Rheological Additives for Cosmetic Applications
Rheological Additives for Cosmetic Applications
Water phase

**PURE THIX**
Non-ionic associative thickener

**Product Description**
PURE THIX-1442 is a non-ionic hydrophobic modified polymer flake. It forms clear aqueous solutions and is designed especially for personal care formulations. PURE THIX-1442 provides pseudoplastic flow behavior by associative thickening with other formulation ingredients.

**Benefits**
- Form crystal clear gels
- Pseudoplastic flow behavior
- Very good salt tolerance
- Compatible with non-ionic, anionic and cationic surfactants
- Does not require neutralization
- Viscosity is pH-independent in the range from pH 5.5 and higher
- “Associative” thickening with other formulation ingredients

**Applications**
- Bath and Shower Gels
- Color Cosmetic Products
- Creams and Lotions
- Hair Care and Styling Products
- Sunscreen Products

**Delivery form**
- Flakes

<table>
<thead>
<tr>
<th>Product</th>
<th>Article No.</th>
<th>INCI Name</th>
<th>Viscosity/ Stabilization</th>
<th>Application field/ Properties</th>
<th>Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>PURE THIX-1442</td>
<td>020631</td>
<td>Polyether-1</td>
<td>+ / -</td>
<td>honey-like texture</td>
<td>10 kg</td>
</tr>
<tr>
<td></td>
<td>020632</td>
<td></td>
<td></td>
<td></td>
<td>100 kg</td>
</tr>
</tbody>
</table>

+ high | o medium | - no
# Water phase

## LAPONITE

Synthetic hydrophilic layered silicates

### Product Description

LAPONITE products are synthetic layered silicates with low heavy metal content. They are insoluble in water but hydrate and swell to give clear and colorless colloidal dispersions in water or aqueous solutions of alcohols. At concentrations of 2% or higher in water, highly thixotropic gels are obtained. The unique shear thinning and thixotropic rheology of LAPONITE products improve the skin feel of personal care products. Formulations will have a light, non-sticky texture. LAPONITE products enhance stability of formulations and keep particles, pigments or solid actives suspended.

### Benefits

- Stabilizer
- Form clear gels
- Prevent sedimentation of beads, pigments, and other suspended particles
- Atomize well in aerosols or pump sprays
- Stabilize O/W emulsions
- Compatible with water-miscible solvents
- Application range pH 5.5 and higher
- Work over a wide temperature range

### Applications

- Bath and Shower Gels
- Creams and Lotions
- Depilatory Creams
- Liquid Make-Ups
- Shampoos
- Sunscreen Products
- Toothpaste

### Delivery form

- Powder

### Product Table

<table>
<thead>
<tr>
<th>Product</th>
<th>Article No.</th>
<th>INCI Names</th>
<th>Viscosity / Stabilization</th>
<th>Application field / Properties</th>
<th>Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAPONITE-XLG XR*</td>
<td>021196</td>
<td>Lithium Magnesium Sodium Silicate (nano) + / +</td>
<td>gel forming grade for products formulated at pH 6.5 and higher</td>
<td>25 kg</td>
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</tr>
<tr>
<td>LAPONITE-XL 21 XR*</td>
<td>021769</td>
<td>Sodium Magnesium Fluorosilicate (nano) + / +</td>
<td>gel forming grade for products formulated at pH 4.5 and higher</td>
<td>25 kg</td>
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<tr>
<td>LAPONITE-XLS XR*</td>
<td>021035</td>
<td>Lithium Magnesium Sodium Silicate (nano) (and) Tetrasodium Pyrophosphate + / + (after gel formation)</td>
<td>sol forming grade, delayed gel formation</td>
<td>25 kg</td>
<td></td>
</tr>
</tbody>
</table>

+ high | o medium | - no

*XR products are sterilized by gamma-irradiation.
Water phase

GELWHITE and OPTIGEL
Natural hydrophilic layered silicates

Product Description
GELWHITE and OPTIGEL products are activated bentonite products. They are used as a thixotropic agent in water-based systems with excellent anti-settling and stabilizing properties.

