

# TEGOSOFT® AC



Vegetable-based emollient

Light and luxurious skin feel, eco-friendly production: our low-viscous emollient gives your formulations the feel today's consumers want.

Based on renewable feedstocks and our innovative, low-energy enzymatic technology, TEGOSOFT® AC is as gentle to the environment as it is to the skin.

## **Evonik delivers:**

1. Light skin feel
2. Emollient based on eco-efficient production
3. Fully based on renewable sources

## Benefits

- Excellent pigment wetting properties
- Due to the light skin feel TEGOSOFT® AC can be a replacement for cyclopentasiloxane
- Imparts a light and non-oily skin feel, especially in all-natural emulsions
- Excellent compatibility in O/W and W/O emulsions

## Properties

- Clear and low-viscous liquid emollient
- Quick absorption
- Produced by the unique sustainable enzymatic process of Evonik
- Ester of isoamyl alcohol and coconut fatty acid of 100% vegetable origin
- Based on sugar beet, palm, coconut
- NATRUE and COSMOS certified
- INCI: Isoamyl Cocoate

## Physical properties

- Viscosity: 6 mPas: low viscosity
- Surface tension: 28.0 mN/m: high surface tension
- Interfacial tension: 28.0 mN/m with water
- Density: 0.85 g/cm<sup>3</sup>
- Pour point: approx. -3 °C
- Polarity: medium

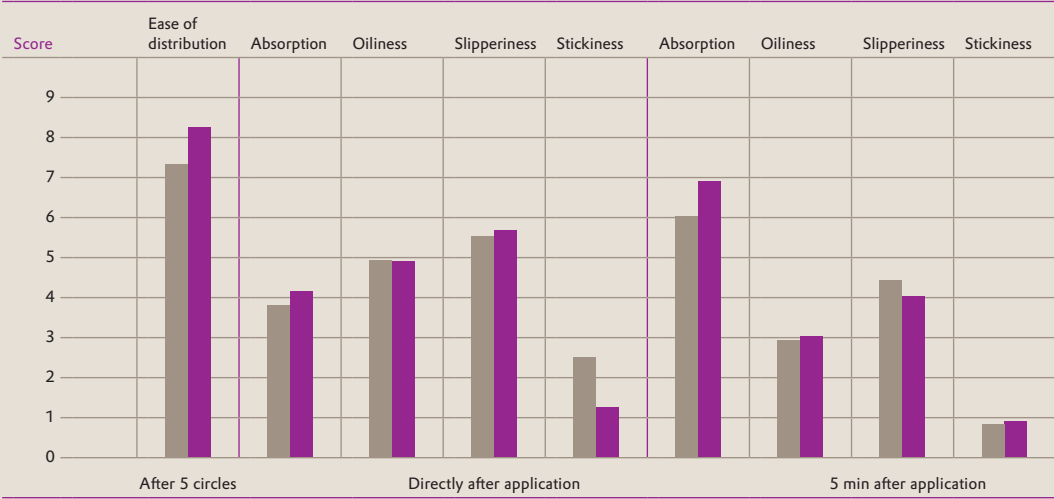
## Applications

- Natural skin care products
- Face and body care creams and lotions
- Spray emulsions
- Baby care
- Antiperspirant/deodorant
- Color cosmetics

# Sensorial properties

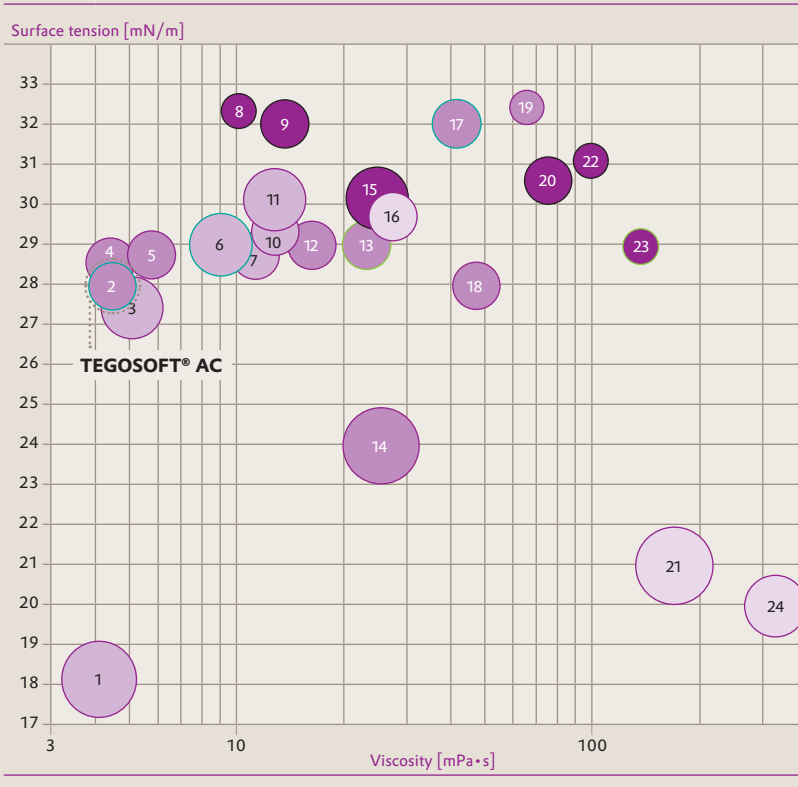
TEGOSOFT® AC imparts a light and pleasant skin feel in the tested formulation.

