Berg+Schmidt
Functional Lipids

BergaMuls ET 1

A vegetable fibre compound for emulsifying and thickening

A century ago, the first emulsifier revolutionised cosmetics. Since then, a lot has happened in cosmetics. Ongoing innovation around this elementary ingredient category has multiplied manufacturers' options.

In addition to a host of physical and chemical properties, modern emulsifiers must also meet other demands, like biodegradability, natural origin and environment-friendly manufacture and ideally not to be declared as emulsifyier.

In view of all these requirements, the Berg + Schmidt R & D team has now developed a vegetable, multi-functional solution – a product based on vegetable fibres that simultaneously emulsifies and thickens same time, is easy to process, and is all-natural.

BergaMuls ET 1 advantages

- **Natural, renewable raw material**
- **Can be used in cold process (saves time and costs)**
- **Environmentally friendly**
- **Electrolyte-compatible**
- **Compatible with all oil polarities**
- **Can be used across the 4-9 pH spectrum**
- **High resistance to shear forces and temperature**

Applications

Facial care
Body care
Hair care
Sun care
Decorative cosmetics

BergaMuls ET 1: A vegetable fibre compound for emulsifying and thickening

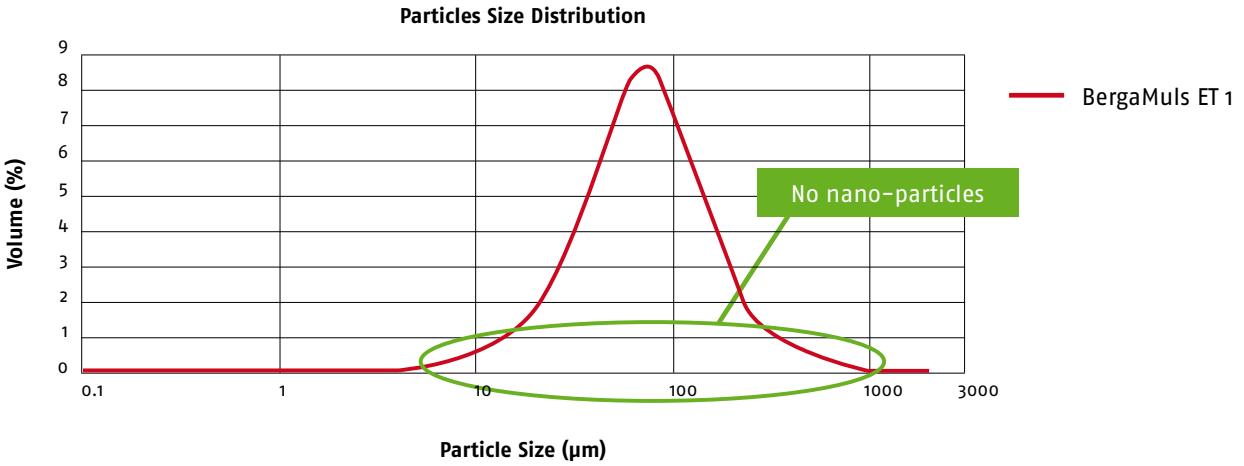
The product

BergaMuls ET 1 is based on natural fruit and cereal fibres, and has excellent emulsifying and thickening properties.

For consumers, fibres of this type have positive associations with health and well-being, supporting the concept of the naturalness of your products.

Trade name:	BergaMuls ET 1
Chem. description:	Fruit and cereal fibres
INCI:	Beta-Glucan (and) Pectin
Appearance:	Fine white powder
Particle size:	≥ 1 µm
Preservative agent:	Preservative-free

Fig. 1: Typical particle size distribution of BergaMuls ET 1



Simple and multifunctional

A special benefit of BergaMuls ET 1 is that it can be processed warm or cold, and emulsifies and thickens in just one work step. BergaMuls ET 1 is thus a multifunctional solution.

Another advantage is its compatibility with other ingredients used in cosmetics, such as vegetable oils, silicone oils, esters, electrolytes, UV filters and others.

In addition, BergaMuls ET 1 can be used in the pH spectrum from 4–9, so that it covers the common cosmetics pH range.

Fig. 2: Compatibility of BergaMuls ET 1 with oils of different polarities

Viscosity of emulsions with various amounts of BergaMuls ET 1 (20% oil, percentage of BergaMuls ET 1, to 100% with distilled water). Brookfield measurement.

