

TEGO® SML 20
TEGO® SMS 60
TEGO® SMO 80 V

Mild non-ionic surfactants, solubilizers

- mild non-ionic secondary surfactants for hair and skin cleansing products
- solubilizers of lipophilic substances
- hydrophilic emulsifiers for O/W emulsions

Personal Care

INCI name (CTFA name)

TEGO® SML 20	Polysorbate 20
TEGO® SMS 60	Polysorbate 60
TEGO® SMO 80 V	Polysorbate 80

Chemical and physical properties (not part of specification)	TEGO® SML 20	TEGO® SMS 60	TEGO® SMO 80 V
Form	liquid	pasty / pourable	liquid
HLB value	Approx. 17	approx. 15	approx. 15

Solubility at 10 % concentration and 25 °C in	TEGO® SML 20	TEGO® SMS 60	TEGO® SMO 80 V
Water	soluble	Soluble	soluble
vegetable oils	insoluble	Insoluble	insoluble
paraffin oil	insoluble	Insoluble	insoluble
cosmetic alcohol	soluble	Soluble	soluble

Properties

As non-ionic surfactants TEGO® SML 20, TEGO® SMS 60, TEGO® SMO 80 V are compatible with all other non-ionic emulsifiers and anionic and cationic surfactants. With high ethoxylated non-ionic surfactants very mild formulations are obtainable.

The irritating effect of Laureth Sulfate and even the low irritation potential of surfactant systems like SLES/CAPB can be reduced clearly by using TEGO® SML 20, TEGO® SMS 60, TEGO® SMO 80 V.

Application

- Mild non-ionic surfactants in shampoos, shower and foam baths
- Solubilizers for fatty oils and perfume oil in all aqueous preparations
- Emulsifiers/co-emulsifiers for O/W emulsions

Preparation**Solubilization**

As a solubilizer in aqueous surfactant solutions it is generally sufficient to mix TEGO® SML 20, TEGO® SMS 60, TEGO® SMO 80 V intensively with the oils. Then the addition of the other ingredients follows.

O/W emulsions

TEGO® SML 20 or TEGO® SMO 80 V are added into the oil phase or water phase depending on the solubility.

Packaging

TEGO® SML 20 / TEGO® SMO 80 V:
880 kg pallet (4 x 220 kg drum)

TEGO® SMS 60:
800 kg pallet (4 x 200 kg drum)

Storage

TEGO® SMS 60 tends to crystallization after storage time. This is reversible and has no negative influence on the quality. Short heating and stirring will provide adequate homogenization.

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.

TEGO® SML 20 is listed in the European Pharmacopoeia 1997.

Guide Line Formulations

O/W Sparkling Body Lotion MK 22/01-10		
Phase A		
ABIL® Care 85 (Bis-PEG/PPG-16/16 PEG/PPG 16/16 Dimethicone; Caprylic/Capric Triglyceride)		3.00 %
TEGOSOFT® CT (Caprylic/Capric Triglyceride)		3.00 %
Mineral Oil (30 mPas)		10.00 %
Phase B		
TEGO® SMO 80 V		0.50 %
Glycerin		5.00 %
Water		60.50 %
Phase C		
TEGO® Carbomer 140 (Carbomer)		0.15 %
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Xanthan Gum		0.10 %
Mineral Oil (30 mPas)		1.60 %
Phase D		
Sodium Hydroxide (10 % in water)		q.s.
Phase E		
Timiron Splendid Gold (Titanium Dioxide, Mica, Silica, Merck)		3.00 %
Water		10.00 %
Ethanol		3.00 %
Preservative, Perfume		q.s.
Preparation: 1. Add phase A to phase B with stirring. ¹⁾ 2. Homogenise. 3. Add phase C and homogenise for a short time. 4. Add phase D/E and stir well.		
¹⁾ Important: If phase A has to be charged into the vessel first, phase B must be added without stirring .		

Brushless O/W Shaving Cream MK 75/06-3		
Phase A		
TEGO® Care 165 (Glyceryl Stearate; PEG-100 Stearate)		2.50 %
TEGO® SMS 60		1.00 %
TEGO® Alkanol 16 (Cetyl Alcohol)		2.00 %
Stearic Acid		16.50 %
Lanolin Alcohol		2.00 %
Petrolatum		4.00 %
Mineral Oil (30 mPas)		1.00 %
Phase B		
Water		67.30 %
Urea		0.10 %
Glycerin		2.00 %
Potassium Hydroxide		0.70 %
Phase C		
Triethanolamine		0.90 %
Phase Z		
Preservative, Perfume		q.s.
Preparation: 1. Heat phase A and B separately to approx. 80 °C. ¹⁾ 2. Add phase C to phase B. 3. Add phase B/C to phase A. 4. Homogenise. 5. Cool with gentle stirring.		
¹⁾ Important information: If phase A has to be charged into the vessel first, phase B must be added to phase A without stirring .		

Baby Shampoo UK 132/1	
TEGO® SML 20	1.90 %
Parfum	0.30 %
Sodium Laureth Sulfate (Texapon NSO, Cognis)	7.20 %
Lauryl Glucoside (50 %)	2.05 %
Water	70.20 %
TEGO® Betain F 50 (Cocamidopropyl Betaine)	14.85 %
ANTIL® 171 (PEG-18 Glyceryl Oleate/Cocoate)	3.50 %
Sodium Chloride	q. s.
Preparation: Mix the ingredients in the given order.	

Soothing Wet Wipes Solution for Stressed Skin UP 64.2/02	
Phase A	
TEGO® SMO 80 V	3.00 %
Parfum	0.30 %
ABIL® B 8832 (Bis-PEG/PPG-20/20 Dimethicone)	0.50 %
Water	91.60 %
TEGO® Cosmo C 100 (Creatine)	0.50 %
Propylene Glycol	4.00 %
Panthenol	0.10 %
Phase B	
Citric Acid (10 % in water)	q.s.
Phase Z	
Preservative	q.s.
Preparation: 1. Add the raw materials of phase A in the given order while stirring. 2. Adjust the pH value 6.5 with Citric Acid solution.	

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