**Technical Information** 

# TEGO<sup>®</sup> Care SE 121

# Natural emulsifier and co-emulsifier for O/W emulsions

#### **Intended use**

O/W emulsifier for skin care

#### Benefits at a glance

- PEG-free, fully based on natural renewable raw materials
- Recommended usage concentration of 2 5%
- Co-emulsifier for O/W creams and lotions

#### **INCI (PCPC name)**

#### Sucrose Stearate

# Chemical and physical properties (not part of specifications)

Form	pellets/pellet conglomerates*
HLB value	approx. 13

\*Note: conglomerates can occur due to filling temperature and packaging pressure.

### Main properties

- TEGO<sup>®</sup> Care SE 121 is produced from natural renewable raw materials.
- TEGO<sup>®</sup> Care SE 121 is a mild, PEG-free coemulsifier for O/W creams <u>and</u> lotions.
- Due to its chemical composition as a sucrose ester TEGO<sup>®</sup> Care SE 121 has moisturizing properties.
- TEGO<sup>®</sup> Care SE 121 does not contain any solvent or preservative.

#### Preparation

It is suggested to add TEGO<sup>®</sup> Care SE 121 to the water phase. It is also possible to add TEGO<sup>®</sup> Care SE 121 to the oil phase.

Further manufacturing conditions correspond to the principles of common processing for O/W emulsions.

#### **Application**

TEGO<sup>®</sup> Care SE 121 is especially suitable for O/W creams and lotions for

- Facial and body care
- After sun are
- Baby care

#### **Recommended usage concentration**

2.0 - 5.0% TEGO® Care SE 121

#### Packaging

450 kg pallet (18 x 25 kg bag)

#### 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**

O/W Moisturizing Body Lotion SZ 37/14–3	
Phase A	
TEGIN <sup>®</sup> 4100 Pellets (Glyceryl Stearate)	0.50%
Stearic Acid	0.50%
TEGOSOFT <sup>®</sup> MM (Myristyl Myristate)	1.00%
TEGOSOFT® APM (PPG–3 Myristyl Ether)	3.00%
TEGOSOFT <sup>®</sup> OP (Ethylhexyl Palmitate)	4.20%
Cyclopentasiloxane	5.00%
Tocopheryl Acetate	0.50%
ABIL <sup>®</sup> 350 (Dimethicone)	0.30%
Phase B	
TEGO® Care CG 90	1.00%
(Cetearyl Glucoside)	
TEGO® Care SE 121	2.00%
Allantoin	0.20%
Panthenol	0.50%
Glycerin	3.00%
Water	76.70%
Phase C	1
TEGO <sup>®</sup> Carbomer 141 (Carbomer)	0.20%
TEGOSOFT® OP (Ethylhexyl Palmitate)	0.80%
Phase D	
Sodium Hydroxide (10% in water)	0.60%
Phase Z	-
Preservative*, Perfume	q.s.
Preparation:	
<ol> <li>Heat phase A and B separately to approx. 80 °C.</li> <li>Add phase A to phase B with stirring.</li> </ol>	1)
3. Homogenize.	

- 4. Cool with gentle stirring to approx. 60 °C and add phase C.
- 5. Homogenize for a short time.
- 6. Cool with gentle stirring and add phase D below 40 °C.

DImportant: If phase A has to be charged into the vessel first, phase B must be added without stirring.

\*Formulation was tested with 1.0% Phenoxyethanol; Ethylhexylglycerin (Euxyl PE 9010, Schülke & Mayr GmbH)