Benefits
- Form thixotropic gels in water
- Stabilize suspensions and O/W emulsions
- Depending on grade medium or high thickening
- Heat resistant thickening effect
- Add smoothness to product
- Adsorb sebum

Applications
- Anti-Wrinkle Lotions (e.g. with Fruit Acids)
- Bath and Shower Gels
- Creams and Lotions
- Facial Masks
- Liquid Make-Ups
- Sunscreen Products

Delivery form
- Powder

<table>
<thead>
<tr>
<th>Product</th>
<th>Article No.</th>
<th>INCI Name</th>
<th>Viscosity / Stabilization</th>
<th>Application field / Properties</th>
<th>Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>GELWHITE-H XR**</td>
<td>020628</td>
<td>Bentonite o / +</td>
<td>purified grade with good swell ability</td>
<td>25 kg</td>
<td></td>
</tr>
<tr>
<td>OPTIGEL-CL*</td>
<td>020623</td>
<td>Magnesium Aluminum Silicate o / +</td>
<td>white grade with medium swell ability</td>
<td>25 kg</td>
<td></td>
</tr>
<tr>
<td>OPTIGEL-CL XR**</td>
<td>020622</td>
<td>Magnesium Aluminum Silicate o / +</td>
<td>white grade with medium swell ability</td>
<td>25 kg</td>
<td></td>
</tr>
<tr>
<td>OPTIGEL-CK*</td>
<td>020624</td>
<td>Bentonite o / +</td>
<td>best swell ability and most efficient grade</td>
<td>25 kg</td>
<td></td>
</tr>
<tr>
<td>OPTIGEL-CK XR**</td>
<td>020625</td>
<td>Bentonite o / +</td>
<td>best swell ability and most efficient grade</td>
<td>25 kg</td>
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<tr>
<td>OPTIGEL-WX</td>
<td>020621</td>
<td>Bentonite (and) Xanthan Gum + / +</td>
<td>modified grade with high viscosity</td>
<td>25 kg</td>
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</table>

+ high | o medium | - no

*Certified according to the natural and organic standards of ECOCERT.
**XR products are sterilized by gamma-irradiation.
# Application Guide

## Aqueous Phase

<table>
<thead>
<tr>
<th>Applications</th>
<th>PURE THIX -</th>
<th>LAPONITE -</th>
<th>OPTIGEL -</th>
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<tr>
<td></td>
<td>1442</td>
<td>XLG XR</td>
<td>XL 21 XR</td>
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</tbody>
</table>

### Personal Care

**Skin and Sun Care**
- Creams
- Lotions
- Masks
- Sunscreens

**Hair Care**
- Shampoos
- Conditioners
- Hair Styling Products

**Cleansing**
- Face Cleanser
- Bath and Shower Gels

### Antiperspirant
- AP Roll-on
- AP Stick
- AP Aerosol

### Color Cosmetics

**Eye**
- Eye Pencil
- Eye Shadow
- Mascara

**Lip**
- Lipstick
- Lip Tint
- Lip Gloss

**Make-up**
- Foundation/ Liquid Make-up
- Blusher
- Pressed Powder

**Nail**
- Nail Polish

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- **●** recommended
- **○** commonly used in synergistic combinations with polymeric co-thickeners
- **●** used e.g. for improved pressability, skin feel or sebum adsorption

*Please note: Suitability of each rheological additive has to be checked depending on the final formulation.*
### Applications

**PURE**
- THIX
- LAPONITE
- OPTIGEL
- GELWHITE
- TIXOGEL
- GARAMITE
- RHEOCIN

### Personal Care

**Skin and Sun Care**
- Creams
- Lotions
- Masks
- Sunscreens

**Hair Care**
- Shampoos
- Conditioners
- Hair Styling Products

**Cleansing**
- Face Cleanser
- Bath and Shower Gels

**Antiperspirant**
- AP Roll-on
- AP Stick
- AP Aerosol

**Color Cosmetics**
- Eye
  - Pencil
  - Shadow
- Mascara

**Lip**
- Lipstick
- Lip Tint
- Lip Gloss

**Make-up**
- Foundation/Liquid Make-up
- Blusher
- Pressed Powder

**Nail**
- Nail Polish

---

### Oil / Solvent Phase

<table>
<thead>
<tr>
<th></th>
<th>GELWHITE -</th>
<th>TIXOGEL -</th>
<th>GARAMITE -</th>
<th>RHEOCIN</th>
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<tbody>
<tr>
<td>CK XR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WX</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>H XR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP 250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VP V XR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VZ V</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CCT 6030</td>
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<tr>
<td>VSP 1438</td>
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<tr>
<td>IDD 1538</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7308 XR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## TIXOGEL

### Natural organophilic layered silicates

**Product Description**

TIXOGEL products are organically modified bentonites designed for use in cosmetic and personal care systems to develop thixotropic rheological control and suspension. They are designed to impart a high degree of gelling efficiency over a wide range of oils or solvents.

