



≡≡≡ Emulsifiers and
Solubilizers

drstraetmans
intelligence behind beauty



STRONG PERFORMANCE AT THE INTERFACE – NATURAL AND PEG-FREE

Cosmetic products depend strongly on their emulsifiers. There are technical considerations that define the product concept or stability of the formulation. This is the basic requirement for emulsifiers and a whole set of ingredients is available to serve the different concepts in cosmetics. But also the sensorial profile is strongly influenced by the choice of emulsifiers, and so the skin feel of cosmetics can be altered by certain emulsifiers. Finally sustainable sourcing of natural raw materials or absence of certain chemicals may play an important role for the marketing concept.

Natural polyglyceryl esters meet many of the requirements for modern formulations. Under the roof of our **dermofeel®** brand there are many emulsifiers with entirely different properties. There is one common feature in our emulsifiers: they are produced using only natural building blocks. The majority of the range consists of polyglyceryl esters of edible fatty acids, forming a broad range of emulsifiers covering the whole HLB-range. The range is completed by anionic emulsifiers **dermofeel®** GSC and **dermofeel®** SL.

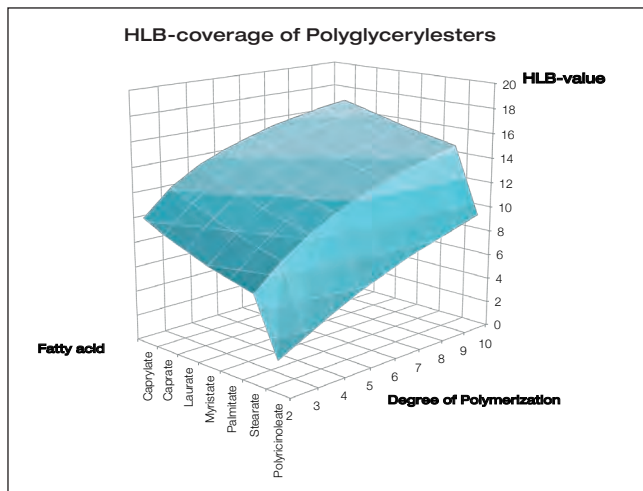


Fig. 1: The whole HLB-range is covered by the flexible combination of different chain lengths of the polyglycerol unit and the different fatty acid moieties. Thus, with only plant derived raw materials it is possible to form emulsifiers for every product concept.

Emulsions are best stabilized with our non-ionic **dermofeel®** emulsifiers that cover w/o-applications as well as o/w-concepts. With the great variety of chain lengths at the polyglyceryl unit and the use of different fatty acids we create an array of products that gives freedom for developing modern cosmetic concepts. In contrast to PEG-derived products our **dermofeel®** range is 100% vegetable based, readily biodegradable and free from potentially toxic impurities.

Anionic co-emulsifiers are commonly used for further stabilization of emulsions. They are located at the interface along with other emulsifiers used and due to their anionic charge the coalescence of oil droplets within the emulsion is hindered. Furthermore these emulsifiers build up structures within the emulsion and help to increase the viscosity. Thus the long term stability of emulsions can be enhanced. Our vegetable food grade emulsifiers **dermofeel®** GSC (Glyceryl Stearate Citrate) and **dermofeel®** SL (Sodium Stearoyl Lactylate) are designed for that purpose.

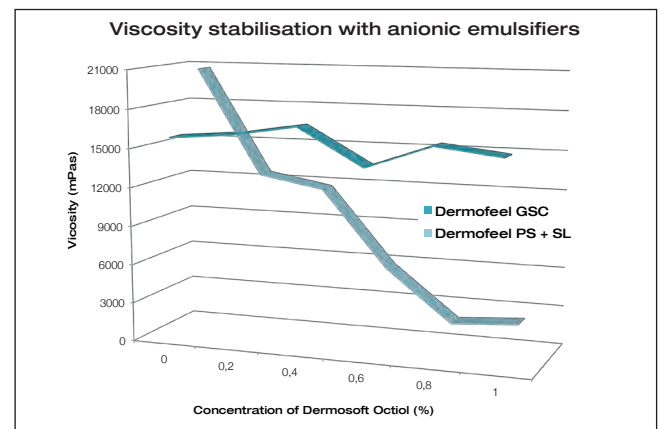


Fig. 2: Dermofeel GSC (Glyceryl Stearate Citrate) can effectively help to maintain the viscosity even with high levels of Caprylyl Glycol or other surface active compounds which may tend to lower the viscosity.

