MANTA

Technical Data Sheet

Version: 1.0

Manta E1011 Silicone Emulsifier

Description

Manta E1011 is a polyether and alkyl-modified siloxane copolymer. It functions as an excellent non-ionic W/O (Water-in-Oil) and W/Si (Water-in-Silicone) emulsifier. The introduction of the cetyl chain (alkyl group) enhances its compatibility with various organic oils (such as mineral oil, vegetable oil, and esters), making it a versatile emulsifier for mixed oil phase systems. It creates formulations with excellent heat and freeze stability and a silky, non-greasy skin feel.
Performance comparable to Evonik ABIL EM 90.

Typical Physical Properties

INCI/CTFA	CETYL PEG/PPG-10/1 DIMETHICONE
Chemical Name:	Alkyl-Modified Polyether Silicone Copolymer
CAS No.:	144243-53-8
Appearance	Colorless to pale yellow viscous liquid
Flash Point:	> 100°C
Specific Gravity (25°C)	0.920 ~ 0.960
Viscosity (cSt, 25°C)	600 - 2000

Properties

- Versatile Emulsification: Excellent emulsifying ability for both silicone fluids and organic oils;
- High Stability: Stabilizes emulsions with high water content and withstands freeze/thaw cycles;
- Pigment Dispersion: Excellent dispersing agent for pigments and physical sunscreens (TiO2, ZnO), preventing agglomeration;
- Sensory Profile: Provides a light, silky, and non-tacky skin feel;
- Process Flexibility: Can be used in both hot and cold processes;

Applications

Manta E1011 can be used in:

- Color Cosmetics: Liquid foundations, BB/CC creams, primers;
- Sun Care: High SPF sunscreens (promotes water resistance);
- Skin Care: W/O creams, lotions, and body butters;
- Hair Care: Leave-on hair serums and conditioners;

How to use

Phase of Addition: This product must be dispersed into the oil phase. It shows excellent compatibility with silicone fluids, mineral oils, vegetable oils, and esters.

Emulsification: Slowly add the water phase to the oil phase under agitation.
Note: To prevent phase inversion, avoid adding the oil phase to the water phase or adding water too rapidly.
Homogenization: Post-emulsification shearing (homogenizing) is recommended to reduce particle size and enhance stability and gloss.
Stabilization: For W/O systems, it is essential to add 0.5% - 1.0% electrolyte (e.g., NaCl or $MgSO_4$) to the water phase to ensure formulation stability.
Temperature: Suitable for both cold and hot processing.
Recommended Dosage
As Primary Emulsifier: 1.5% – 3.0%; As Co-emulsifier: 0.5% – 1.0%

Packing

In 15kg pail

Safety and Storage

Keep away from heat and open flame. Prevent from the exposure of moisture, acid, alkalis and other impurities. When stored in the original unopened containers, this product has a usable life of 24 months from the date of production.

Contact Information

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