## Natural O/W lotion with light skin feel (BR 5/11-2)



■ Dicaprylyl Carbonate ■ TEGOSOFT® AC

## Emollient chart



## List of products

No.	Product name
1	Cyclopentasiloxane
2	<b>TEGOSOFT® AC</b>
3	TEGOSOFT® DEC
4	TEGOSOFT® M
5	TEGOSOFT® P
6	TEGOSOFT® DC
7	TEGOSOFT® OP
8	TEGOSOFT® XC
9	TEGOSOFT® TN
10	TEGOSOFT® OS
11	TEGOSOFT® CO
12	TEGOSOFT® CI
13	TEGOSOFT® CT
14	ABIL® W <sub>ax</sub> 9801
15	TEGOSOFT® APM
16	Mineral Oil
17	TEGOSOFT® OER
18	Octyldodecanol
19	Avocado Oil
20	TEGOSOFT® E
21	ABIL® W <sub>ax</sub> 9840
22	TEGOSOFT® PBE
23	TEGOSOFT® TIS
24	ABIL® 350

## Pigment wetting

Beside traditional foundations a huge number of trendy market products (e.g. BB creams) contain pigments. Therefore it is important to formulate them in a proper way. This property was evaluated in a pigment wetting test using some of the most commonly applied metal oxide pigments with Dimethicone coating. Uncoated Carbon Black was also evaluated. The ratio of the pigments versus the corresponding emollient was optimized for the highest pigment loading.

This allowed clear differentiation of the emollient performance. The viscosity at 1/100 seconds was measured using a Haake RheoStress rheometer. Measurements were taken at room temperature, unless noted. The lower the viscosity, the better the pigment wetting. This test has shown that TEGOSOFT® AC displays excellent pigment wetting properties for hydrophobically coated pigments.

No.	Product name	INCI	Overall pigment wetting capability	Score					
				1	2	3	4	5	
1	TEGOSOFT® AC	Isoamyl Cocoate	●●●●●●	■	■				
2	TEGOSOFT® P	Isopropyl Palmitate	●●●●●	■	■	■			
3	TEGOSOFT® M	Isopropyl Myristate	●●●●●	■	■	■			
4	TEGOSOFT® MM*	Isopropyl Myristate	●●●●●	■	■	■			

- Yellow iron oxide, CI 77492
- Black iron oxide, CI 77499
- Red iron oxide, CI 77491
- Carbon black, CI 77266
- Titanium dioxide, CI 77891

\* Emollient waxes are measured at elevated temperatures above their melting point.

Score values reflect the viscosity of the respective pigment/emollient dispersion. The lower the score value, the better the pigment wetting. Rating of overall pigment wetting capability:

●●●●●● superior   ●●●●● very high   ●●●● high   ●●● medium   ●● low   ● very low

## Guideline formulations

### O/W Serum (MK 10/10-4)

A	TEGO® Care 165 (Glyceryl Stearate; PEG-100 Stearate)	3.0%
	TEGO® Alkanol 18 (Stearyl Alcohol)	0.5%
	<b>TEGOSOFT® AC</b> (IsoamylCocoate)	5.5%
	TEGOSOFT® CT (Caprylic/Capric Triglyceride)	5.0%
	TEGOSOFT® CR (CetylRicinoleate)	1.0%
B	Water	76.125%
	Glycerin	3.0%
	TEGO® Pep 4-17 (Tetrapeptide-21; Glycerin; Butylene Glycol; Aqua)	2.5%
	TEGO® Pep 4-Even (Tetrapeptide-30; Glycerin)	2.5%
	TEGO® Carbomer 141 G (Carbomer)	0.075%
C	Sodium Hydroxide (10% in water)	q.s.
	Dipropylene Glycol; Methylparaben; Ethylparaben; Aqua; Methylisothiazolinone (Microcare MEM, Thor GmbH)	0.80%

### Processing

1. Heat phase B to approx. 75° C and disperse TEGO® Carbomer 141 G.
2. Heat phase A separately to approx. 75° C.
3. Add phase A to phase B with stirring.<sup>1)</sup>
4. Homogenize.
5. Cool with gentle stirring.
6. Add phases C and D below 40° C.

<sup>1)</sup> Important: If phase A has to be charged into the vessel first, phase B must be added **without** stirring.

## Matifying Compact Cream Make-up (AL 1/13-13)

A	<b>TEGOSOFT® AC</b> (Isoamyl Cocoate )	31.7%
	TEGOSOFT® XC (Phenoxyethyl Caprylate )	13.0%
	TEGOSOFT® OP (Ethylhexyl Palmitate )	8.0%
	TEGOSOFT® CR (Cetyl Ricinoleate )	5.0%
	ABIL® Wax 9840 (Cetyl Dimethicone )	1.0%
	Helianthus Annuus (Sunflower Seed) Wax (Kahlwax 6607, Kahl)	4.0%
	Ozokerite (Kahlwax 1899, Kahl GmbH)	2.0%
	Titanium Dioxide (CI 77891, Kronos 1171, Kronos Int. Inc.)	12.0%
B	Yellow Iron Oxide (CI 77492, Sicovit Gelb E 10, BASF SE)	1.0%
	Brown Iron Oxide (CI 77491, CI 77492, CI 77499, Sicovit Braun 70 E, BASF SE)	0.6%
	Red Iron Oxide (CI 77491, Sicovit Rot 30 E, BASF SE)	0.3%
	Black Iron Oxide (CI 77499, Sicovit Schwarz 80 E, BASF SE)	0.2%
	TEGOLON® ECO 10-10 (Nylon-10/10)	20.0%
	Glyceryl Caprylate (Dermosoft GMCY, Dr. Straetmans GmbH)	1.0%
C	Perfume	0.2%

## Processing

1. Heat phase A to 82 °C.
2. Premix and grind phase B.
3. Add phase B to phase A and stir gently at 80 °C several minutes.
4. Cool to 75 °C with gentle stirring.
5. Add phase C with gentle stirring.
6. Pour mixture into molds and cool down to room temperature.

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