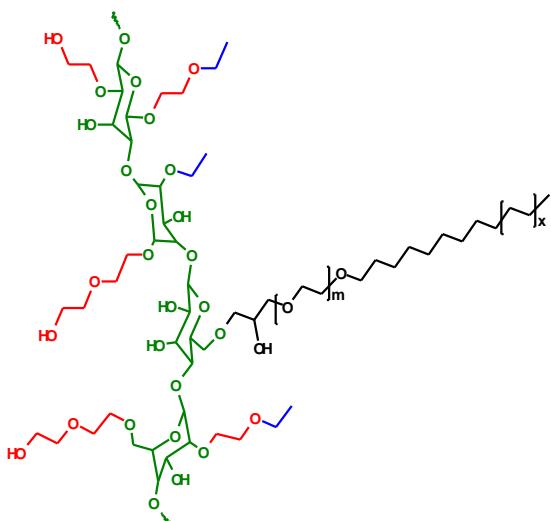


Elfacos[®] CDHM

A new surface active cellulose based polymer

Characteristics

- Mw 200 000
- Hydrophobic modified
- High Surface Activity



Elfacos[®] CDHM is a hydrophobic modified cellulose based on *Hydroxyethyl Ethylcellulose* (INCI). It is a free flowing powder with excellent wetting properties. This feature significantly improves the dissolution and incorporation of the product into various cosmetic and toiletry products.

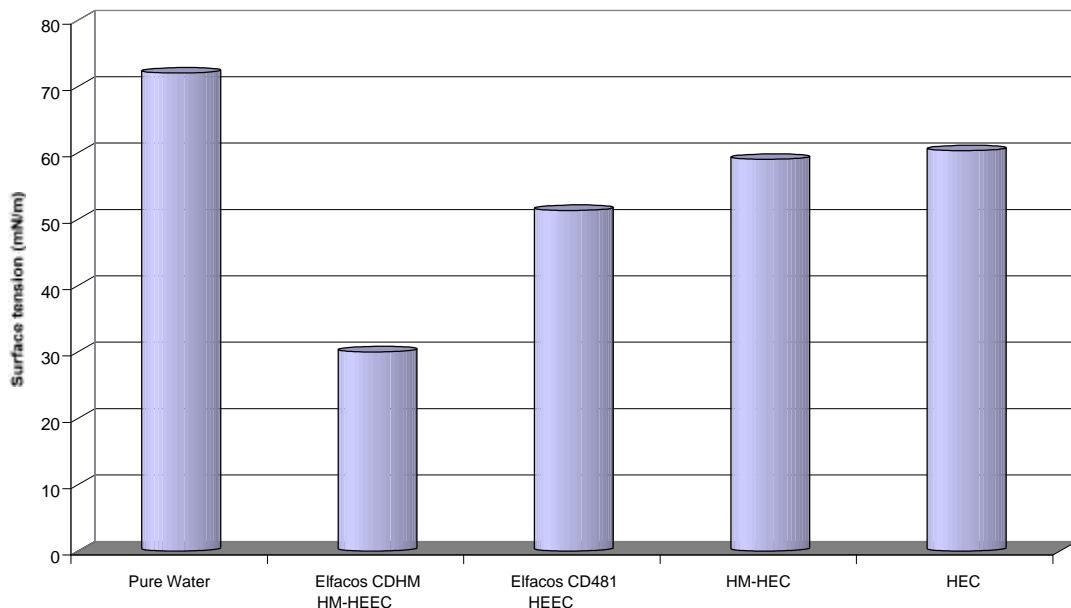
Elfacos[®] CDHM has a low surface tension compared with other cellulose ethers and is suitable as an emulsifier and a stabiliser for different kinds of emulsions. In addition, the hydrophobic interactions between the polymer chains give an increased viscosity to the emulsion even though the molecular weight is low.

