, 40% | 0.25% |
| Preparation: Blend ingredients in the given order. | |

C 01/13

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 + 49 201 173-2854 FAX +49 173-1828

personal-care@evonik.com www.evonik.com/personal-care

Product specification

Material TEGOSOFT PC 41
Spec.Code K00 STANDARD

Evonik Nutrition & Care GmbH

Business Line Personal Care
 Goldschmidtstrasse 100
 45128 Essen
 Phone: +49 (201) 173-2524
 Fax: +49 (201) 173-1828
<http://www.evonik.com/personal-care>
personal-care@evonik.com

| 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 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.

TEGOSOFT® PC 41**Product data record****1. General information****1.1 Manufacturer / Supplier**

Evonik Nutrition & Care GmbH
Business Line Personal Care
Goldschmidtstrasse 100
D-45127 Essen / Germany
Phone: +49 (201) 173-2524
Fax: +49 (201) 173-1828
personal-care@evonik.com
<http://www.evonik.com/personal-care>

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 |

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 is produced in the strictest absence of any animal derived material of any type.

Origin of vegetable starting material: 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 parfum 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 parfum 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 IIIa of Commission Directive 2007/68/EC.

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

24 months after production (unopened original packaging)

5. Regulatory Status

5.1 Customs tariff number 38249092

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