



Technical Data Sheet

VV™ RheoMatrix™ PTIS

INCI Name: Pentaerythrityl Tetraisostearate (and) Hectorite (and) Propylene Carbonate

Description

VV™ RheoMatrix™ PTIS is a specially prepared dispersion of a non-animal origin organic Hectorite Clay in Pentaerythrityl Tetraisostearate. **VV™ RheoMatrix™ PTIS** delivers a combination of benefits in a single, easy to use product. It is designed to impart rheological control and suspension to the organic- and silicone-based cosmetics. It is an easily spreadable, non-oily emollient, which leaves a soft, non-tacky skin feel and improves the gloss and softness of hair. **VV™ RheoMatrix™ PTIS** 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, imparts thixotropic flow, improves application properties, offers unique and rich texture, enhances skin-feel by masking greasy and tacky components and imparts a pleasant residual silkiness to the skin, enhances UV protection in sunscreens. **VV™ RheoMatrix™ PTIS** is an alternative to traditional polymer or cellulose-based thickeners for stabilizing emulsions.

Typical Properties

Property	Value
Appearance	Light Buff
Viscosity Brookfield Helipath, TF spindle, Pa.s @ 2.5rpm	1500 - 3500
Ash Content	12 – 15%
Microbial Content	Less than 100 cfu/g

These figures are only intended as a guide and should not be used in preparing specifications.

Incorporation

VV™ RheoMatrix™ PTIS can be added at any convenient suitable stage during the manufacturing cycle. **VV™ RheoMatrix™ PTIS** 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 **VV™ RheoMatrix™ PTIS** 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 **VV™ RheoMatrix™ PTIS** additives. The use of medium- to high-shear mixing equipment is recommended. 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 **VV™ RheoMatrix™ PTIS** additive. Higher levels of **VV™ RheoMatrix™ PTIS** will have a greater viscosity influence and thermostable viscosity in single phase systems may be achieved by 10-25% additions.



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Areas of Application

- Lip Products
- Make-up Products
- Creams/Ointments
- Hair Preparations
- Sunscreens

Processing

Single Phase Systems: Always add the **VV™ RheoMatrix™ PTIS** 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 **VV™ RheoMatrix™ PTIS** is thoroughly mixed in before the emulsification stage.

Continuous Processing: The **VV™ RheoMatrix™ PTIS** should be added to the oil phase at any convenient point that meets the above guidelines for batch processing. In multi-tank vessels, a flowable pre-mix of the **VV™ RheoMatrix™ PTIS** with a compatible oil or solvent should be made in a side pot. Where only low shear mixing equipment is available stir the **VV™ RheoMatrix™ PTIS** alone and then slowly add the most compatible component by portions, always ensuring the mixture remains homogeneous at each stage.

Special Features

- Non-animal origin
- Rheological control
- Provides smooth feel to skin Toxicologically safe ingredients.
- Non-abrasive
- Predictable, reproducible and stable viscosity c o n t r o l
- 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 stabilization w/o and o/w
- 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



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Levels Of Use

5% – 50% additions

Storage

Store in a cool and dry place, in a closed container. Store away from excessive heat. Shelf-life is 24 months from date of production.

Safety and Handling:

No special protection required while handling. Material Safety Data Sheet available on request.

Limitation:

Customers must evaluate **VV™ RheoMatrix™ PTIS** and make their own determination as to fitness of use in their applications. This product is not recommended for use in pressurised applications.

Packaging:

Available in 25 Kg Drums.

Important

The data and statements contained herein are based on our research and/or the research of others and are believed to be accurate. No guarantee of their accuracy is made however, and unless expressly stated in a written contract, the product(s) discussed herein are sold without conditions or warranties, expressed or implied. Purchasers are advised to make their own tests to determine the suitability of this product for their purposes. Nothing contained herein shall be construed as a recommendation to use or as a license to operate under or to infringe on any existing patent.