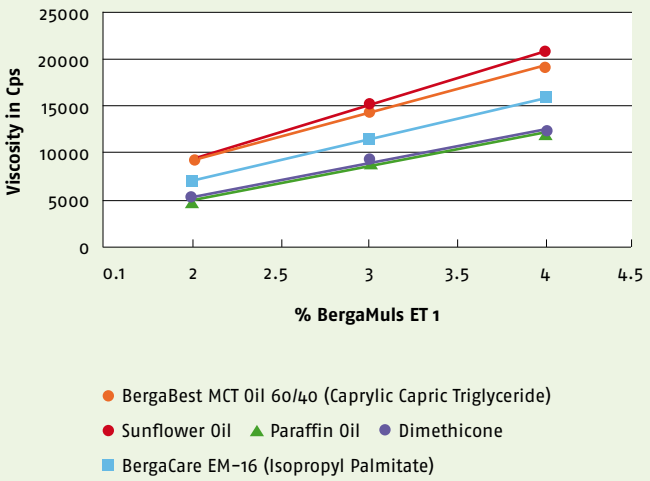
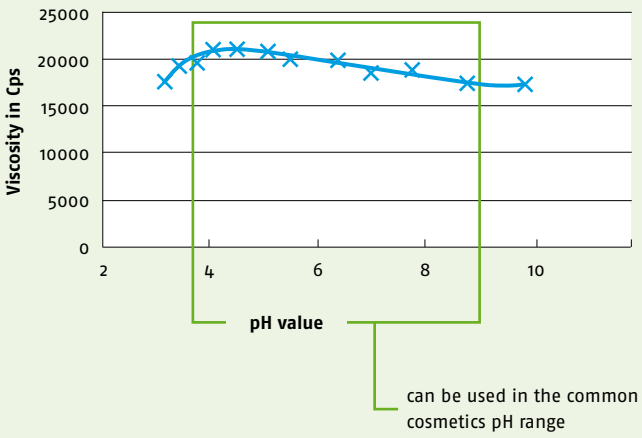


Fig. 3: BergaMuls ET 1 / Viscosity at different pH values

(20% BergaBest MCT oil 60/40, 4% BergaMuls ET 1, to 100% with distilled water, ph values obtained by adding NaOH or citric acid). Brookfield measurement.



Uncomplicated processing

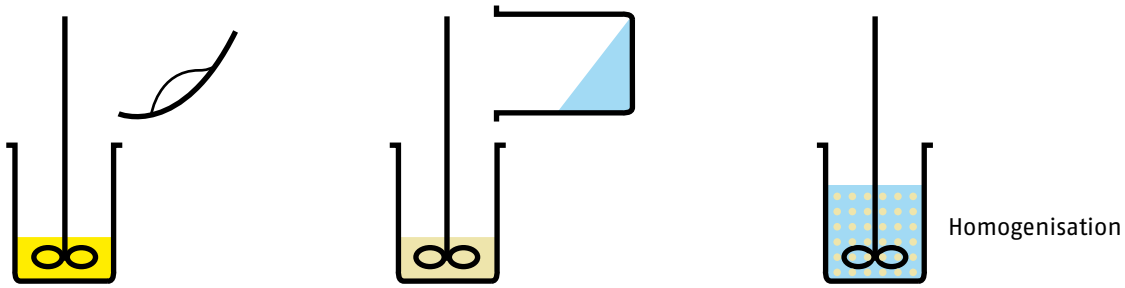
BergaMuls ET 1 is easy to use. A fine, white, virtually odourless powder, it dissolves in the water phase just as well as it disperses in the fat phase. BergaMuls ET 1 requires no additional working steps such as subsequent neutralisation or preparation of a preliminary solution.

With its energy-saving processing and the very low amounts needed, BergaMuls ET 1 offers economic and ecological advantages over conventional emulsifiers.

It is very resistant to high shear forces, as commonly occur in homogenising.

To get the ideal droplet size and achieve a stable emulsion, Berg + Schmidt recommends the following procedure:

Fig. 4: Recommended procedure for using BergaMuls ET 1



1) Disperse BergaMuls ET 1 in the fat phase.

2) Add the water phase while agitating.

3) Result: A stable O/W emulsion

Usage levels

BergaMuls ET 1 unfolds its full benefits even at low quantities. 1.5–5% is generally enough for a stable emulsion. No co-emulsifier is needed.

We will be pleased to support you in new developments. Formulations are available on request.

Berg+Schmidt Functional Lipids

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