Convenience is achieved with a versatile **O/W-emulsifier blend** like our **symbio®** muls GC. This innovative blend comprises a powerful anionic emulsifier, a structuring co-emulsifier and a wetting agent to allow a quick formation of emulsions at temperatures as low as 40°C. Different viscosities can be achieved and the blend gives a basic preservation to the finished product. This allows a minimized use of preservatives or creating a preservative free formulation, as long as other antimicrobial agents (e.g. **dermosoft®**) are used.

For **W/O-emulsions** we developed **symbio®** muls WO, which is easy to use also at low temperatures and not only gives a large variety of stable emulsions but also provides a self preserving effect. If necessary at all, only a very mild preservation has to be added.

Solubilizers are used to stabilize small amounts of oils in aqueous products. The oil components may be fatty oils to create a certain sensorial effect or perfumes and essential oils to form a scent in the formulation. Our new solubilizer **sybio**[®]solv XC has shown the best results in comparison to market standards. It gives similar results regarding stability and transparency as PEG-40 hydrogenated castor oil, but **sybio**[®]solv XC is PEG-free and natural.

Natural and safe. These attributes apply to all our emulsifiers. They are derived from plant sources and designed to meet the needs of cosmetic formulations. Only natural sustainable resources are used. To underline the safe use of the presented raw materials a long history of use in the food industry shall be mentioned. **dermofeel**[®] emulsifiers can be used for natural cosmetics concepts. They are easily biologically degradable.

Our non-ionic O/W emulsifiers	INCI	Properties
dermofeel [®] PS	Polyglyceryl-3 Stearate	Vegetable food grade emulsifier for O/W- emulsions (HLB ~ 9)
dermofeel [®] PP	Polyglyceryl-3 Palmitate	Vegetable food grade emulsifier for O/W- emulsions (HLB ~ 10)
dermofeel [®] G 5 L	Polyglyceryl-5 Laurate	Vegetable emulsifier for O/W- emulsions (HLB ~ 13)
dermofeel [®] G 5 O	Polyglyceryl-5 Oleate	Natural vegetable emulsifier for oilgels (HLB: ca. 11,5)
dermofeel [®] G 5 DO	Polyglyceryl-5 Dioleate	Natural vegetable emulsifier (HLB: ca. 8)
dermofeel [®] G 10 DI	Polyglyceryl-10 Diisostearate	Natural vegetable emulsifier (HLB: ca. 11)
Our W/O emulsifiers		
sybio [®] muls WO	Polyglyceryl-3 Polyricinoleate; Sorbitan Sesquioleate; Cetyl Ricinoleate; Glyceryl Caprate; Cera Alba; Magnesium Stearate; Aluminium Tristearate	Easy to use natural emulsifier blend. Suitable for production at low temperature, providing a self preserving effect to finished products
dermofeel [®] PR	Polyglyceryl-3 Polyricinoleate	Highly versatile emulsifier for W/O emulsions of low viscosity (HLB ~ 4)
dermofeel [®] PO	Glyceryl Oleate	Co-emulsifier for W/O-emulsions
Our solubilizers		
sybio [®] solv XC	Caprylyl/Capryl Wheat Bran/Straw Glycosides; Aqua; Fusel Wheat Bran/Straw Glycosides; Polyglyceryl-5 Oleate; Sodium Cocoyl Glutamate; Glyceryl Caprylate	Natural, PEG-free blend with excellent solubilising results regarding transparency and low dosage
dermofeel [®] G 6 CY	Polyglyceryl-6 Caprylate	Non-ionic solubilizer (HLB ~ 15)
dermofeel [®] G 10 L	Polyglyceryl-10 Laurate	Highly skin-friendly solubilizer and surfactant (HLB ~ 16)
dermofeel [®] G 10 LW	Polyglyceryl-10 Laurate/Aqua	Highly skin-friendly solubilizer and surfactant (HLB ~ 16)
Our anionic O/W co-emulsifiers		
sybio [®] muls GC	Glyceryl Stearate Citrate; Cetearyl Alcohol, Glyceryl Caprylate	Easy to use emulsifying blend, for homogenous elegant creams and lotions. Can be used at low temperatures. Natural origin.
dermofeel [®] SL	Sodium Stearoyl Lactylate	Vegetable food grade co-emulsifier for O/W- emulsions
dermofeel [®] GSC	Glyceryl Stearate Citrate	Vegetable food grade emulsifier for O/W- emulsions
dermofeel [®] GSC palm oil free	Glyceryl Stearate Citrate	Vegetable food grade emulsifier for O/W- emulsions from non-palm resource

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