Phase A		
ABIL® Care 85 (Bis-PEG/PPG-16/16 PEG/PPG-16/16 Dimethicone; Caprylic/Capric Triglyceride)	1.50	
TEGINACID <sup>®</sup> C (Ceteareth–25)	1.00	
TEGIN <sup>®</sup> M Pellets (Glyceryl Stearate)	3.50	
Stearyl Alcohol	2.00	
Stearic Acid	1.00	
TEGOSOFT <sup>®</sup> MM (Myristyl Myristate)	1.50	
TEGOSOFT <sup>®</sup> DC (Decyl Cocoate)	6.00	
TEGOSOFT® TN (C12-15 Alkyl Benzoate)	8.50	
Prunus Amygdaluy Dulcis (Sweet Almond) Oil	5.00	
Phase B		
TEGO® Care SE 121	2.00	
Glycerin	3.00	
Panthenol	0.50	
Allantoin	0.20	
Water	63.50	
Phase C		
TEGO® Carbomer 134 (Carbomer)	0.10	
Mineral Oil (30 mPas)	0.40	
Phase D		
Sodium Hydroxide (10% in water)	0.30	
Phase Z		
Preservative*, Perfume	q	
Preparation:		
1. Heat phase A and B separately to		
approx. 80 °C.		
2. Add phase A to phase B with stirring. <sup>1</sup>	)	
3. Homogenize.		
<b>J</b>	4. Cool with gentle stirring to approx. 60 $^{\circ}$ C and	
4. Cool with gentle stirring to approx. 60		
4. Cool with gentle stirring to approx. 60 add phase C.		
4. Cool with gentle stirring to approx. 60	e D belo	

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Ethylhexylglycerin (Euxyl PE 9010, Schülke & Mayr GmbH)

O/W Body Souffle Cream	
SZ 37/14–1	
Phase A	
AXOL <sup>®</sup> C 62 Pellets	1.50%
(Glyceryl Stearate Citrate)	
TEGIN® M Pellets (Glyceryl Stearate)	2.00%
TEGO® Alkanol 1618	3.00%
(Cetearyl Alcohol)	
TEGOSOFT <sup>®</sup> DEC	20.00%
(Diethylhexyl Carbonate)	
Phase B	
TEGO <sup>®</sup> Care SE 121	1.00%
Glycerin	3.00%
Water	67.10%
Phase C	
TEGO <sup>®</sup> Carbomer 341 ER	0.20%
(Acrylates / C10-30 Alkyl Acrylates	
Crosspolymer)	
TEGOSOFT <sup>®</sup> DEC	0.80%
(Diethylhexyl Carbonate)	
Phase D	
Sodium Hydroxide (10% in water)	0.60%
Phase E	
TEGO <sup>®</sup> Betain 810	0.80%
(Capryl/Capramidopropyl Betaine)	
Phase Z	
Preservative*, Perfume	q.s.
Preparation:	
1. Heat phase A and B separately to 80	) °C.
2. Add phase A to phase B with stirrin	
3. Homogenize.	

- 4. Cool with gentle stirring to approx. 60 °C and add phase C.
- 5. Homogenize for a short time.
- 6. Cool with gentle stirring and add phase D and E below 40 °C.

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

\*Formulation was tested with 1.0% Phenoxyethanol; Ethylhexylglycerin (Euxyl PE 9010, Schülke & Mayr GmbH)

Body Lotion	
SZ 29/14–A4	
Phase A	
TEGIN <sup>®</sup> 4100 Pellets (Glyceryl Stearate)	0.50%
Stearic Acid	0.50%
TEGOSOFT <sup>®</sup> APM	1.30%
(PPG-3 Myristyl Ether)	
TEGOSOFT® OP (Ethylhexyl Palmitate)	1.60%
TEGOSOFT <sup>®</sup> DEC	1.60%
(Diethylhexyl Carbonate)	
Phase B	
TEGO® Care SE 121	2.00%
Glycerin	3.00%
Water	87.90%
Phase C	
TEGO <sup>®</sup> Carbomer 141 (Carbomer)	0.20%
TEGOSOFT® OP (Ethylhexyl Palmitate)	0.80%
Phase D	
Sodium Hydroxide (10% in water)	0.60%
Phase Z	
Preservative*, Perfume	q.s.
Preparation:	

- 1. Heat Phase A and B separately to 80 °C.
- 2. Add phase A to phase B with stirring.<sup>1)</sup>
- 3. Homogenize.
- 4. Cool with gentle stirring to approx. 60 °C and add phase C.
- 5. Homogenize for a short time.
- 6. Cool with gentle stirring and add phase D below 40 °C.

