

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

Mild non-ionic surfactants, solubilizers

Intended use

TEGO® SML 20	Solubilizer
TEGO® SMO 80 V	Solubilizer, O/W emulsifier
TEGO® SMS 60	Solubilizer, O/W emulsifier

Benefits at a glance

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

INCI (PCPC 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 case of 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.

Guideline 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%
TEGO® Carbomer 141 (Carbomer)	0.15%
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. Homogenize.
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%
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Phase Z

Preservative, Perfume	q.s.
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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. Homogenize.
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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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)

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Product specification

Material TEGO SML 20
Spec.Code K00 STANDARD

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Inspection Characteristics	Method	Limits	Units	Z
Dioxane	GM_0616_01	<=5	ppm	X
Ethylenoxide	GM_0616_01	<=1	ppm	X
Colour to Gardner	GM_0140_01	<=6.0	Gardner	X
Hydroxyl value	GM_0020_01	96.0-108.0	mg KOH/g	X
Iodine value	GM_0050_01	<=5.00	g I/100g	X
Acid Value	GM_0010_01	<=2.00	mg KOH/g	X
Saponification Value	GM_0030_01	40.0-50.0	mg KOH/g	X
Water Content	GM_0080_01	<=3.000	%	X

Report on inspection certificate: X = specific/actual value, C = unspecific value/conformity, T = not reported

This product only starting with an E in the batch number is produced in a RSPO certified site.

The raw materials for this product are sourced according to rules set by the RSPO, Supply Chain Mass Balance, Evonik AG RSPO Certification Number : RSPO-V-14-13553.

Certificates can only be used from RSPO certified Supply Chain Partners.

This document is computer printed and therefore valid without signature.

All warranty claims in respect of the conformity of our product are subject to our General Terms and Conditions of Sale and Delivery. The data listed above reflects the criteria for our internal quality tests. We do not hereby make any express or implied warranty, whether for specific properties or for fitness for any particular application or purpose. All values are valid for the product when despatched from the works.

The Standard Test Methods can be obtained from specialized publishers. Evonik's test methods are available on request.

Material: TEGO SML 20		Spec-Code: K00 STANDARD	Page 1 from 1
Print date: 06.07.2015	Valid from: 07.11.2014	Version: 4	

TEGO® SML 20

Product data record

1. General information

1.1 Manufacturer / Supplier

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1.2 Product Description

1.2.1 Raw material category Solubilizer

1.2.2 Ingredients according to INCI

Polysorbate 20

1.2.3 Composition

Components	Source	Ratio
Polysorbate 20	vegetable / synthetic	100 %

This composition information serves for information of our customers only. It is neither relevant for the composition listing according to Regulation (EC) No 1223/2009, nor does it reflect the chemical composition according to the different chemical regulations in the world which is disclosed in the table "information on ingredients/hazardous components" in the relevant parts of the respective (Material) Safety Data Sheets.

1.2.4 Solvents, preservatives and other additives

	CAS No.	EINECS / EC No.	content	Function
no additives				

No components which are listed in Annex II of the Regulation (EC) No 1223/2009 and its modifications and updates are added to and are not to be expected in the above mentioned product due to the raw materials used and the production process.

2. Information on production process

General description of production process:
 Ethoxylated sorbitane esters

The product is not irradiated.

TEGO® SML 20 is produced in the strictest absence of any animal derived material of any type.

Origin of vegetable starting material: palm kernel oil, corn

GMO-Status:

The item contains ingredients derived from corn (including oils and other refined ingredients), but these ingredients are sourced from an "Identity Preserved" programme and can be certified NON-GM.

However max 0.9 % cross-contamination is possible. Any protein or DNA is not present. Consequently the product will be PCR negative when tested.

2.1 By products

		method
1,4-Dioxan	max. 5 ppm	
Residual solvents	not applicable	
Dichloroacetic acid	not applicable	Chromatography
Monochloroacetic acid	not applicable	Chromatography
Free amines	not applicable	
Pesticides	meets the valid regulatory requirements for limits on agricultural pesticides	
Nitrosamines	not applicable	
Total heavy metals	max. 20 ppm	AAS-ICP
As, Cd, Co, Cr, Hg, Ni, Pb, Sb	Each < 1 ppm	AAS-ICP
Latex	not to be expected in the product due to the raw materials used and the production process	
VOC	< 3 % according to SR (Swiss Right) 814.018	

2.2 CMR (Carcinogenic, Mutagenic or Reprotoxic)

The use in cosmetic products of substances classified as CMR substances, of category 1A or 1B or 2 under Part 3 of Annex VI to Regulation (EC) No 1272/2008 shall be prohibited.

Further Information:

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:342:0059:0209:en:PDF>

Some of the CMR substances mentioned below and listed in Annex VI to Regulation (EC) No 1272/2008 are used as starting materials or solvents for the production of our cosmetic raw materials and may require reporting under California Proposition 65 or the Safe Cosmetics Act, SB 484.

The presence of these prohibited substances has to be seen as non-intended. It is stemming from impurities of the starting materials or the manufacturing process which is technically unavoidable in good manufacturing practice.

CMR substance	Starting material	max. concentration	method
Ethylene Oxide	yes	< 1 ppm	
Propylene Oxide	no		
Octamethylcyclotetrasiloxane (D4)	no		
2-Ethylhexanoic Acid	no		
n-Hexane	no		
Methyl Chloride	no		
Dimethyl Sulphate	no		

2.3 "Allergens" according to the Regulation (EC) No 1223/2009

The presence of substances, the mentioning of which is required under the column 'Other' in Annex III, shall be indicated in the list of ingredients in addition to the terms parfum or aroma.

The cosmetic raw materials and the cosmetic actives supplied by Evonik Personal Care are manufactured without the use of perfumes and fragrances. An analytical proof for the absence in traces of the substances to be mentioned in addition to the terms parfum or aroma is not performed in cosmetic raw materials, which are chemically produced.

None of these substances have been intentionally added to our cosmetic raw materials or are formed during the manufacturing process according to our knowledge of the chemistry.

2.4 Food Ingredients listed in Annex IIIa of Commission Directive 2007/68/EC.

None of these substances have been intentionally added to our cosmetic raw materials or are formed during the manufacturing process according to our knowledge of the chemistry.

3. Microbiological status

Total Viable Count max. 100 cfu/g
 Pathogens* absent/g

*Pathogens are: Enterobacteria, Pseudomonas, Enterococci, Candida albicans, Staphylococci

4. Shelf life / storage conditions

24 months after production (unopened original packaging)

5. Regulatory Status

5.1 Customs tariff number 34021300

5.2 Regulatory status (chemical regulations)

Europe

Components	REACH status	CAS No.	EINECS / EC No.
Polysorbate 20	Polymer	9005-64-5	Polymer

Other countries

Country		yes / no	Remark
Australia	AICS:	yes	
China	IECSC:	yes	
Canada	DSL: NDSL:	yes	
Taiwan	TCSI:	yes	

In the following countries the relevant authorities currently do not require pre-market approval for cosmetic raw materials:

Brazil, Japan, South Korea, Philippines, USA

5.2.1 Regulatory status (cosmetic regulation)

Country		yes / no	Remark
China	CFDA:	yes	
Japan	JSQI:	yes	JSQI No. 109477, but specifications not controlled

6. Toxicology and Ecotoxicology

Refer to summary of ecotoxicological and toxicological data