

TEGO® Cosmo P 813

Multifunctional ingredient for deodorant applications

- “Intelligent” deodorant with both immediate and extended benefits
- 24 hours reserve efficacy
- Dermatological benefits (humectancy, mildness)
- Easy to formulate

Personal Care

INCI name (CTFA name)
Polyglyceryl-3 Caprylate

Chemical and physical properties
(not part of the specification)

Form	Liquid of high viscosity
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Further product description
(not part of the specification)

Viscosity (Hoeppler)	approx. 4 800 cp s
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TEGO® Cosmo P 813 is a mild vegetable based cosmetic co-emulsifier developed for use in deodorant formulations.

Applications

- Skin care
 - Lotions
 - Creams
- AP/Deo
 - Deo pump spray
 - Clear gels
 - Roll-ons
 - Sticks

Properties

- Co-emulsifier
- Emollient
- Humectant
- Very mild (RBC-test: no hemolysis)
- Vegetable based

Efficacy studies

- CLIPS-O™ method (*in vivo* screening study)

The study was performed in-house.

The principle of the CLIPS-O™ test is the cleavage of the tested ingredients by bacterial lipases followed by photometrical detection of the yellow coloured decomposition products at 414 nm. So, a direct correlation of optical density and lipase activity is given.

For the *in vivo* screening study 24 volunteers preconditioned their underarms for two weeks by only washing the axillas with soap. Deodorants were not used.

After this period an ethanolic spray containing either 0.3 % TEGO® Cosmo P 813 or Triclosan was applied once a day for 5 days. The measurement of active lipase was performed after 24 hours on day 1, 6 hours on day 5 and 24 hours after the end of the application period, respectively.

Microorganisms were sampled directly from tested axillas using a swab impregnated with aqueous acetate buffer. After sampling, the swab was incubated for 90 minutes at 37 °C in a solution of the CLIPS-O™ test kit and finally quantified photometrically. The results of the test are shown in fig. 2.

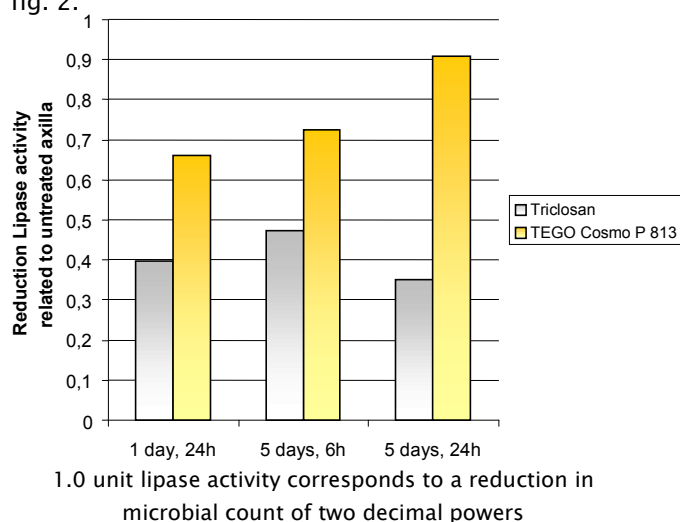


Fig. 2: Results obtained with the CLIPS-O™ assay

In fig. 2 the reduction of the lipase activity related to the untreated axilla is illustrated. The TEGO® Cosmo P 813 was more effective than the triclosan control in controlling the lipase activity.

- Sniff test

The sniff test was performed at the Institute Dr. Schrader (D).

For the performance of the sniff test 40 volunteers (2x20) preconditioned their underarms for ten days by only washing the axillas with soap. Deodorants were not used. After the 10 day induction period, the volunteers washed their axilla and afterwards the odor was evaluated by three experts with a ranking score from 0 (best) to 5 (worst).

Afterwards, an ethanolic deodorant spray containing 0.3 % active ingredient (TEGO® Cosmo P 813, Triclosan) was applied to one armpit of each test person. The other armpit was left untreated and used as a reference. During the test period the volunteers used the deodorant once each day.

The axilla odor was evaluated again after 6 hours and 24 hours on the first and the fifth days of the study.