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

\*Formulation was tested with 0.8% Dipropylene Glycol; Methylparaben; Ethylparaben; Aqua;

Methylisothiazolinone (Microcare MEM, Thor GmbH)

O/W Cream	
SZ 29/14–B5	
Phase A	
TEGIN <sup>®</sup> M Pellets (Glyceryl Stearate)	5.50%
Stearyl Alcohol	2.00%
TEGOSOFT® APS (PPG-11 Stearyl Ether)	3.20%
TEGOSOFT° liquid (Cetearyl Ethylhexanoate)	3.20%
TEGOSOFT® OP (Ethylhexyl Palmitate)	7.60%
Phase B	
TEGO <sup>®</sup> Care SE 121	5.50%
Glycerin	2.00%
Water	71.00%
Phase Z	
Preservative*, Perfume	q.s.

#### **Preparation:**

- 1. Heat Phase A and B separately to 75 °C.
- 2. Add phase A to phase B with stirring.<sup>1)</sup>
- 3. Homogenize.

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

\*Formulation was tested with 0.8% Dipropylene Glycol; Methylparaben; Ethylparaben; Aqua; Methylisothiazolinone (Microcare MEM, Thor GmbH)

O/W Body Butter	
SZ 29/14-C2	
Phase A	
TEGO® Alkanol 1618 (Cetea Alcohol)	ryl 3.00%
TEGIN® M Pellets (Glyceryl Steara	te) 5.00%
TEGOSOFT <sup>®</sup> MM (Myristyl Myrista	te) 1.00%
TEGOSOFT <sup>®</sup> CR (Cetyl Ricinolea	te) 1.00%
TEGOSOFT <sup>®</sup> DC (Decyl Cocoa	te) 7.00%
TEGOSOFT® OER (Oleyl Eruca	te) 5.00%
Glycine Soja (Soybean) Oil	3.00%
Butyrospermum Parkii (Shea) Butter	7.00%
Theobroma Cacao (Cocoa) Seed Butt	er 5.00%
Phase B	
TEGO <sup>®</sup> Care SE 121	3.50%
Glycerin	5.00%
Water	54.50%
Phase Z	
Preservative*, Perfume	q.s.
Preparation:	
1. Heat Phase A and B separately to 75 $^\circ$ C.	

- 2. Add phase A to phase B with stirring.<sup>1)</sup>
- 3. Homogenize.

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

\*Formulation was tested with 1.0% Phenoxyethanol; Ethylhexylglycerin (Euxyl PE 9010, Schülke & Mayr GmbH)

Natural O/W Lotion	
SZ 29/14–E1	
Phase A	
TEGOSOFT° OER (Oleyl Erucate)	3.00%
TEGOSOFT <sup>®</sup> MM (Myristyl Myristate)	2.00%
TEGOSOFT <sup>®</sup> DC (Decyl Cocoate)	2.00%
Simmondsia chinensis (Jojoba) Seed Oil	5.00%
TEGO® Alkanol 1618 (Cetearyl Alcohol)	1.00%
Phase B	
TEGO® Care SE 121	3.00%
Water	74.50%
Phase C	
Glycerin	3.00%
Xanthan Gum	0.50%
Water	5.00%
Phase D	
Sodium Hydroxide (10% in water)	0.20%
Phase E	
Benzyl Alcohol, Glycerin, Benzoic Acid,	0.80%
Sorbic Acid (Rokonsal BSB-N, Ashland)	
Phase Z	
Perfume	q.s.
Preparation:	
1. Heat Phase A and B separately to 80 °C.	
2. Add phase A to phase B with stirring. <sup>1)</sup>	
3. Homogenize.	
<ol> <li>Add phase D below 30 °C.</li> <li>Add phase E and adjust pH of formulation</li> </ol>	

to 5.0 - 5.5.

<u>"Important</u>: If phase A has to be charged into the vessel first, phase B must be added <u>without stirring</u>.

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