

TAGAT® CH 40 TAGAT® S

Universal solubilizers

- Solubilizers of lipophilic substances with mitigating properties
- hydrophilic emulsifiers for O/W systems
- Stabilizers of conditioning additives
- based on vegetable raw materials

Personal Care

TAGAT® Product	INCI Name (CTFA name)
TAGAT® CH 40	PEG-40 Hydrogenated Castor Oil
TAGAT® S	PEG-30 Glyceryl Stearate

Chemical and physical properties (not part of specifications)	TAGAT® CH 40	TAGAT® S
Form (25 °C)	pasty, turbid	semi-solid
HLB	app. 13	app. 16

Solubility at 10 % concentration and 25 °C in	TAGAT® CH 40	TAGAT® S
Water	soluble	soluble with slight turbidity
Vegetable oils	soluble with slight turbidity	insoluble
Paraffin oil	soluble with slight turbidity	insoluble
Cosmetic alcohol	soluble	soluble

Properties	TAGAT®CH 40	TAGAT® S
universal, common non-ionic surfactant	●	
viscosity builder		●
slight foam reduction	●	
irritancy mitigator	●	●
oil solubilizer	●	
clearly soluble in water	●	
vitamin/fragrance solubilizer	●	
O/W emulsifier for creams and rinses		●
stabilizing of conditioning additives	●	●
improves skin feel/refatting effect	●	

Application in

- shampoos
- shower and foam bath preparations
- O/W emulsions

TAGAT® CH 40 is used as non-ionic surfactant and as universal solubilizer in toiletry products like shampoo and shower preparations.

With TAGAT® S it is possible to stabilize dispersed conditioning agents, e.g. in 2-in-1-shampoos.

Very mild formulations are obtainable with high ethoxylated non-ionic surfactants. The irritating effect of laureth sulfate and even the low irritation potential of surfactant systems like SLES/CAPB may be suppressed totally by using TAGAT® S.

TAGAT® S is an emulsifier for oil-in-water emulsions.

As consistency enhancing additives TEGIN® M (glyceryl stearate) and/or TEGO® Alkanol (cetyl alcohol and/or stearyl alcohol) are recommended.

Preparation

Solubilization: If using TAGAT® CH 40 as a solubilizer in aqueous surfactant solutions, it is generally sufficient to mix it intensively with the oils, followed by addition of the other ingredients.

TAGAT® S is processed warm. In principle moderate warming facilitates and accelerates solubilization.

O/W emulsions: TAGAT® S is heated together with fats and oil-soluble substances to 65 – 80 °C. The water phase, at the same temperature, is stirred into the oil phase. This results in a low viscosity, fine- to medium-dispersed pre-emulsion, which is homogenized at 60 °C. For creams the particle size of the internal phase should be adjusted to 1 – 3 µm, for lotions below 1 µm. The emulsion is cooled to the filling temperature of 35 to 30 °C, ensuring continual slight motion by stirring. Allow approx. 30 minutes for this cooling process. Add perfume at approx. 45 °C.

Packing

TAGAT® CH 40:
880 kg pallet (4 x 220 kg drum)

TAGAT® S:
800 kg pallet (4 x 200 kg drum)

Storage

TAGAT® products tend to cloudiness and crystallization after storage time. This is reversible and has no negative influence on the quality. For processing, solid or semi-solid TAGAT® types should be heated up shortly to 30 – 40 °C. Short 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.

Guide Line Formulations

Clear skin caring shower gel for dry skin C011/6	
TEGOSOFT® GC (PEG-7 Glyceryl Cocoate)	2.0 %
TAGAT® CH 40 (PEG-40 Hydrogenated Castor Oil)	2.5 %
ISOLAN® GO 33 (Polyglyceryl-3 Oleate)	1.0 %
Fragrance	0.3 %
Sodium Laureth Sulfate, 28 %	42.9 %
Water	37.6 %
TEGO® Betain F 50 (Cocamidopropyl Betaine)	10.7 %
LACTIL® (Sodium Lactate; Sodium PCA; Glycine; Fructose; Urea; Niacinamide; Inositol; Sodium Benzoate; Lactic Acid)	1.0 %
ANTIL® 171 (PEG-18 Glyceryl Oleate/Cocoate)	2.0 %
Preparation: Mix in the given order.	

Mild Baby Shampoo WA 53/37	
TAGAT® S (PEG-30 Glyceryl Stearate)	3.5 %
Sodium Laureth Sulfate, 28 %	15.0 %
Water	65.5 %
TEGO® Betain HS (Cocamidopropyl Betaine; Glyceryl Laurate)	10.0 %
ANTIL® 171 (PEG-18 Glyceryl Oleate/Cocoate)	6.0 %
NaCl, preservatives, perfume	q.s.
Preparation: Mix in the given order. The TAGAT S has to be heated up to until it is clear, the other ingredients can be added cold. In-vitro mildness testing (RBC): slightly irritant.	

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