

TECHNICAL DATA SHEET

Product Name: CP Emulsifier Silicone

Raw Material Name: Instant cold-process silicone emulsifying powder

INCI Name: Cetyl Alcohol, Sodium Polyacrylate, Glyceryl Stearate, Polysorbate 80, Dimethicone/Divinyldimethicone/Silsesquioxane Crosspolymer

CAS: 36653-82-4, 9003-04-7, 123-94-4, 9005-65-6, 153668-87-2

Chemical Classification: Mixture of a fatty alcohol, polymeric thickener, emulsifier and silicone elastomer.

Functional Category: Cold-process emulsifying-thickening system; surfactant - emulsifier; emulsion stabilizer; rheology modifier; sensory profile enhancer.

Chemical Nature and Structure: CP Emulsifier Silicone is a complex mixture of Cetyl Alcohol, Sodium Polyacrylate, Glyceryl Stearate, Polysorbate 80 and the crosslinked silicone polymer Dimethicone/Divinyldimethicone/Silsesquioxane Crosspolymer. Cetyl Alcohol and Glyceryl Stearate contribute to the structure, emollience and consistency of the formulation. Polysorbate 80 functions as a nonionic surfactant and contributes to emulsification of the oil and aqueous phases. Sodium Polyacrylate is an anionic polymer that hydrates upon contact with water and increases system viscosity. The silicone crosspolymer is a crosslinked elastomeric polymer structure that contributes to the characteristic soft, smooth and silky skin feel. The combination of these components enables the formation of stable emulsions by a cold process without the need for conventional heating of the aqueous and oil phases.

Description: CP Emulsifier Silicone is an instant cold-process emulsifying powder that combines emulsifiers, a thickening polymer and a silicone elastomer in a single formulation system. After addition to water and appropriate mixing, it hydrates rapidly and forms a smooth, creamy and viscous dispersion. Vegetable oils, extracts, peptides, proteins, vitamins and other active components may then be added to the resulting system. Because the process can be carried out without heating, it is particularly suitable for formulations containing thermolabile ingredients. The silicone crosspolymer contributes to a soft, smooth and elegant sensory profile, while the combination of emulsifiers and Sodium Polyacrylate increases viscosity, stabilizes the system and contributes to suspension stability and more uniform distribution of dispersed components. CP Emulsifier Silicone may be used as the primary emulsifying-thickening system or as an additive to an already formed emulsion to increase stability and viscosity. The raw material is a white to light beige powder with a mild fatty odor; it disperses and hydrates in aqueous systems and contains no added preservative.

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Mechanism of Action: CP Emulsifier Silicone functions through the combined action of several components with different formulation roles. Polysorbate 80 reduces interfacial tension between the aqueous and oil phases and contributes to emulsion formation, while Cetyl Alcohol and Glyceryl Stearate participate in the formation of a structured lipid phase and increase the firmness and consistency of the finished product. After hydration, Sodium Polyacrylate develops a polymer network that increases the viscosity of the continuous aqueous phase, limits the movement of dispersed droplets and contributes to emulsion stability. Dimethicone/Divinyldimethicone/Silsesquioxane Crosspolymer is a crosslinked silicone elastomer that improves product spreadability and leaves a soft, silky and less greasy skin feel. The synergy of these components enables the formation of a stable creamy structure at room temperature without conventional heating of both phases. The system also contributes to suspension stability and more uniform distribution of solid or dispersed components in the finished product.

Benefits:

- **Cold-process emulsions:** enables rapid formation of emulsions without the need for heating.
- **Multiple formulation functions:** simultaneously emulsifies, increases viscosity and contributes to formulation stability.
- **Thermolabile ingredients:** enables easier incorporation of active components sensitive to temperature.
- **Silky sensory profile:** the silicone elastomer provides a soft, smooth and silky skin feel.
- **Additional stabilization:** may be used to increase viscosity and stability of already formed emulsions.

Properties: CP Emulsifier Silicone is a white to light beige powder with a mild fatty odor. It does not dissolve in water in the classical sense, but disperses and hydrates with appropriate mixing, forming a smooth and viscous creamy mass. The raw material contains no added preservative.

Usage: CP Emulsifier Silicone is added to cold water or water at room temperature at a concentration of 5-10%, after which it is hydrated and intensively mixed using a stick blender or another suitable homogenizer until a smooth and homogeneous creamy consistency is achieved. After formation of the base dispersion, oils, extracts, peptides, proteins, vitamins and other formulation components are added, and the system is then homogenized again. The raw material may also be added to an already prepared emulsion to further increase viscosity and stability. In formulations with a higher oil-phase content, high electrolyte content or a larger amount of pigment, the stability of

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the finished system should be evaluated in practice. For external use only.

Applications: Used for the preparation of creams, lotions, serums and color cosmetic products. It is particularly suitable for formulations in which a cold-process manufacturing method, higher viscosity and a soft, silky sensory profile are desired.

Source Materials: Dimethicone, dimethyldichlorosilane and vegetable oils.

Manufacturing Method: The product is a specially formulated mixture of fatty alcohols, fatty-acid derivatives, a polymeric thickener, a nonionic surfactant and a silicone elastomer. The silicone crosspolymer is produced by crosslinking dimethicone polymer chains through a hydrosilylation reaction.

Storage: Store in tightly closed packaging, in a dry place and at room temperature. Protect from moisture and unnecessary exposure to elevated temperatures.

Animal Testing: The raw material has not been tested on animals.

GMO: No confirmed data are available regarding GMO status.

Vegan: Contains no animal-derived components.

Country of Origin: USA