

## TECHNICAL DATA SHEET

ELEMENTIS

BENTONE GEL<sup>®</sup> PHC V

Non-animal origin rheological additive for cosmetics and toiletries

## GENERAL INFORMATION

**BENTONE GEL PHC V** is a specially prepared dispersion of a non-animal origin organically modified hectorite clay in a light silicone alternative.

**BENTONE GEL PHC V** delivers a combination of benefits in a single, easy to use product. It is designed to impart rheological control and suspension to the oil phase of cosmetics. It is an easily spreadable, volatile and non-oily emollient, which leaves a soft, non-tacky skin feel.

**BENTONE GEL PHC V** is also useful in emulsions and can be used in "cold process" systems. It provides thermostable viscosity control of the emulsion's oil phase, imparts thixotropic flow, improves application properties and imparts a pleasant residual silkiness to the skin.

## INCI NAME

Propylheptyl Caprylate, Disteardimonium Hectorite, Triethyl Citrate

## KEY PROPERTIES

Non-animal origin

Rheological control

## CHEMICAL &amp; PHYSICAL PROPERTIES

Colour / Form	Tan
Viscosity, Brookfield Helipath, TF spindle, Pa.s @ 2.5 rpm	1000 — 3500
Infrared	To match standard
% Ash	6.00—7.00
Microbial Content	Less than 100 cfu/g

These are typical properties not to be used for specification purposes.

- Predictable, reproducible and stable viscosity control
- Shear-thinning viscosity
- 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 stabilisation [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

## APPLICATIONS

- Face and body care
- Hair care
- Masks
- Lipsticks
- Concealers
- Sun care
- Antiperspirants

*continued...*

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# BENTONE GEL® PHC V

## INCORPORATION

**BENTONE GEL PHC V** can be added at any convenient stage during the manufacturing process.

**BENTONE GEL PHC V** 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 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 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 a BENTONE GEL.

Higher levels of BENTONE GEL will have a greater viscosity influence and thermostable viscosity in single phase systems, this 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 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.

## HEALTH & SAFETY

Before using this product please consult our Safety Data Sheet (SDS) for information on safe handling and storage. The SDS can be found on the company website.

## SHELF LIFE

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

## STORAGE RECOMMENDATIONS

Store away from excessive heat.

## QUALITY ASSURANCE

Quality and continuous improvement are paramount to our business. Facility manufacturing Bentone Gels® has established strong integrated management system and holds ISO 9001, ISO 14001, ISO 45001 and EFfCI GMP certifications.

## SUSTAINABILITY



RSPO - 1106301

**BENTONE GEL PHC V** is a raw material approved under the RSPO Mass Balance system.

*NOTE: The information herein is currently believed to be accurate. We do not guarantee its accuracy. Purchasers shall not rely on statements herein when purchasing any products. Purchasers should make their own investigations to determine if such products are suitable for a particular use. The products discussed are sold without warranty, express or implied, including a warranty of merchantability and fitness for use. Purchasers will be subject to a separate agreement which will not incorporate this document.*

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