

HAVE YOU EVER IMAGE OF PREPARING AN EMULSION WITHOUT EMULSIFIER?

Product Information

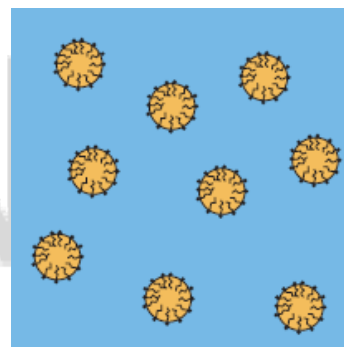
The use of surfactants leads to skin irritation and dehydration. To provide the skin with the right combination of hydrating and nourishing elements, it is necessary to bring both hydrophilic and lipophilic components in order. Could you imagine the formation of emulsion without surfactant?

Emulfree is a lipid based stabilizer consisting of a synergistic association of ethylcellulose polymer with emollients. It is a specific raw material that can produce an intimate blend between a gelified oil phase and a gelified aqueous phase producing a homogeneous O/W dispersion. It allows the creation of a new structure (Bi-gel) which is possible to blend aqueous and oily phases without the need for surfactant. Bi-gel is a dispersion of an oil gel in an aqueous gel, stabilised by emulfree. It presents a stability comparable to that of emulsions.

Differences Between Bi-Gel and Emulsion

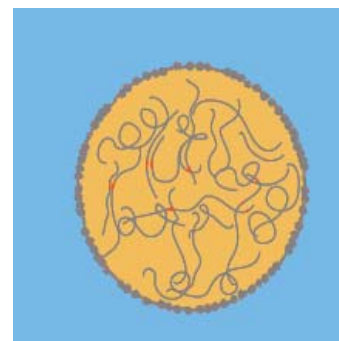
In emulsion, the oil-water interface is stabilised by small surface-active molecules called surfactants and these molecules create a very small droplets and avoid oil separation over time.

Structure of Emulsion



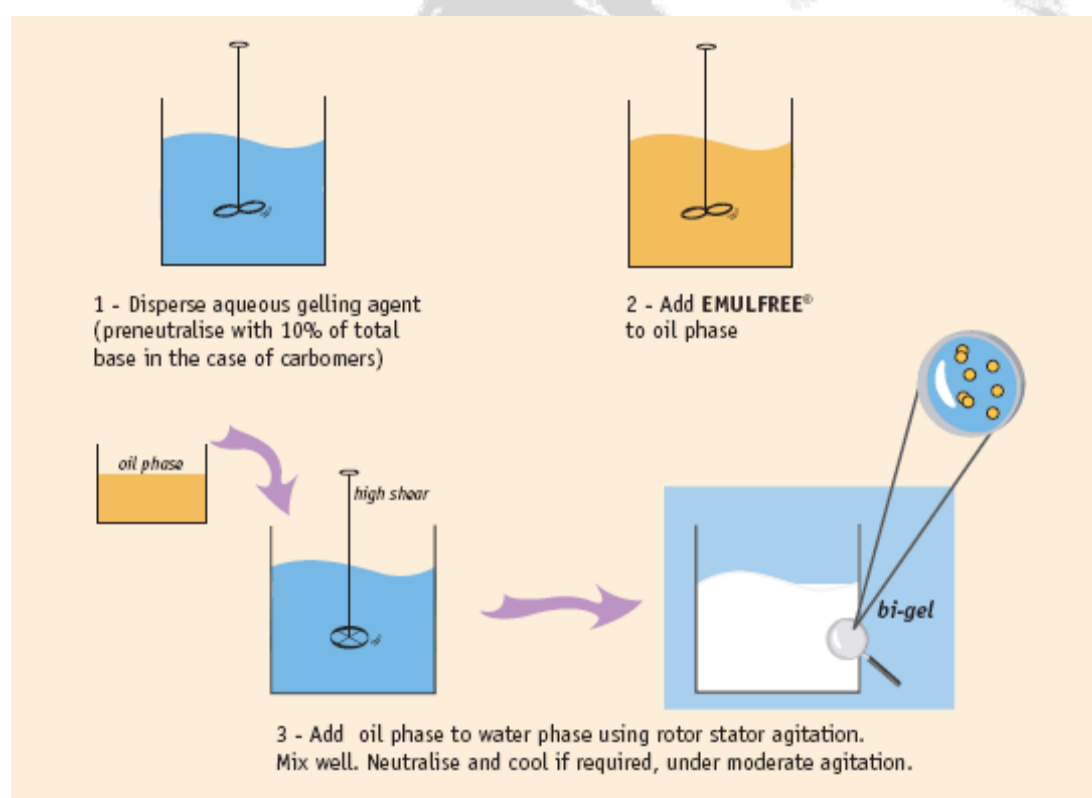
In Bi-Gel, the surfactant molecules are no longer necessary to create a stable system instead of emulfree via an association of two mechanism.