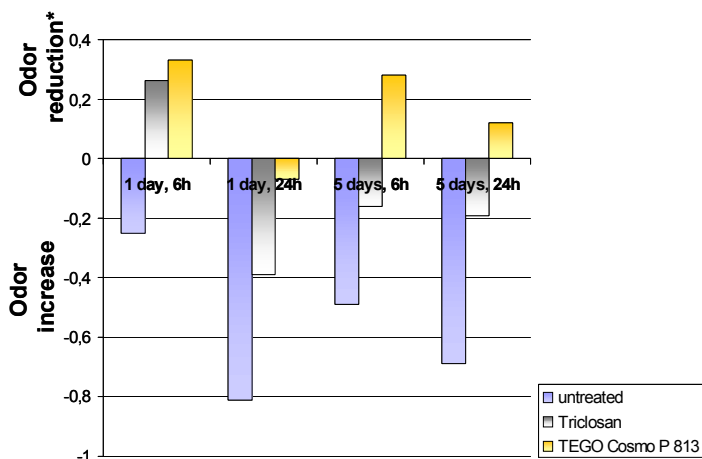


Fig. 3: Results obtained with the sniff test
 * Odor reduction = (Odor after - Odor before treatment) at the same axilla

Fig. 3 demonstrates that the TEGO® Cosmo P 813 containing spray shows outstanding odor reduction compared to triclosan as a positive reference. The long-term deodorant efficacy was shown to be superior to triclosan.

Product characteristics

- Skin smoothing properties
- Easy to formulate
- Clear almost odourless viscous liquid
- Applicable over a pH range from 4.0 – 6.0, preferable pH ≈ 5.0
- Do not heat over 80 °C

Suggested use concentration

0.2 – 2.0 % TEGO® Cosmo P 813

Packaging

400 kg pallet (16 x 25 kg)

Storage

The product may become cloudy during prolonged storage. Cloudiness becomes reversible by a temporarily warming up to 40 °C.

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 sheet

Guide Line Formulations

Deodorant Spray with Butane/ Propane UP 47.1 /04	
Phase A	
TEGODEO® HY 77 (Zinc Ricinoleate; Triethanolamine; Dipropylene Glycol; Lactic Acid)	1.20 %
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.40 %
PEG-8	1.40 %
Cyclomethicone	1.40 %
Alcohol denat.	25.60 %
Phase B	
Propane/ Butane	70.00 %
Preparation: Add the raw materials in the given order.	

24h AP/ Deo Stick	
UP 13/04 *	
Phase A	
TEGOSOFT® APS (PPG-11 Stearyl Ether)	5.00 %
TEGOSOFT® APM (PPG-3 Myristyl Ether)	5.00 %
TEGO® Alkanol 18 (Stearyl Alcohol)	16.25 %
Hydrogenated Castor Oil	1.75 %
Phase B	
Cyclopentasiloxane; Cyclohexasiloxane	44.50 %
Phase C	
AEROSIL® R 972 V (Silica Dimethylsilylate, Evonik-Degussa)	3.00 %
Aluminium Chlorohydrate	20.00 %
Phase D	
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50 %
TEGODEO® LYS (Zinc Ricinoleate; Lysine; Propylene Glycol)	4.00 %
Preparation:	
<ol style="list-style-type: none"> 1. Melt phase A at 80–85 °C and stir until a clear phase is obtained. 2. Cool phase A to 75–78 °C. 3. Add phase B while stirring and stir for further 15 minutes. 4. While stirring add phase C to phases A+B. 5. Stir until phase C is homogeneously dispersed. 6. Add phase D and stir for another 5 minutes. 7. Compensate the loss of phase B prior to filling (Temperature = 68–70 °C). 	
* Reduces visible residues on the skin.	

