

## TEGINACID® C

Emulsifier for the formulation of cosmetic and pharmaceutical O/W creams

- Low usage concentration of 2.0 %
- Formulations with all kinds of cosmetic oils
- High compatibility with active ingredients
- Stable creams from pH 4.5 up to 8.5
- Emulsions with high heat and freeze stability

Personal Care

## INCI name (CTFA name)

Cetareth-25

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

Form	powder
Colour	ivory
HLB value	approx. 16

### Properties

- TEGINACID® C is a non-ionic emulsifier which is suitable for the preparation of cosmetic o/w emulsions.
- Regarding its composition, TEGINACID® C meets the requirements of the US-Pharmakopoeia.
- TEGINACID® C fulfils optimally the necessary double function, i.e. emulsification of lipoid ingredients, and – together with the consistency promoters – formation of viscosity-increasing structures in the water phase.
- The amount used, referred to the emulsion, is 0.5 – 2.0 % depending on the field of application. In O/W emulsions the concentration of TEGINACID® C is 2 %. If the product is used as a co-emulsifier or in a conditioner formulation the amount used is 0.5 – 1.0 %.
- Creams based on TEGINACID® C show good application and stability properties, if they contain 20 – 40 % of oil phase. In addition to the lipoid ingredients, emulsifiers and consistency promoters are included as parts of the oil phase.
- TEGINACID® C forms stable emulsions with all common oils and fats used for skin care products, including polar oils.
- For the preparation of creams, depending on the formulation, additional 4 – 7 % of consistency-providing substances may be needed for the formation of viscosity-enhancing gel structures in the external water phase. Blends of 7 parts TEGIN® M (glycerol stearate) and 3 parts of cetyl- and/or stearyl alcohol have proved most effective.
- Substances with specific properties, such as UV filters, plant extracts, protein derivatives and moisturisers are well tolerated by the emulsion.
- The creams are distinguished by high stability towards heat and freezing stress; stability between –25 °C and +45 °C is attainable.

### Preparation

We recommend for the preparation of creams to heat oil phase and water phase separately to approx. 65 °C.

Furthermore we recommend adding the hot oil phase to the hot water phase **while stirring**. The coarsely dispersed pre-emulsion is then homogenized.

If the above mentioned processing is not possible, we recommend to combine the hot water and oil phase **without stirring** (to avoid the building of the water-in-oil form) and start afterwards with the homogenisation.

During cooling, a constant horizontal and vertical movement of the emulsion has to be ensured. The viscosity of the liquid emulsion increases to a creamy consistency, as the hydrated consistency promoters solidify.

Perfume, temperature-sensitive substances or electrolyte containing ingredients are added at 35 – 45 °C.

The particle size of the dispersed oil droplets of long-term stable emulsions is approx. 1 – 2 µm. More coarsely dispersed emulsions tend to separate.

### Application

TEGINACID® C is especially suitable for O/W creams for

- Skin Care: Facial and Body Care

and can be used for

- Hair Care: Conditioner and Rinses

### Recommended usage concentration

0.5 – 2.0 % TEGINACID® C

### Packaging

600 kg pallet (24 x 25 kg bag)

### 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 accidents and fires
- toxicity and ecological effects

is given in our material safety data sheets.

## Guide Line Formulations

O/W Antiperspirant Cream F 3/95	
<b>Phase A</b>	
TEGINACID® C	2.0 %
TEGIN® M Pellets	4.5 %
TEGO® Alkanol 18 (Stearyl Alcohol)	1.5 %
TEGOSOFT® OS (Ethylhexyl Stearate)	10.0 %
ABIL® Wax 2434 (Cetyl Dimethicone)	2.0 %
<b>Phase B</b>	
Glycerin	3.0 %
Water	43.0 %
<b>Phase C</b>	
Aluminium Chlorohydrate	17.0 %
Water	17.0 %
<b>Phase Z</b>	
Preservative, Parfum	q.s.
<b>Preparation:</b>	
<ol style="list-style-type: none"> <li>Heat phase A and B separately to approx. 70 – 75 °C.</li> <li>Add phase A to phase B with stirring. <sup>1)</sup></li> <li>Homogenise.</li> <li>Cool with gentle stirring.</li> <li>Add phase C below 40 °C.</li> </ol>	
<sup>1)</sup> <b>Important information:</b> If phase A has to be charged into the vessel first, phase B must be added <b>without stirring</b> .	

O/W Cream with TEGO® Derm CBS WR 3/06-1	
<b>Phase A</b>	
TEGINACID® C	0.5 %
ABIL® Care 85 (Bis-PEG/PPG-16/16 PEG/PPG 16/16 Dimethicone; Caprylic/Capric Triglyceride)	1.5 %
TEGIN® M Pellets	2.0 %
TEGO® Alkanol 18 (Stearyl Alcohol)	2.0 %
Stearic Acid	1.0 %
TEGOSOFT® CT (Caprylic/Capric Triglyceride)	3.0 %
TEGOSOFT® TN (C12-15 Alkyl Benzoate)	6.0 %
TEGOSOFT® DO (Decyl Oleate)	1.5 %
TEGO® Derm CBS (PPG-3 Myristyl Ether; Salicyloyl Phytosphingosine)	3.0 %
Tocopheryl Acetate	0.5 %
<b>Phase B</b>	
TEGO® Cosmo C 100 (Creatine)	0.5 %
Glycerin	3.0 %
Allantion	0.1 %
Panthenol	0.2 %
Water	74.5 %
<b>Phase C</b>	
TEGO® Carbomer 134 (Carbomer)	0.1 %
TEGOSOFT® TN (C12-15 Alkyl Benzoate)	0.4 %
<b>Phase D</b>	
Sodium Hydroxide (10 % in water)	0.2 %
<b>Phase Z</b>	
Preservative, Parfum	q.s.
<b>Preparation:</b>	
<ol style="list-style-type: none"> <li>Heat phase A and B separately to approx. 80 °C.</li> <li>Add phase A to phase B with stirring. <sup>1)</sup></li> <li>Homogenise.</li> <li>Cool with gentle stirring to approx. 60 °C and add phase C.</li> <li>Homogenise for a short time.</li> <li>Cool with gentle stirring and add phase D below 40 °C.</li> </ol>	
<sup>1)</sup> <b>Important information:</b> If phase A has to be charged into the vessel first, phase B must be added <b>without stirring</b> .	

<b>Eco-friendly Conditioning Rinse AK 75/4</b>	
TEGINACID® C	0.5 %
VARISOFT® EQ 65 Pellets (Distearylethyl Dimonium Chloride; Cetearyl Alcohol)	3.1 %
TEGO® Alkanol 1618 (Cetearyl Alcohol)	4.4 %
Glycerin	2.0 %
Water	90.0 %
Preservative, Parfum	q.s.
<b>Preparation:</b>	
1. Add all ingredients in water and heat to 85 °C with adequate mixing until all ingredients are dissolved.	
2. Homogenise.	
3. Cool with gentle stirring. Add preservative and perfume below 40 °C.	

C 05/08

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 Industries AG** Goldschmidtstraße 100 45127 Essen, Germany  
P.O. BOX 45116 Essen PHONE +49 201 173-2854 FAX +49 201 173-1828  
personal-care@evonik.com www.evonik.com/personal-care

