

TEGO® Care 215

Emulsifier for the formulation of cosmetic O/W lotions

- Low usage concentration of 2.0 – 3.0 %
- Emulsifier for O/W lotions with a bright white appearance and pleasant application properties
- Formulations with all kinds of cosmetic oils
- Stable emulsions from pH 5.5 up to 8.5
- Emulsions with high heat and freeze stability

Personal Care

INCI name (CTFA name)

Ceteareth-15; Glyceryl Stearate

Chemical and physical properties (not part of specifications)

Form	pellets
HLB-value	approx. 12

Application

TEGO® Care 215 is a non-ionic emulsifier suitable for the formulation of cosmetic O/W lotions.

- Emulsions based on TEGO® Care 215 show brilliant appearance, "light" character and pleasant application properties.
- The amount used, referred to the emulsion, is 2.0 – 3.0 %.
- The oil phase content consisting of emulsifier and lipid-type substances can be reduced to 10 %.
- With TEGO® Care 215 it is possible to produce stable emulsions with both polar and non-polar lipids suitable for use in skin care products.
- 1.5 – 2.5 % of cetyl and/or stearyl alcohol as additive is necessary to increase the consistency (viscosity) of the emulsion.
- To increase the heat stability 0.1 – 0.2 % of TEGO® Carbomer 141 should be added.
- The addition of 0.3 – 0.5 % ABIL® 350 prevents the emulsion from whitening effects.
- With TEGO® Care 215 stable O/W lotions from pH 5.5 up to 8.5 can be formulated.
- The lotions are distinguished by high stability towards heat and freezing stress; stability between –25 °C and +50 °C is attainable.

Preparation

Oil phase and water phase are heated separately to approx. 80 °C.

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 therefore recommend combining the hot water and oil phase **without stirring** (to avoid the building of the water-in-oil form). A very fine dispersed oil in water emulsion of low viscosity forms spontaneously. Start afterwards with the homogenisation.

During cooling, a constant horizontal and vertical movement of the emulsion has to be ensured.

Intensive sheering forces, however, may lead to a lower viscosity of the final product.

The dispersion of TEGO® Carbomer 141 in oil (e. g. in mineral oil, decyl oleate, octyl stearate; not in triglycerides) is added at 60 °C. Then the emulsion is homogenized again.

Thin emulsion layers should show the specific bluish glimmer (oil particle size < 1 µm) caused by the dispersion of light.

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

Neutralization of the emulsion with e. g. diluted sodium hydroxide solution is done at approx. 35 °C.

Recommended usage concentration

2.0 – 3.0 % TEGO® Care 215

Packaging

600 kg pallet (24 x 25 kg)

Storage

During storage the product tend to agglomerate which does not affect the efficiency of TEGO® Care 215.

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 Lotion JM 2/94	
Phase A	
TEGO® Care 215	2.5 %
TEGO® Alkanol 18 (Stearyl Alcohol)	2.0 %
TEGOSOFT® OS (Ethylhexyl Stearate)	5.0 %
Mineral Oil (30 mPas)	4.2 %
ABIL® 350 (Dimethicone)	0.5 %
Phase B	
Glycerin	3.0 %
Water	81.5 %
Phase C	
TEGO® Carbomer 141 (Carbomer)	0.2 %
Mineral Oil (30 mPas)	0.8 %
Phase D	
Sodium Hydroxide (10 % in water)	0.3 %
Preservative, Parfum	q.s.

O/W Lotion with Avocado Oil JM 8/96	
Phase A	
TEGO® Care 215	2.0 %
TEGOSOFT® CT (Caprylic/Capric Triglyceride)	3.0 %
Avocado (Persea Gratissima) Oil	3.0 %
ABIL® 350 (Dimethicone)	0.5 %
TEGO® Alkanol 18 (Stearyl Alcohol)	1.5 %
TEGO® Carbomer 141 (Carbomer)	0.2 %
Phase B	
Glycerin	3.0 %
Water	86.8 %
Preservative, Parfum	q.s.
Sodium Hydroxide (10 % in water)	q.s.

O/W Lotion (silk feeling)	
BK 10/97	
Phase A	
TEGO® Care 215	2.0 %
TEGO® Alkanol 18 (Stearyl Alcohol)	1.0 %
TEGOSOFT® HP (Isocetyl Palmitate)	4.0 %
ABIL® 350 (Dimethicone)	0.5 %
Phase B	
Glycerin	3.0 %
Water	77.6 %
Phase C	
TEGO® Carbomer 141 (Carbomer)	0.2 %
Mineral Oil (30 mPas)	0.8 %
Phase D	
ABIL® EM 97 S (Bis-PEG/PPG-14/14 Dimethicone; Cyclopentasiloxane)	1.2 %
Cyclomethicone	9.3 %
Phase E	
Sodium Hydroxide (10 % in water)	0.4 %
Preservative, Parfum	q.s.

O/W Sun Protection Lotion	
JM 9/96	
Phase A	
TEGO® Care 215	2.5 %
TEGOSOFT® DO (Decyl Oleate)	5.0 %
TEGOSOFT® P (Isopropyl Palmitate)	5.0 %
ABIL® 350 (Dimethicone)	0.5 %
TEGO® Alkanol 18 (Stearyl Alcohol)	2.0 %
Ethylhexyl Methoxycinnamate	4.0 %
Benzophenone-3	1.0 %
TEGO® Carbomer 141 (Carbomer)	0.2 %
Phase B	
Glycerin	3.0 %
Water	76.8 %
Preservative, Parfum	q.s.
Sodium Hydroxide (10 % in water)	q.s.

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