Key benefits

- Excellent emulsifier/stabiliser for emulsions
- Good thickening properties
- Enhanced sensorial properties in emulsions
- Easy to incorporate due to good wetting

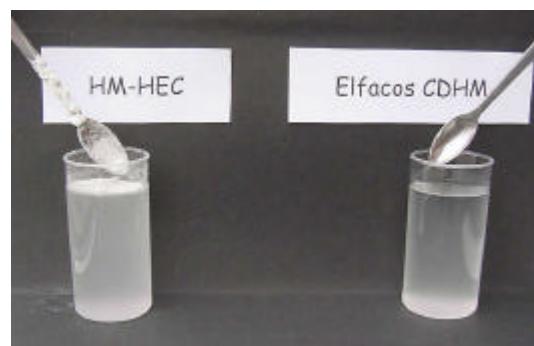
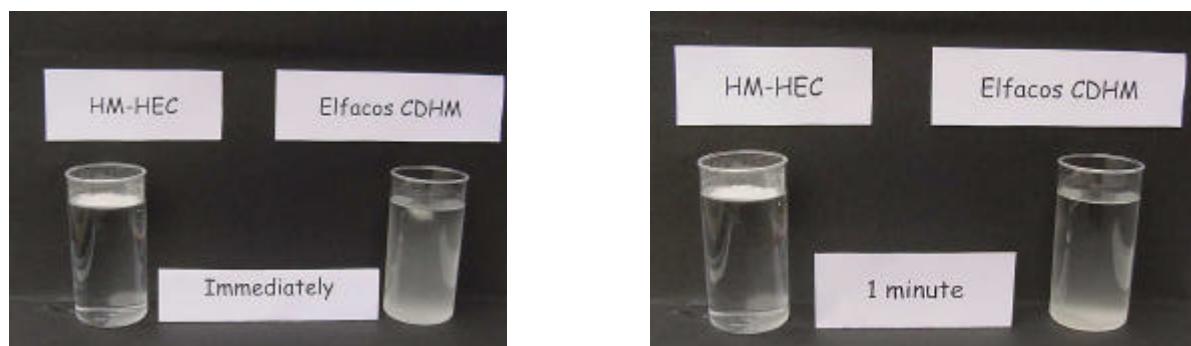
Surface tension

Surface tension in water of 0,1% solutions of different cellulose ethers



Wetting behaviour

The wetting is excellent due to the low surface tension of [Elfacos® CDHM](#). This property improves both the dissolution and the incorporation of the product into various cosmetic and toiletry products.



Guideline formulation - Night cream

Ingredients	INCI Name	% w/w
A		
Elfacos® ST9	PEG-45/Dodecyl Glycol Copolymer	1
Elfacos® C26	Hydroxyoctacosanyl Hydroxystearate	5
Elfacos® E200	Methoxy PEG-22/Dodecyl Glycol Copolymer	2
Mineral oil	Mineral oil	20
B		
Water	Aqua	66.5
Elfacos® CDHM	C ₁₂₋₁₆ Alkyl Hydroxyethyl Ethylcellulose (pending)	0.5
Sorbitol	Sorbitol	5
C		
Perfume oil, preservative		q.s.

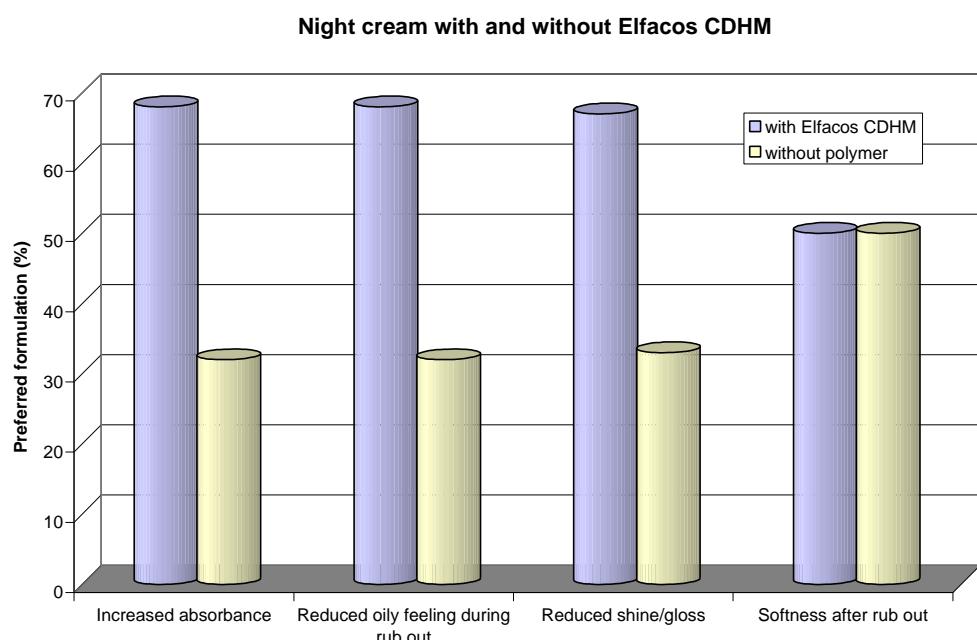
Procedure:

Dissolve Elfacos® CDHM in the water and heat to 75°C. Heat the oil phase (A) to 75°C and add the water phase (B) during rapid stirring and then cool down to below 35°C when (C) is added. The emulsion is homogenised with a rotorstator homogeniser at 30°C.

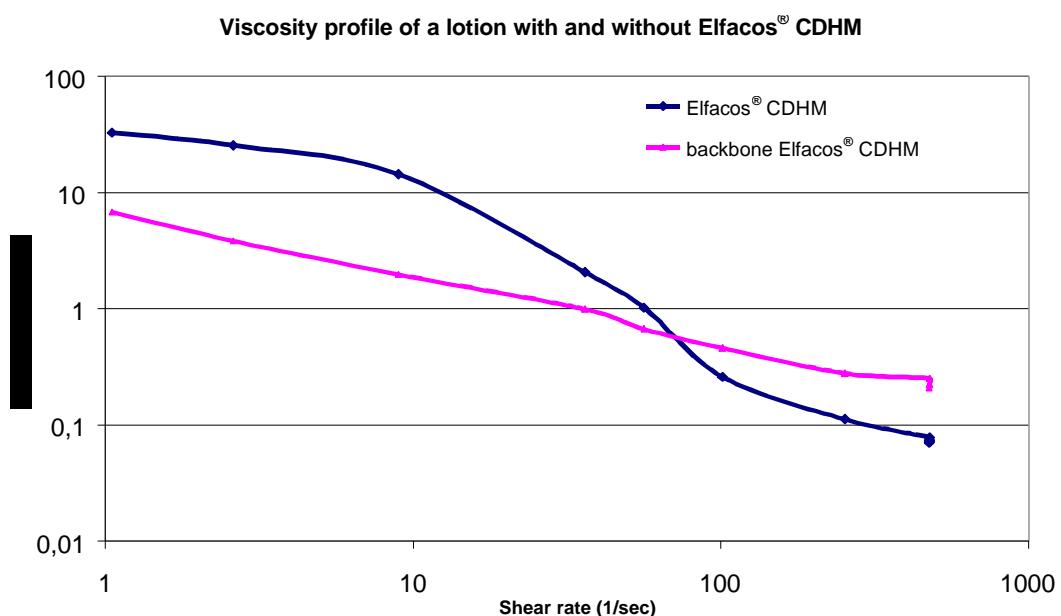
A panel test made on the night cream formulation with and without Elfacos® CDHM was performed. In the night cream formulation, Elfacos® CDHM gives the following sensorial benefits:

- **Increased absorbency**
- **Reduced greasiness**
- **Reduced shine/gloss**

Panel test - skin effect



Rheology



Because of the hydrophobic moieties of **Elfacos® CDHM** the viscosity profile of a lotion differs from a lotion that does not contain these hydrophobic groups. The lotion has an almost Newtonian behaviour at low shear rates and exhibits strong shear thinning properties during application at higher shear rates. In addition, the hydrophobic interactions between the polymer chains give an increased viscosity compared to the lotion with the non hydrophobic modified polymer.