Structure of Bi-Gel



1. droplets were stabilised by the ethylcellulose present at the oil-water interface via steric repulsion. Ethylcellulose prevents the flocculation and coalescence.
2. the risk of coalescence reduced by the rigidity brought by the aqueous gel and the lipid gel within particles.

How to Formulate a Bi-Gel?



To formulate a bi-gel, an oil phase containing emulfree is added into the aqueous gel. No heat is required unless consistency agent or waxes are incorporated.

Recommended use Levels

Emulfree can be used between 1 and 6% with respect to the total formula and can disperse up to 30% of oil. Formula containing high levels of oil such as filters and perfumes may require a higher level of emulfree due to its difficulty to emulsify and stabilize.

Types of Emulfree

Emulfree P

Compatible with medium to high polarity oils. Non-polar oils and silicones can be used in association with others, more compatible.

 Propylene glycol isostearate

 Propylene glycol laurate

 ethylcellulose

Emulfree CBG

Provide wide range of compatibility and can be used with non-polar oils such as Vaseline and squalene.

 Butylenes glycol isostearate

 Isostearyl alcohol

 ethylcellulose

Example of Oil Polarity

	Oil
High Polarity	Ethoxydiglycol oleate, Wheatgerm oil, PPG-15 stearyl ether
Medium Polarity	Octyl dodecanol, Isostearyl isostearate, Propylene Glycol Dipelargonate, Jojoba oil, Caprylic/Capric Triglyceride, Octyldodecyl myristate, Isopropyl palmitate
Non-polar	Squalene, mineral oil, isohexadecane.

Properties

Skincare Product:- High tolerance, maintain of actives, innovative textures

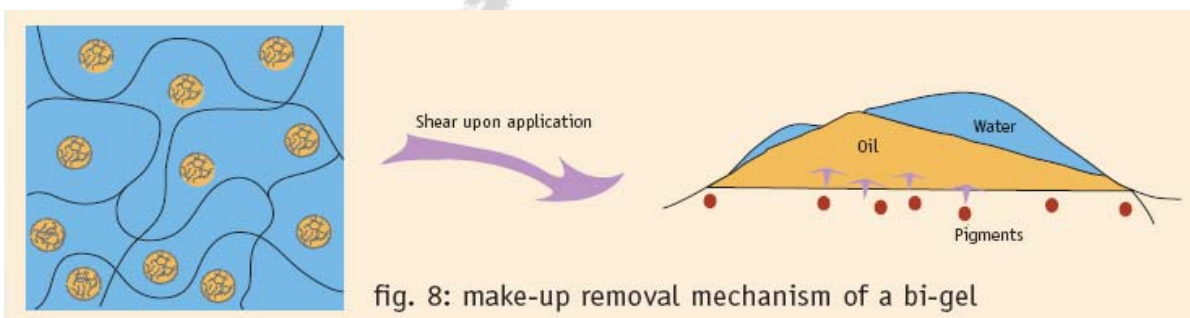
Suncare Product:- Absence of surfactant, PEG free, very good tolerance, high spreadability, excellent water and humidity resistance, modern & appropriate textures, cool and aqueous feel.



Make-up Product:- Water resistance, Tolerance, non-transfer, well spread.



Make-up Removal Product:- Improved efficiency, no need to rinse, aqueous and cool textures, and excellent tolerance.



Functions/Claims

-  Creamy feel
-  Cooling effect
-  Non-greasy and non-tacky after feel
-  Water resistant
-  Excellent stability

Formulation

-  Sprayable Body Lotion (MM7700)
-  Body lotion (MM7376, JB1310/B)
-  Moisturising Protective Cream (JB1859/B)
-  Anti-Age Cream (MM7442)
-  Sensitive Skin Moisturiser (JB1864/A)
-  Winkle Corrector Serum (MM8047/C)
-  Anti-Gravity Gel (JB1682/A)
-  Sunscreen Cream (MM7677)
-  Sunscreen Drizzle SPF 16 (JB 1861/A)
-  Gel cream (MF023/C)
-  Bio-Zen Cream (MM7358)

Please try our formulas and feel the difference for yourself or simply call us for even more formulas!

Contact Us Today!

Whether it is a sales enquiry or a sample request kindly contact us right away:

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