

TEGO® Care 165

Emulsifier for the formulation of O/W emulsions

- Emulsifier for O/W creams and lotions with pleasant application properties
- Excellent compatibility with active ingredients
- Tolerate significant amounts of electrolytes
- Applicable in a wide pH range
- Emulsions with high heat and freeze stability

Personal Care

INCI Name (CTFA name)

Glyceryl Stearate; PEG-100 Stearate

Chemical and physical properties (not part of specifications)

Form	pellets
HLB value	approx. 11

Properties

- TEGO® Care 165 is a non-ionic emulsifier suitable for the formulation of O/W creams and lotions.
- TEGO® Care 165 is based on vegetable raw materials.
- A typical usage concentration of 3 – 10 % TEGO® Care 165 is recommended. In general no co-emulsifiers are needed to obtain stable emulsions.
- Emulsions based on TEGO® Care 165 show good application and stability properties, if they contain 15 – 30 % of oil phase.
- TEGO® Care 165 should be used in combination with consistency-providing substances for the formation of viscosity-enhancing liquid crystalline structures in the external water phase. TEGO® Alkanol 16 (cetyl alcohol), TEGO® Alkanol 18 (stearyl alcohol) or TEGO® Alkanol 1618 (cetearyl alcohol) have proved to be the most effective stabilizing agents. These consistency-enhancers form – together with the emulsifier – lamellar networks in the water phase. The viscosity of the external phase is increased and the emulsion stability is improved.
- Depending on the formulation 0.1 – 0.3 % TEGO® Carbomer 134 or TEGO® Carbomer 141 are necessary to improve the freeze stability of the emulsions.
- TEGO® Care 165 forms stable emulsions with all common oils and fats used for cosmetic skin care products, including polar oils.
- Formulations based on TEGO® Care 165 tolerate the addition of significant amounts of electrolytes.
- Emulsions can be pH adjusted to between 4.5 and 9.

Preparation

We recommend melting TEGO® Care 165 together with the oil phase.

Mixing temperature of oil and water phase is between 70 and 75 °C.

The oil phase is added to the water phase with stirring. The coarsely dispersed pre-emulsion is then homogenized. (The homogenizer must be placed in the water phase.)

If necessary because of production considerations the water phase can be added to the oil phase **without stirring** (to avoid the building of the water-in-oil form) and then homogenized. (The homogenizer must be placed in the water phase.)

After homogenization the dispersion of TEGO® Carbomer 134 or TEGO® Carbomer 141 in oil – at 20 % in Mineral Oil or TEGOSOFT® OS (Ethylhexyl Stearate) – is added and the emulsion is homogenized again for a short time. Avoid the use of triglyceride based esters for dispersion of the Carbomer.

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

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

Neutralization of the emulsion is completed at approx. 35 °C.

Application

TEGO® Care 165 is suitable for the formulation of O/W creams and lotions in products for

- Facial Care
- Hand
- Body Care

Recommended usage concentration

3 – 10 % TEGO® Care 165

Packaging

600 kg pallet (24 x 25 kg bag)

Guide Line Formulations

O/W Body Butter	
Phase A	
TEGO® Care 165	6.0 %
TEGO® Alkanol 1618 (Cetearyl Alcohol)	1.5 %
TEGOSOFT® MM (Myristyl Myristate)	1.0 %
TEGOSOFT® CR (Cetyl Ricinoleate)	1.0 %
ABIL® Wax 2440 (Behenoxy Dimethicone)	1.0 %
Cyclomethicone	6.0 %
Soybean (Glycine Soja) Oil	7.0 %
Butyrospermum parkii (Shea butter)	7.0 %
Theobroma cacao (Cacao butter)	7.0 %
Lanolin alcohol	1.0 %
Phase B	
Glycerin	5.0 %
EDTA	0.1 %
Water	55.7 %
Phase C	
Phenonip	0.7 %

Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transportation 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.

O/W Body Lotion with Insect Repellent	
Phase A	
TEGO® Care 165	3.0 %
TEGO® Alkanol 18 (Stearyl Alcohol)	0.5 %
TEGOSOFT® CT (Caprylic/Capric Triglyceride)	2.0 %
TEGOSOFT® CR (Cetyl Ricinoleate)	1.0 %
Tocopheryl Acetate	0.5 %
Ethyl Butylacetylaminopropionate	10.0 %
Phase B	
Water	78.1 %
Glycerin	3.0 %
GluCare® S (Sodium Carboxymethyl Betaglucan)	0.2 %
Allantoin	0.2 %
Phase C	
Polyacrylamide, C13-14 Isoparaffin, Laureth-7 (SEPIGEL 305)	1.5 %
Preservative, Parfum	q.s.

A 07/05

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)