### Benefits

- High and constant thixotropic thickening
- Avoid settling and phase separation
- Stabilize W/O emulsions
- Help to work over a wide temperature range
- Improve spreadability of cosmetic products
- Impart a soft, elegant feel

### Applications

- Antiperspirants
- Creams and Lotions
- Liquid Make-Ups
- Nail Lacquers
- Sunscreen Products
- Wax Based Products (e.g. Lipstick, Cream Eye Shadow)

### Delivery form

- Powder

### Products

<table>
<thead>
<tr>
<th>Product</th>
<th>Article No.</th>
<th>INCI Names</th>
<th>Product Characteristics</th>
<th>Viscosity / Stabilization</th>
<th>Application field / Properties</th>
<th>Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIXOGEL-VZ V</td>
<td>020615</td>
<td>Stearalkonium Bentonite</td>
<td>standard grade, vegetable based</td>
<td>+ / +</td>
<td>polar to medium polar systems</td>
<td>20 kg</td>
</tr>
<tr>
<td>TIXOGEL-MP 250</td>
<td>020610</td>
<td>Stearalkonium Bentonite</td>
<td>easy dispersible grade, vegetable based</td>
<td>+ / +</td>
<td></td>
<td>20 kg</td>
</tr>
<tr>
<td>TIXOGEL-VP V XR*</td>
<td>020617</td>
<td>Quaternium-90 Bentonite</td>
<td>standard grade, vegetable based</td>
<td></td>
<td>medium polar to unpolar systems</td>
<td>22.7 kg</td>
</tr>
</tbody>
</table>

* XR products are sterilized by gamma-irradiation.

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**Oil phase, organic phase**

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**BYK**
Oil phase, organic phase

**GARAMITE**
Natural organophilic mixed silicates

**Product Description**
GARAMITE products were developed using the patented Mixed Mineral Thixotrope (MMT) technology. The MMT technology provides performance benefits which cannot be achieved by traditional organoclay additives. Due to the multiple particle morphologies of GARAMITE, the powder disperses very easily into oils and solvents with only moderate shear and no polar activator is needed.

**Benefits**
- Very easy to disperse with moderate shear
- High and constant thixotropic thickening
- Outstanding anti-settling and anti-syneresis properties
- Improve thermal stability
- Ensure good sprayability of aerosols
- Improve spreadability of cosmetic products
- Impart a light skin feel

**Applications**
- Antiperspirants
- Color Cosmetics (e.g. Mascara, Lipstick, etc.)
- Make-Up
- Powder Products
- Sunscreen Products

**Delivery form**
- Powder

**Product** | **Article No.** | **INCI Name** | **Viscosity/Stabilization** | **Application field / Properties** | **Packages**
--- | --- | --- | --- | --- | ---
GARAMITE-7308 XR* | 20633 | Quaternium-90 Sepiolite (and) Quaternium-90 Montmorillonite | o / + | low to medium polar systems | 10 kg

+ high | o medium | - no
*XR products are sterilized by gamma-irradiation.
Oil phase, organic phase

TIXOGEL Mastergels
Fully activated natural organophilic layered silicates

Product Description
TIXOGEL Mastergels are combinations of oils and organically modified bentonites already activated with Propylene Carbonate. They can provide stable, predictable, reproducible thixotropic viscosity and pigment suspension in a variety of cosmetic formulation types. TIXOGEL Mastergels can be easily incorporated into the manufacturing cycle with medium shear dispersion equipment.

