Technical Information

TEGO® Feel Green

Natural cellulose particles for homogenous textures and optimized sensory profiles

Intended use

Cosmetic powder

Benefits at a glance

- 100% natural cellulose powder
- High oil and water absorption
- Provides homogenous texture
- Improves absorption, reduces greasiness
- Especially suitable for O/W formulations with high content of humectants
- NaTrue and Cosmos certified

INCI (PCPC name)

Cellulose

Chemical and physical properties (not part of specifications)	
Form	powder

Further product information (not part of specifications)	
Source	wood from sustainable forestry
Bulk density (g/L)	≥140
Average particle size (µm)	6–10
Loss of drying (%)	1–9
Content of cellulose	>99%

Properties

TEGO® Feel Green is a sensory additive without any derivatization or covalent chemical modification, which is entirely based on natural cellulose particles from renewable sources. The odorless, soft white powder can reduce negative characteristics of a formulation: it reduces tackiness, greasiness and oiliness of a formulation while improving the absorption.
Overall TEGO® Feel Green provides a more homogeneous texture and better integrity during distribution.

TEGO® Feel Green shows high oil and water absorption:

fluid	uptake (g(fluid)/g(powder))
Caprylic/Capric Triglyceride	1.6
Isopryl Myristate	1.4
Mineral Oil	1.7
Cyclopentasiloxane	1.7
Water (pH 7)	2.0

Tab. 1: Oil and water absorption of TEGO® Feel Green

TEGO® Feel Green retains as a particle in the formulation. It has no or low impact on the viscosity of a formulation compared to other cellulose materials used in cosmetics.

1% of respective cellulose material in an O/W gel formulation (Basis formulation: FU 18/10-2):

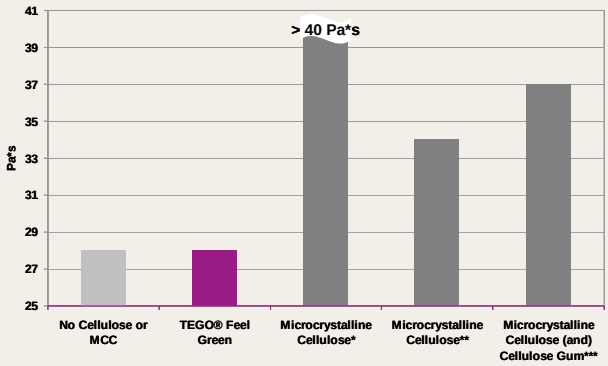

Fig. 1: Viscosities with and without TEGO® Feel Green. (*Avicel PH 101, **Avicel CL 611, ***Avicel PC 611)

TEGO® Feel Green improves the absorption and reduces unfavorable oiliness and tackiness. The unpleasant greasiness of a O/W gel formulation with high content of glycerin is also significantly reduced:

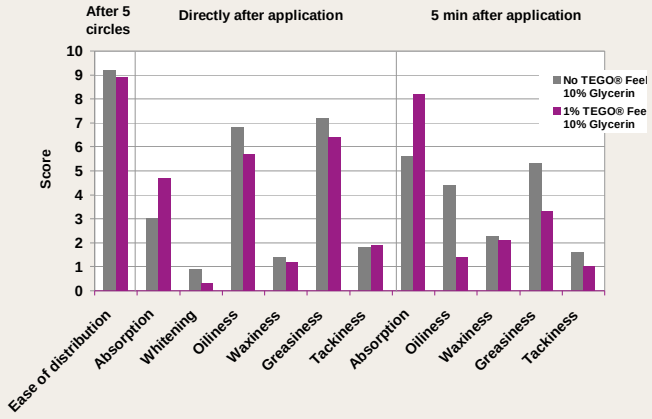

Fig. 2: Sensorial properties of TEGO® Feel Green. Results were obtained by a trained sensory panel.
Formulations FU 18/10-15 and -16:
Phase A: TEGOSOFT® OP (Ethylhexyl Palmitate) 4%, TEGOSOFT® DEC (Diethylhexyl Carbonate) 4%, TEGOSOFT® CT (Caprylic/Capric Triglyceride) 4%, TEGOSOFT® TN (C12-15 Alkyl Benzoate) 3%, TEGOSOFT® M (Isopropyl Myristate) 2.5%, Tocopheryl Acetate 0.5%, TEGO® Feel Green 1% or 0%, TEGO® Carbomer 341 ER (Acrylates/C10-30 Alkyl Acrylate Crosspolymer) 0.3%.
Phase B: Glycerin 10%, Water ad 100%,
Sodium Hydroxide, Preservatives, Perfume: q.s.

Processing

When preparing O/W emulsions, TEGO® Feel Green can be added via the water or the oil phase at any temperature. It can be also added after combination of the two phases. In the formulation TEGO® Feel Green is located in the water phase.

