TEGO® Alkanol S 2 P
TEGO® Alkanol S 20 P
TEGO® Alkanol S 21 P
TEGO® Alkanol L 23 P

- Emulsifiers for the formulation of cosmetic O/W and W/O emulsions
- Suitable for the preparation of antiperspirants
- Stable emulsions at a wide pH range

Personal Care

INCI names (CTFA names)

TEGO® Alkanol S 2 P	Steareth-2
TEGO® Alkanol S 20 P	Steareth-20
TEGO® Alkanol S 21 P	Steareth-21
TEGO® Alkanol L 23 P	Laureth-23

Chemical and physical properties (not part of specifications)	TEGO® Alkanol S 2 P	TEGO® Alkanol S 20 P	TEGO® Alkanol S 21 P	TEGO® Alkanol L 23 P
Form	pellets	pellets	pellets	pellets
HLB value	approx. 5	approx. 15	approx. 15	approx. 17

Properties

- TEGO® Alkanol S 2 P, S 20 P, S 21 P and L 23 P are non-ionic emulsifiers based on vegetable raw materials.
- Both hydrophilic and lipophilic types are effective in either O/W or W/O emulsions. In combination with other emulsifiers creams and lotions can be formulated.
- The amount used, referred to the emulsion, is 1.0 - 6.0 %.
- TEGO® Alkanol S 2 P, S 20 P, S 21 P or L 23 P should be used in combination with consistency-providing substances for the formation of viscosity-enhancing gel structures in the external water phase.
  TEGO® Alkanol 16, 18 or 1618 have proved most effective. These form liquid-crystalline structures in the water phase, the viscosity of the external phase is increased and the emulsion is stabilized.
- A rheological additive such as TEGO® Carbomer 134, 141 or 341 ER should be added to increase the thermo-stability of the emulsion.
- TEGO® Alkanol S 2 P, S 20 P, S 21 P or L 23 P emulsify oils and fats in highly acidic or alkaline media.

Preparation

We recommend melting TEGO® Alkanol S 2 P, S 20 P, S 21 P or L 23 P together with the oil phase. Further manufacturing conditions correspond to the principles of common processing for O/W or W/O emulsions.

Application

TEGO® Alkanol S 2 P, S 20 P, S 21 P or L 23 P are suitable for

- O/W skin care creams and lotions
- W/O skin care creams and lotions
- Deodorant and antiperspirant sprays and roll-ons
- Hair conditioner
- Wet wipes

Recommended usage concentration

1.0 - 6.0 %

Packaging

TEGO® Alkanol S 2 P
450 kg pallet (18 x 25 kg carton box)

TEGO® Alkanol S 20 P
600 kg pallet (24 x 25 kg bag)

TEGO® Alkanol S 21 P
600 kg pallet (24 x 25 kg bag)

TEGO® Alkanol L 23 P
600 kg pallet (24 x 25 kg bag)

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.

Guide Line Formulations

O/W Skin Repair Cream WR 1/00-11	
Phase A	
TEGO® Alkanol S 2 P	2.40 %
TEGO® Alkanol S 20 P	0.60 %
TEGO® Alkanol 1618 (Cetearyl Alcohol)	3.00 %
Stearic Acid	1.00 %
TEGOSOFT® APS (PPG-11 Stearyl Ether)	3.00 %
Isohexadecane	6.00 %
Cyclomethicone	1.00 %
Phase B	
Glycerin	3.00 %
SK-influx (Ceramide NP; Ceramide AP; Ceramide EOP; Phytosphingosine; Cholesterol; Sodium Lauroyl Lactylate; Carbomer; Xanthan Gum)	5.00 %
Water	73.60 %
Phase C	
TEGO® Carbomer 134 (Carbomer)	0.20 %
Mineral Oil	0.80 %
Phase D	
Sodium Hydroxide (10 % in water)	0.40 %
Preservative, Perfume	q.s.

Preparation:

1. Heat phase A and B separately to approx. 80 °C.
2. Add phase A to phase B with stirring.[1)]
3. Homogenise.
4. Cool with gentle stirring to approx. 60 °C and add phase C.
5. Homogenise for a short time.
6. Cool with gentle stirring and add phase D below 40 °C.

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

O/W Deodorant Roll-on UP 41.3/04	
Phase A	
TEGO® Alkanol S 2 P	2.20 %
TEGO® Alkanol S 20 P	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	
Glycerin	3.00 %
Water	88.50 %
Phase C	
Perfume	0.30 %
Phase D	
Citric Acid (50 % in water)	q.s.
Phase E	
Preservative	q.s.

Preparation:

1. Heat phase A and B separately to approx. 80 °C.
2. Add phase A to phase B with stirring.[1)]
3. Homogenise.
4. Cool with gentle stirring to approx. 40 °C and add phase C.
5. Cool with gentle stirring below 30 °C.
6. Adjust the pH to 5 – 6 with phase D.

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

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