Specifications and Characteristics

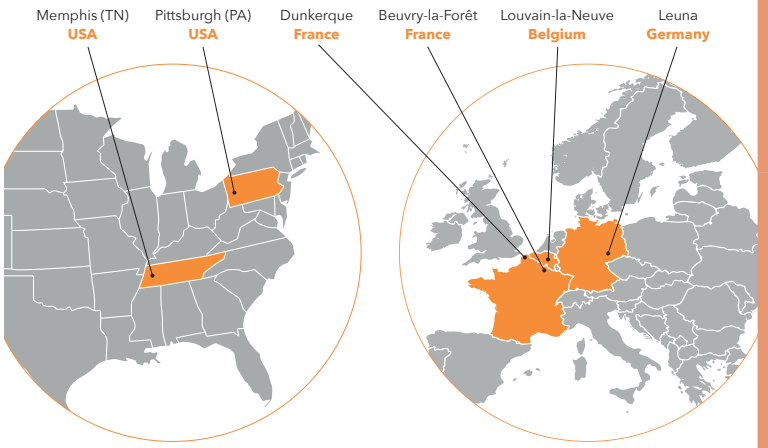
	A-Sensofeel MFC	E-Sensofeel MFC 5	E-Sensofeel MFC 8
INCI	Cellulose, Glycerin, Water	Water, Pentylene Glycol, Cellulose, Xanthan Gum	Water, Glycerin, Cellulose, Caprylyl Glycol, Xanthan Gum
CAS REG. N°	9004-34-6, 56-81-5, 7732-18-5	7732-18-5, 5343-92-0, 9004-34-6, 11138-66-2	7732-18-5, 56-81-5, 9004-34-6, 1117-86-8, 11138-66-2
APPEARANCE	White to off-white powder	Opaque gel	Opaque gel
RECOMMENDED pH OF USE	4.0 ▸ 12.0	4.0 ▸ 12.0	4.0 ▸ 12.0
RECOMMENDED USE LEVEL	0.2 ▸ 4.0 %	3.0 ▸ 20.0 %	3.0 ▸ 20.0 %
NATURAL ORIGIN INDEX	1 (ISO 16128)	1 (ISO 16128)	1 (ISO 16128)
COSMOS APPROVED	✓	✓	✓
PALM-OIL FREE	✓	✓	X (RSPO, mass balance)
LISTED PRESERV-ATIVE-FREE	✓	✓	✓

MINASOLVE® is an affiliate of MINAFIN® Group

Created in 2004, The Minafin® Group is an expert in Health Chemistry, Green Chemistry and Challenging Chemistry. Activities include industrial subcontracting, development of chemical syntheses and industrial scale-up of custom-made processes as well as proprietary products with high added value for the pharmaceutical, cosmetics, agriculture and high-tech industries. Strong synergies exist between all business units: MINASOLVE, MINAKEM, PENNAKEM, PRESSURE CHEMICAL and MINASCENT.

Serving market leaders as well as emerging players we support our customers' efforts to improve the quality of life in the global community by:

- Improving our chemistry and operational excellence today
- Creating and innovating for tomorrow
- Driving our enterprises together to **go beyond expectations**



235 M€ SALES

900+ EMPLOYEES

91 SCIENTISTS

6 PRODUCTION SITES

MINAFIN® GROUP

2023 02. V1.1

SKIN CARE

SENSOFEEL MFC IN SKIN CARE APPLICATION

CREATING ATTRACTIVE COSMETICS IN A NATURAL WAY

MADE FROM SUSTAINABLE EUROPEAN WOOD

✓ LOOK

✓ TOUCH

✓ FEEL

Approved by ECOCERT RAW MATERIAL
COSMOS APPROVED

PENDING PATENT PENDING

MINASOLVE®
BIO-INGREDIENTS FOR YOUR APPLICATIONS

green solving attitude.

WWW.MINASOLVE.COM

Sensofeel MFC range, from Minasolve

100% BIOBASED, CREATING ATTRACTIVE NATURAL COSMETICS WITH EXCELLENT LOOK, TOUCH AND FEEL.

Minasolve, in partnership with the Swiss cellulose specialist Weidmann, introduces the new **Sensofeel MFC** product line based on Microfibrillated Cellulose (MFC, Figure 1).

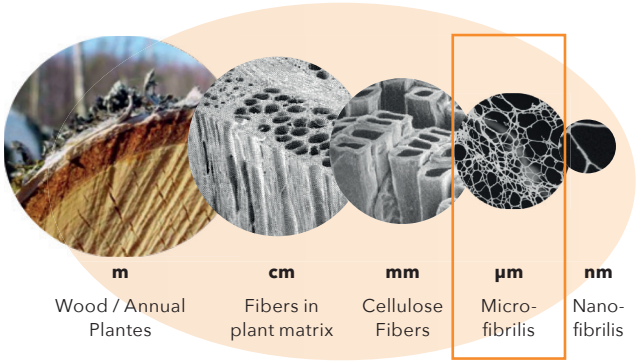


Figure 1

The **Sensofeel MFC** ingredients contain a dense, three-dimensional network of entangled natural cellulose fibers (microfibrillated cellulose). The cavities within the 3D fiber network are similar in size to oil droplets or pigment particles and therefore hold them in place. The formation of pigment agglomerates is also effectively prevented.