O/W Deodorant Roll On	
UP 41.3/04	
Phase A	
TEGO® Alkanol S 2 (Stearth-2)	2.20 %
TEGO® Alkanol S 20 P (Stearth-20)	1.00 %
TEGOSOFT® Liquid (Cetearyl Ethylhexanoate)	2.00 %
TEGOSOFT® APS (PPG-11 Stearyl Ether)	2.00 %
ABIL® 350 (Dimethicone)	0.50 %
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50 %
Phase B	
Water	88.50 %
Glycerin	3.00 %
Phase C	
Parfum	0.30 %
Phase D	
Citric Acid (50 % in water)	q.s.
Preservative	q.s.
Preparation:	
<ol style="list-style-type: none"> 1. Charge with phase B and heat to approx. 80 °C. 2. Heat phase A to approx. 80 °C and add to phase B with stirring ¹⁾. 3. Homogenise. 4. Add phase C at 40 °C while stirring. 5. Cool with gentle stirring below 30 °C. 6. Adjust with phase D the pH to 5–6. 	
¹⁾ Important: If it is charged with phase A, phase B must be added to phase A without stirring.	

Clear Deodorant Roll-On UP 57.2/04	
Phase A	
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50 %
TEGO® Alkanol L 23 P (Laureth-23)	3.00 %
Phase B	
Parfum	0.50 %
ABIL® B 8843 (PEG-14 Dimethicone)	0.50 %
Alcohol	20.00 %
TEGOSOFT® GC (PEG-7 Glyceryl Cocoate)	1.00 %
Water	36.50 %
Allantoin	0.20 %
Panthenol	0.10 %
Tri-Sodium Citrate Dihydrate	0.20 %
Phase C	
Hydroxyethylcellulose	0.75 %
Water	36.75 %
Preservative	q.s.
Preparation:	
<ol style="list-style-type: none"> 1. Swell Hydroxyethylcellulose in water (phase C). 2. Heat phase A to 50°C. 3. Add the raw materials of phase B in the given order while stirring to phase A. 4. Add phase A/B to phase C with stirring. 	

Clear Deodorant Roll-On with ACH UP 57.4/04	
Phase A	
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50 %
TEGO® Alkanol L 23 P (Laureth-23)	3.00 %
Phase B	
Parfum	0.50 %
ABIL® B 8843 (PEG-14 Dimethicone)	0.50 %
Alcohol	20.00 %
TEGOSOFT® GC (PEG-7 Glyceryl Cocoate)	1.00 %
Water	16.70 %
Allantoin	0.20 %
Panthenol	0.10 %
Reach 501 Solution (Aluminium Chlorohydrate, Reis)	20.00 %
Phase C	
Hydroxyethylcellulose	0.75 %
Water	36.75 %
Preservative	q.s.
Preparation:	
<ol style="list-style-type: none"> 1. Swell Hydroxyethylcellulose in water (phase C). 2. Heat phase A to 50°C. 3. Add the raw materials of phase B in the given order while stirring to phase A. 4. Add phase A/B to phase C with stirring. 	

Clear Deodorant Pump Spray UP 55.2/04	
Phase A	
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50 %
TEGO® Alkanol L 23 P (Laureth-23)	3.00 %
Phase B	
Parfum	0.50 %
ABIL® B 8832 (Bis-PEG/PPG-20/20 Dimethicone)	0.50 %
Water	94.00 %
Allantoin	0.20 %
Panthenol	0.10 %
TEGOSOFT® GC (PEG-7 Glyceryl Cocoate)	1.00 %
Tri-Sodium Citrate Dihydrate	0.20 %
Citric Acid	q.s.
Preservative	q.s.
Preparation:	
<ol style="list-style-type: none"> Heat phase A to 50°C. Add the raw materials of phase B in the given order while stirring to phase A. Adjust the pH value with citric acid to 5.5 	

Clear Deodorant Pump Spray UP 46.14/04	
Phase A	
TEGO® Cosmo P 813 (Polyglyceryl-3 Caprylate)	0.50 %
TEGO® Alkanol L 23 P (Laureth-23)	3.00 %
Phase B	
Water	66.50 %
Aluminium Chlorohydrate, 50% (Aluminium Chlorohydrate, z.B. Reheis)	20.00 %
Phase C	
Water	9.23 %
Citric Acid (50% in water)	0.24 %
NaOH, 10%	0.45 %
HCl (20% in water) (Hydrochloric Acid)	0.08 %
Preservative, Parfum	q.s.
Preparation:	
<ol style="list-style-type: none"> Heat phase A to 50°C. Add the raw materials of phase B in the given order while stirring to phase A. Mix phase C and add it to phase A/B with stirring. 	

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Especially concerning Active Ingredients

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