

non-animal origin

rheological additive

for cosmetics and toiletries

## GENERAL INFORMATION

BENTONE GEL MIO V is a specially prepared dispersion of an organically modified hectorite in cosmetic grade mineral oil.

This grade is designed to impart rheological control and suspension to organic- and silicone-based cosmetics.

BENTONE GEL MIO V is also particularly useful in emulsions and can be used in "cold process" systems. It provides thermostable viscosity control of the emulsion's oil phase, improves application properties, enhances skin-feel by masking greasy or tacky components and imparts a pleasant residual silkiness to the skin.

BENTONE GEL MIO V is an alternative to traditional polymer or cellulose-based thickeners for stabilising emulsions.

## INGREDIENTS

### INCI name:

Mineral Oil (Paraffinum Liquidum in the EU),  
Disteardimonium Hectorite, Propylene Carbonate

## APPLICATIONS

- Hair care products
- Creams & Lotions
- Emulsions
- Eye Make-up
- Lip Products
- Facial Make-up
- Sun care products

## KEY PROPERTIES

### BENTONE GEL MIO V rheological additive

#### Non-animal origin

#### Rheological control

- Predictable, reproducible and stable viscosity control
- Shear-thinning rheology
- Excellent suspension of pigments and actives
- Controlled alignment of special-effect pigments
- Thermostable viscosity raises apparent melting point and ensures cost-efficient use of UV filters
- Emulsion stabilization [w/o and o/w]

#### Convenience

- Optimally pre-activated and dispersed organoclay
- Incorporates with medium-shear mixing
- Can be added at any convenient stage of manufacture
- Gives a high degree of formulating flexibility
- Provides highly reproducible results for multi-site production requirements

#### Acceptability

- Non-abrasive
- Provides smooth feel to skin
- Toxicologically safe ingredients

## CHEMICAL AND PHYSICAL DATA

Appearance	Tan Gel
Viscosity, Brookfield Helipath, TF Spindle, Pa.s @ 2.5 rpm	1400 - 2400
% Ash Content	5.8 – 6.4
Infrared	To Match Standard

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## INCORPORATION

BENTONE GEL MIO V can be added at any convenient suitable stage during the manufacturing cycle. BENTONE GEL additive is a very high viscosity, shear-thinning product. To ensure good homogeneous mixing is achieved, care must be taken to overcome the large viscosity differential existing between the BENTONE GEL and the other lower viscosity components. Choice of mixing equipment and the configuration within the mixing vessels are critical factors in developing the optimum performance of the BENTONE GEL additives. The use of medium- to high-shear mixing equipment is recommended.

### Batch Processing

#### Single Phase Systems

Always add the BENTONE GEL, under shear, to a portion of the organic component or solvent with which it is most compatible. Mix until homogeneous before adding the other ingredients.

#### Multi-Phase Systems e.g. emulsions

Treat as the single phase but always ensure the BENTONE GEL additive is thoroughly mixed in before the emulsification stage.

#### Continuous Processing

The BENTONE GEL should be added to the oil phase at any convenient point that meets the above guidelines for batch processing. In multi-manifold systems, a flowable pre-mix of the BENTONE GEL with a compatible oil or solvent should be made in a side pot.

Where only lower-shear mixing equipment is available, stir the BENTONE GEL alone and then slowly add the most compatible component by portions, always ensuring the mixture remains homogeneous at each stage.

## LEVELS OF USE

The level of use of the BENTONE GEL will depend on the formulation. Suspension will be provided by 2.5-10.0% additions. In emulsions, thickening will occur in the oil phase only and emulsion

viscosities will be influenced by 3-5% additions. Novel emulsification effects can be achieved, giving light feel and lower viscosities. In some water-in-oil systems a reduction of surfactant may be achievable by the use of BENTONE GEL additive.

Higher levels of BENTONE GEL will have a greater viscosity influence and thermostable viscosity in single phase systems may be achieved by 10-25% additions.

## COMPATIBILITY

BENTONE GEL additives can contribute greatly to a formulation's stability by improving the compatibility of other ingredients. Care should be taken to determine the compatibility of the BENTONE GEL additive with the oils, actives or surfactant ingredients within a formulation. The wide range of grades available allows selection of the optimal carrier and organoclay for each system.

## TOXICITY

Care is taken to ensure that the ingredients used in BENTONE GEL additives are not known to be injurious to health in any way and have been toxicologically tested to ensure their safety. However, the BENTONE GEL additives have not been subjected to testing involving the use of animals within the last 10 years.

## STORAGE TEMPERATURES

Store away from excessive heat.

## SHELF LIFE

BENTONE GEL MIO V has a shelf life of 2 (two) years from date of manufacture.

## SAFETY

Before using this product, please consult our MSDS.

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