

TEGIN® O V

Emulsifier for the formulation of W/O creams

- PEG-free emulsifier based on vegetable raw materials
- Emulsifier for cosmetic W/O creams with high amounts of paraffins
- Usage concentration of 4.0 – 6.0 %
- Emulsions with high heat and freeze stability

Personal Care

INCI name (CTFA name)

Glyceryl Oleate

Chemical and physical properties (not part of specifications)

Form	pasty
HLB value	approx. 3

Application

- TEGIN® O V is a non-ionic, PEG-free emulsifier based on vegetable raw materials.
- TEGIN® O V is suitable for the formulation of cosmetic W/O creams.
- The amount used, referred to the emulsion, is 4.0 – 6.0 %.
- The optimum range for the content of the oil phase is between 30 – 40 %.
- Depending on the formulation, it may be necessary to add consistency-providing or emulsion-stabilizing waxes. Amongst others, hydrogenated castor oil in combination with high-melting carbohydrate waxes or beeswax are suitable.
- Paraffins generally have a positive influence on the stability of the emulsions.
- Different esters of natural fatty acids may be used without restriction, but their portion of the oil phase should not be more than the half.
- As stabilizing additives, 3 – 5 % of glycerol and approx. 0.5 % of magnesiumsulfate (heptahydrate) should be added to the water phase.
- Depending on the formulation, creams based on TEGIN® O V are stable in a temperature range from -5 °C/-20 °C up to +40 °C/+45 °C.

Preparation

A pre-requisite is the careful adjustment of the formulation (phase ratio, viscosity of the oil phase) and optimum emulsification. The particle size for creams which are stable over a long period of time is below 1 µm. More coarsely dispersed emulsions tend to separate.

Thorough, but not too intensive homogenization is required. Extreme energy input frequently causes the formation of highly viscous, metastable secondary structures which break down on storage.

Optimum manufacturing conditions correspond to the principles of normal production processes for W/O emulsions. The water phase is incorporated slowly into

the oil phase which contains the emulsifier while stirring intensively.

The coarsely dispersed pre-emulsion is then homogenized. The final homogenization should be performed below 30 °C in order to ensure that the waxes are largely recrystallized.

The decisive criterion for production is the viscosity. Mechanical processing is discontinued when the viscosity is equal to that of the standard emulsion developed and tested in the laboratory.

Emulsifying machines

Stirring equipment or planetary mixers with high sheering force are very suitable for the manufacture of creams on the laboratory and production scale, provided that they guarantee uniform work-up of the emulsion. Machines predominately used in the cosmetic industry, which are equipped with stirrer, stripper and rotor-stator homogenizer, fulfil all requirements for optimum emulsification. However, utilization of their maximum capacity may result in over-emulsification. High-pressure emulsifiers may cause problems because of the danger of over-emulsification and liberation of water due to cavitation.

Recommended usage concentration

4.0 – 6.0 % TEGIN® O V

Heat and homogenize before use!

Packaging

760 kg pallet (4 x 190 kg drum)

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.

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