

TECHNICAL DATA SHEET

Raw material name: Emulgade Sucro

Registered trade name: Emulgade® Sucro

INCI name: Sucrose Polystearate, Hydrogenated Polyisobutene

CAS: 37318-31-3, 68937-10-0

Chemical classification: Mixture

Functional category: Surfactant; emulsifier

Raw material description: Emulgade® Sucro is a mild, non-ionic oil-in-water (O/W) emulsifier from BASF, composed of Sucrose Polystearate and Hydrogenated Polyisobutene. Sucrose Polystearate is a mixture of sucrose and stearic acid esters, with the product composition oriented towards tri-, tetra- and higher esters. This structure provides pronounced amphiphilic behaviour and efficient emulsion stabilisation. Emulgade® Sucro contributes to the formation of lamellar structures within the emulsion, thereby reducing the likelihood of oil-phase droplet coalescence and improving the long-term stability of the formulation. The multilamellar structure of the continuous aqueous phase supports water retention and improves the moisturising properties of the product. Hydrogenated Polyisobutene is a synthetic hydrogenated hydrocarbon polymer that acts primarily as an emollient in the formulation and contributes to a smooth, soft and pleasant skin feel. The combination of both components enables the preparation of stable O/W emulsions with a reduced waxy feel and a characteristic velvety to slightly powdery finish. Emulgade® Sucro is intended for facial and body care formulations, children's cosmetics, colour cosmetics and sun-protection products.

Sucrose esters are known for their mildness to the skin, biodegradability and renewable-resource origin. These ingredients stabilise emulsions and provide good skin compatibility, making them suitable for formulations that require a mild and naturally oriented profile. Although Hydrogenated Polyisobutene may sound like a complex chemical ingredient, it is produced through a green-chemistry process, making it a more environmentally acceptable alternative to mineral oil or liquid paraffin. Its principal role is to provide an occlusive effect, retain moisture in the skin and help prevent dryness by forming a protective layer on the skin surface. It also improves product texture and supports better pigment dispersion, making it useful in sun-protection formulations containing zinc oxide and titanium dioxide. In addition, Hydrogenated Polyisobutene is non-comedogenic and does not clog pores, making it suitable for the care of oily and

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acne-prone skin. The combination of these ingredients enables Emulgade® Sucro to form stable, high-quality emulsions with excellent sensory properties that are mild to the skin and environmentally acceptable. This emulsifier provides a smooth and moisturised skin feel, while Hydrogenated Polyisobutene additionally helps protect the emulsion against wash-off with water, making it particularly suitable for summer products and formulations used during the bathing season.

Benefits:

- Provides stable, high-quality emulsions.
- Provides a smooth and moisturised feel during product application.
- Hydrogenated Polyisobutene has an occlusive effect and helps retain moisture in the skin.
- Improves pigment dispersion, which is useful in sun-protection products.
- Does not clog pores, making it suitable for the care of oily and acne-prone skin.

Directions for use: Emulgade® Sucro is used as a non-ionic O/W emulsifier at concentrations of 1-5%, depending on the composition of the oil phase, the desired texture and the product type. It is suitable for the preparation of lotions, creams, butters and balms. It is generally added to the oil phase and heated until completely melted, after which the emulsion is prepared using an appropriate homogenisation procedure. Suitable consistency agents and co-emulsifiers, such as Cetearyl Alcohol or Cetyl Alcohol, may be used to increase viscosity and provide additional stabilisation; however, their necessity and concentration depend on the complete formulation.

Safety of use: According to the Cosmetic Ingredient Review (CIR), Sucrose Polystearate and Hydrogenated Polyisobutene are considered safe for use in cosmetic products under the current conditions and concentrations of use and in accordance with good manufacturing practice. Sucrose Polystearate was assessed as part of the broader group of ingredients known as saccharide esters, or sucrose esters, which are used as emulsifiers, emulsion stabilisers and texture modifiers in cosmetic formulations. In 2021, CIR concluded that Sucrose Polystearate is safe for use in cosmetics on the basis of available toxicological data and assessment of its safety profile. Sucrose esters, including Sucrose Polystearate, have a good skin- and eye-tolerance profile, making them suitable for use in a wide range of skincare products, including formulations intended for sensitive skin. CIR documentation for Sucrose Polystearate reports cosmetic use at concentrations of up to approximately 6%, while the actual concentration is determined according to the product type and desired formulation characteristics.

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Hydrogenated Polyisobutene was assessed by CIR in 2008 and considered safe for use in cosmetic products under the current conditions and concentrations of use. This ingredient acts primarily as an emollient and occlusive agent that forms a protective film on the skin surface and contributes to reducing transepidermal water loss. According to the available data, Hydrogenated Polyisobutene has a low irritation and sensitisation potential, making it suitable for use in products that come into contact with the skin, including creams, lotions, lip balms and body-care products. CIR does not specify a particular recommended concentration of 1-5% for Hydrogenated Polyisobutene, but considers it safe at the concentrations at which it is used in cosmetic products. According to BASF, the recommended use level of the finished Emulgade® Sucro raw material is 1-5%, depending on the formulation type and desired product properties.

Animal testing: The substance has not been tested on animals.

GMO: Non-GMO

Vegan: Does not contain components of animal origin

Raw material origin: EU

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