

TEGIN® G

Emulsifier for the formulation of O/W creams

- Emulsifier based on vegetable raw materials
- Usage concentration of 6.0 – 8.0 %
- Emulsifier for O/W creams with pleasant application properties
- Stable creams from pH 6.8 – 8.2

Personal Care

INCI name (CTFA name)

Glycol Stearate SE

Chemical and physical properties (not part of specifications)

Form	pellets
Colour	ivory
HLB-value	approx. 12

Application

- TEGIN® G is produced on basis of vegetable raw materials.
- The amount used, referred to the emulsion, is 6.0 – 8.0 %.
- Oil content (including emulsifier) can be varied from 20 – 40 %.
- All common cosmetic oils and fats can be emulsified; the resulting creams show good stability. However, the exclusive use of high viscous oils has a negative influence on the application properties.
- Additives containing acids or electrolytes act as destabilizers; they have to be dosed carefully.
- The pH value can be adjusted to 6.8 – 8.2.
- The creams are distinguished by good stability towards heat and freezing stress; stability between –15 °C and +45 °C is attainable.

Preparation

Oil phase including the emulsifier and water phase are heated separately to 65 °C.

We recommend adding the hot oil phase to the hot water phase **while stirring**. The coarsely dispersed pre-emulsion is then homogenized.

If the above-mentioned processing is not possible, we therefore recommend to combine the hot water and oil phase **without stirring** (to avoid the building of the water-in-oil form) and start afterwards with the homogenisation.

Optimal diameter of the oil particles is approx. 5 µm.

Emulsion is cooled while slightly stirring; the stirrer has to guarantee equal horizontal and vertical thorough mixing, even at temperatures below 50 – 45 °C, when the low viscous emulsions become highly viscous to creamy.

Perfumes and other heat sensitive substances are added at 45 – 40 °C.

Homogenisation below 50 °C has a negative influence on the consistency promoting gel structures.

Influence of the degree of dispersion on emulsion quality

Coarsely dispersed emulsions appear dull and slightly inhomogeneous. Extremely small diameters for the present have a positive influence on the appearance of the creams (creams look "brilliant"), but they promote gradual formation of inhomogeneous structures ("gritty" creams), which become visible after days or weeks. These inhomogeneous structures are due to partial changes in the consistency promoting crystal structures. The latter are based on glycerol monodistearate and are stabilized by the hydrophilic potassium stearate.

Reason for the negative influence of intensive homogenisation presumably is: With increasing degree of dispersion a higher amount of potassium stearate is absorbed in the interface. This means that the portion available for building up the consistency-promoting gel structures decreases below the minimal dosage required for long-term stability. Average particle sizes of approx. 5 µm are optimal.

Recommended usage concentration

6.0 – 8.0 %

Packaging

600 kg pallet (24 x 25 kg bag)

Hazardous good classification

Information concerning

- classification and labelling according to regulation 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.

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This information and all further technical advice is based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. In particular, no warranty, whether express or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments.

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)

TEGIN® G

Product data record

1. General information

1.1 Manufacturer/Supplier

Evonik Industries AG
Business Line Personal Care
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Phone: +49 (201) 173-2524
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1.2 Raw material basis

Components (INCI name)	CAS No.	EINECS No.	Ratio	Source
Glycol Stearate SE	111-60-4	203-886-9		vegetable

To the product no components are added which are listed in Appendix II of the European Cosmetic Directive 76-768/EEC and its modifications and updates.

1.3 **B.T.N. number** 29157000

1.4 **Raw material category** O/W Emulsifier

1.5 Registration status (only for cosmetic use)

EC: yes
Substances, listed in Appendix III of the European Cosmetic Directive 76-768/EEC are: none

USA: yes

Canada: yes

Japan: yes
Quasi-drug: yes (JSQI)

Australia: yes

China: IECS: yes
SFDA: yes

5.2 CMR

After the publication of the 7th Amendment to the Cosmetic Directive (2003/15/EC) the use of CMR (Carcinogenic, Mutagenic or Reprotoxic) substances Category 1, 2 and 3 in cosmetic products is prohibited from the time they are classified and listed in Annex I of Dangerous Substances Directive 67/548/EC. CMRs Category 3 may be used if the substance has been evaluated as acceptable by the SCCNFP.

Some of the CMR substances listed in Annex I of guideline 67/548/EC are used as starting materials for the production of our cosmetic raw materials. Their limits are especially:

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

5.3 Allergens according to the 7th Amendment to the Cosmetics Directive

With the 7th Amendment of the Cosmetic Directive (2003/15/EC) published on March 11th 2003 twenty-six potential allergens have been listed in Annex III of the Directive. These allergens have been identified as main cause of allergic reactions in persons who have shown an allergy to perfumes.

The cosmetic raw materials and the cosmetic actives supplied by Goldschmidt Personal Care are manufactured without the use of perfumes and fragrances. An analytical proof for the absence of these allergens in traces is not performed in cosmetic raw materials, which are chemically produced.

None of these twenty-six allergens has been intentionally added to our cosmetic raw materials or is formed during the manufacturing according to our knowledge of the chemistry.

6. Toxicology and Ecology

Refer to summary of ecotoxicological and toxicological data

7. Shelf life / storage conditions

24 months after production (unopened original packaging)

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Product specification**TEGIN G**

Substance No: 200174
Spec.Code: S00: STANDARD
Version: 4
Version from: 11.01.1999
Print-out date: 02.08.2011

Insp. Characteristic	Method	Limits	Unit	
free Glycol	GM_0200_03	4,0-7,0	%	X
Iodine value	GM_0050_01	< = 3,0	g l/100g	C
Monoester Content	GM_0204_01	> = 45,0	%	X
Acid Value	GM_0010_01	36,0-38,0	mg KOH/g	X
Melting Point	GM_0150_01	48,0-53,0	°C	X
Saponification Value	GM_0030_01	150,0-165,0	mg KOH/g	X

Print on inspection document:

X = Actual measured value reported.

C = 'Conforms' is printed as characteristic value.

This print-out is valid unsigned.