TEGO® Feel Green can be combined with other powders and pigments.In make-up foundations or color cosmetics based on pigments and oils/waxes TEGO® Feel Green can be incorporated around 80 °C, e.g. premixed with the pigments.

For W/O formulations, instabilities can occur.

Applications

- Natural emulsions
- Men´s Care
- Facial Care
- Serums
- Sun Care
- AP/Deo
- Gel emulsion
- Make-up foundations

TEGO® Feel Green is especially suited for O/W formulations.

Recommended usage concentration

0.3-3.0% of TEGO® Feel Green in emulsions.
1.0-20.0% of TEGO® Feel Green in make-up formulations.

Packaging

270 kg pallet (18 x 15 kg bag)

Storage

Store at room temperature. Protect from moisture, heat and cold.
Shelf life: Two years after production, given that the packaging is not damaged or opened.

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

Natural O/W cream (FU 18/10-107)	
Phase A	
TEGO® Care PSC 3 (Polyglyceryl-3 Dicitrate/Stearate)	2.50%
TEGIN® M Pellets (Glyceryl Stearate)	1.20%
Stearyl Alcohol	1.30%
TEGOSOFT® P (Isopropyl Palmitate)	6.50%
Triisostearin	3.50%
Prunus Amygdalus (Almond) Oil	6.00%
TEGO® Feel Green	2.00%
Phase B	
Water	70.50%
Glycerin	5.00%
Phase C	
Xanthan Gum	0.50%
Phase D	
Sodium Hydroxide (10% in water)	0.20%
Phase E	
Benzyl Alcohol; Glycerin; Benzoic Acid; Sorbic Acid (Rokonsal BSB-N, Ashland)	0.80%
Phase Z	
Perfume	q.s.

Processing:

1. Heat phase A and B separately to approx. 70 - 75 C.
2. Add phase A to phase B with stirring[1)].
3. Homogenize.
4. Cool with gentle stirring.
5. Add phase C below 40 °C.
6. Homogenize for a short time.
7. Add phases D and E and adjust the pH to 5.0-5.5.

[1)]Important:
If phase A has to be charged into the vessel first, phase B must be added **without stirring.**

Ultra Light and Cooling Lotion (JS 3/15-3)	
Phase A	
TEGO® Care CG 90 (Cetearyl Glucoside)	1.00%
TEGOSOFT® PC 31 (Polyglyceryl-3 Caprate)	0.50%
TEGOSOFT® DEC (Diethylhexyl Carbonate)	5.00%
TEGOSOFT® TN (C12-15 Alkyl Benzoate)	3.00%
Cyclopentasiloxane	2.00%
Phytosphingosine SLC (Salicyloyl Phytosphingosine)	0.10%
Phase B	
Water	ad 100%
Glycerin	2.00%
Gellan Gum (KELCOGEL CG-HA, CP Kelco)	0.03%
TEGO® Carbomer 341ER (Acrylates/C10-30 Alkyl Acrylates Crosspolymer) (2% in water)	2.50%
TEGO® Feel Green (Cellulose)	1.00%
Phase C	
Sodium Hydroxide (10% in water)	q.s.
Phase D	
Phenoxyethanol; Ethylhexylglycerin (Euxyl PE 9010, Schülke & Mayr GmbH)	0.70
Phase Z	
Perfume	q.s.

Processing:

1. Disperse Gellan Gum in water and heat to 85°C. Then add other ingredients of phase B.
2. Heat phase A to approx. 80°C..
3. Homogenize.
4. Cool with gentle stirring and add phase C below 40°C.
5. Add phase D below 30°C and stir well.

Active Body Protection Antiperspirant FOR MEN (BR 2/13-1)	
Phase A	
TEGO® Alkanol S 2 P (Steareth-2)	3.00%
TEGO® Alkanol S 20 P (Steareth-20)	2.00%
TEGOSOFT® E (PPG-15 Stearyl Ether)	2.00%
TEGOSOFT® TN (C 12-15 Alkyl Benzoate)	1.00%
TEGOSOFT® OER (Oleyl Erucate)	1.00%
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50%
TEGO® Feel Green (Cellulose)	0.50%
Phase B	
Water	70.00%
Phase C	
Aluminium Chlorohydrate (50% sol.)	20.00%
Phase Z	
Preservative, Perfume	q.s.

Processing:

1. Heat phases A and B seperately to approx. 65 °C.
2. Add phase A to phase B with stirring.[1)]
3. Homogenize.
4. Cool with gentle stirring below 40°C and add phase C.
5. Homogenize for a short time.
6. Cool down with simple stirring

[1)]Important:
If phase A has to be charged into the vessel first, phase B must be added **without stirring.**

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