All **Sensofeel MFC** products **naturally enhance** the **sensory properties** of a wide range of personal care formulations.

A-Sensofeel MFC is a free-flowing powder that can be used in both water-free and water-based formulations, offering maximum flexibility to formulators.

E-Sensofeel MFC 5 & **8** are hydrogels stabilised with **sustainable** and **biobased additives.** Both versions have long shelf-life and are **easy to incorporate** into cosmetic formulations.

The **Sensofeel MFC** range is COSMOS approved and manufactured entirely in Europe. The pulp used as raw material for the **Sensofeel MFC** range comes from locally-sourced, sustainably-managed forests in Europe. It is environmentally friendly, readily biodegradable, and produced via a purely mechanical process without the use of chemicals or enzymes.

Skin care | Face care | Body care

"Skincare is all about the senses"

Men care | High pH formulation | Natural

Sensofeel MFC range in standard O/W emulsion

Five O/W emulsions were tested by a panel of eight trained experts. Four of the creams contained **Sensofeel MFC** ingredients that were introduced during the emulsification step (Table 1). Each emulsion containing **Sensofeel MFC** was compared to a placebo cream without **Sensofeel MFC** (Figure 2).

The three-dimensional fiber network created by **Sensofeel MFC** **strengthens** the **internal structure** of the formulation and provides a **richer texture**. The **optical brilliance** of the four creams was **increased**, **absorption** on the skin was **faster** and **greasiness** was **slightly reduced**.

Sensory Profile

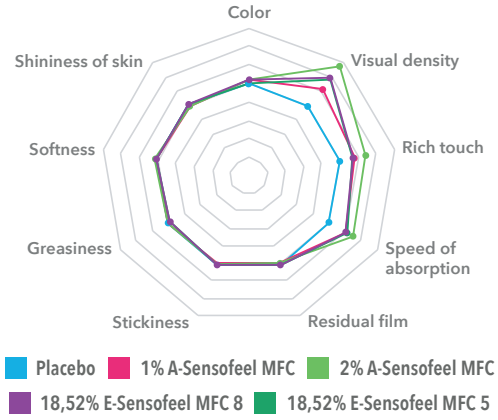


Figure 2

1% A-Sensofeel MFC is equivalent to 18.5% of E-Sensofeel MFC 5 or 8.

MINASOLVE
BIO-INGREDIENTS FOR YOUR APPLICATIONS

O/W emulsion (Table 1)

Phase	Raw Materials	%				
		Placebo	A-Sensofeel MFC		E-Sensofeel MFC	
A	Water	41.70	41.15	40.70	32.44	32.44
	Hydra-Leen 5 Rose [1]	41.70	41.15	40.70	32.44	32.44
	Xanthan Gum [2]	0.50	0.50	0.50	0.50	0.50
B	Emulgade PL 68/50 [3]	5.00	5.00	5.00	5.00	5.00
	Shea Butter [4]	3.00	3.00	3.00	3.00	3.00
	Jojoba Oil [4]	3.00	3.00	3.00	3.00	3.00
	Apricot Oil [4]	3.00	3.00	3.00	3.00	3.00
C	A-Sensofeel MFC [1]	0.00	1.00	2.00	0.00	0.00
	E-Sensofeel MFC 5 [1]	0.00	0.00	0.00	18.52	0.00
	E-Sensofeel MFC 8 [1]	0.00	0.00	0.00	0.00	18.52
D	Tocopherol	0.10	0.10	0.10	0.10	0.10
	E-Leen Green B [1]	2.00	2.00	2.00	2.00	2.00
E	Aq. Citric Acid	Qs	Qs	Qs	Qs	Qs

Raw material suppliers: [1] Minasolve [2] Jungbunzlauer [3] BASF [4] Caesar & Loretz

Visual aspect

O/W creams containing **Sensofeel MFC** products appear **shinier** and **brighter**, as shown in Figure 3 with the example of **A-Sensofeel MFC**.

Placebo cream | Cream with 1% A-Sensofeel MFC | Cream with 2% A-Sensofeel MFC

Figure 3

Sensofeel MFC range improves **LOOK**, **TOUCH** and **FEEL** turning a standard formulation into something **exciting**.

Applications

Sensofeel MFC range is **stable and efficient** even under extreme conditions.

Sensofeel MFC is generally suitable for **O/W emulsions** (not recommended for W/O emulsions). There are several ways to add **Sensofeel MFC** to O/W emulsions:

- Preferably **Sensofeel MFC** should be added **at the end** of the emulsification step. For efficient activation of the powder form **A-Sensofeel MFC**, a **high shear mixer** is required (mixing time is at least 5 minutes at 7500-15000 rpm on a laboratory scale).
- Alternatively, **A-Sensofeel MFC** can be dispersed in a **portion of the water phase**. After activation by high shear mixing for 5 minutes, the remaining amount of water is added.
- **E-Sensofeel MFC 5/8** can be dispersed in the water phase with a **normal stirrer**. A high shear activation step is not mandatory.