Benefits
- Ready for use gels
- Can be incorporated with simple stirrers
- Cost reduction and time-saving in production
- Eliminate use of dry powder dispersion
- Constant rheological efficiency due to optimum dispersion and activation

Applications
- Antiperspirants
- Creams and Lotions
- Make-Up
- Sunscreen Products
- Wax Based Products (e.g. Lipstick, Cream Eye-Shadow)

Delivery form
- Paste

<table>
<thead>
<tr>
<th>Product</th>
<th>Article No.</th>
<th>INCI Names</th>
<th>Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIXOGEL-CCT 6030</td>
<td>021002</td>
<td>Caprylic/Capric Triglyceride (and) Stearalkonium Bentonite (and) Propylene Carbonate</td>
<td>16 kg</td>
</tr>
<tr>
<td>TIXOGEL-IDD 1538</td>
<td>020999, 021011</td>
<td>Isododecane (and) Quaternium-90 Bentonite (and) Propylene Carbonate</td>
<td>15 kg, 154 kg</td>
</tr>
<tr>
<td>TIXOGEL-VSP 1438</td>
<td>20747, 20750</td>
<td>Cyclopentasiloxane (and) Cyclohexasiloxane (and) Quaternium-90 Bentonite (and) Propylene Carbonate</td>
<td>18 kg, 200 kg</td>
</tr>
</tbody>
</table>
Oil phase, organic phase

**RHEOCIN**

Hydrogenated castor oil

**Product Description**

RHEOCIN is a hydrogenated castor oil derivative designed for use in cosmetic and personal care systems as a thixotropic gellant for oil phases. Rheological control with RHEOCIN provides excellent thickening effect and pigment suspension. The efficiency of RHEOCIN is sensitive to temperature and system polarity.

**Benefits**

- Form white gels
- Efficient thickener for silicone oils, mineral oils and vegetable oils
- Stabilize W/O emulsions
- Improve spreadability of cosmetic products
- Impart skin conditioning and water-repellent effect
- Require temperature controlled activation

**Applications**

- Creams and Lotions
- Hair Care Products
- Lipsticks
- Pressed Powders
- Sunscreen Products

**Delivery form**

- Powder

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<table>
<thead>
<tr>
<th>Product</th>
<th>Article No.</th>
<th>INCI Name</th>
<th>Viscosity/Stabilization</th>
<th>Application Field/Properties</th>
<th>Packages</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHEOCIN*</td>
<td>020634</td>
<td>Trihydroxystearin</td>
<td>+ / o</td>
<td>medium polar to unpolar systems</td>
<td>20 kg</td>
</tr>
</tbody>
</table>

*Certified according to the natural and organic standards of ECOCERT.
## Rheological Additives for Cosmetic Applications

### Product Overview

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>PURE THIX-1442</td>
<td>Polyether-1</td>
<td>020631 020632</td>
<td>10 kg 100 kg</td>
</tr>
<tr>
<td>LAPONITE-XLG XR*</td>
<td>Lithium Magnesium Sodium Silicate (nano)</td>
<td>021196</td>
<td>25 kg</td>
</tr>
<tr>
<td>LAPONITE-XL 21 XR*</td>
<td>Sodium Magnesium Fluorosilicate (nano)</td>
<td>021769</td>
<td>25 kg</td>
</tr>
<tr>
<td>LAPONITE-XLS XR*</td>
<td>Lithium Magnesium Sodium Silicate (nano) (and) Tetrasodium Pyrophosphate</td>
<td>021035</td>
<td>25 kg</td>
</tr>
<tr>
<td>GELWHITE-H XR*</td>
<td>Bentonite</td>
<td>020628</td>
<td>25 kg</td>
</tr>
<tr>
<td>OPTIGEL-CL**</td>
<td>Magnesium Aluminium Silicate</td>
<td>020623</td>
<td>25 kg</td>
</tr>
<tr>
<td>OPTIGEL-CL XR*</td>
<td>Magnesium Aluminium Silicate</td>
<td>020622</td>
<td>25 kg</td>
</tr>
<tr>
<td>OPTIGEL-CK**</td>
<td>Bentonite</td>
<td>020624</td>
<td>25 kg</td>
</tr>
<tr>
<td>OPTIGEL-CX XR*</td>
<td>Bentonite</td>
<td>020625</td>
<td>25 kg</td>
</tr>
<tr>
<td>OPTIGEL-WX</td>
<td>Bentonite (and) Xantham Gum</td>
<td>020621</td>
<td>25 kg</td>
</tr>
<tr>
<td>TIXOGEL-VZ V</td>
<td>Stearalkonium Bentonite</td>
<td>020615</td>
<td>20 kg</td>
</tr>
<tr>
<td>TIXOGEL-MP 250</td>
<td>Stearalkonium Bentonite</td>
<td>020610</td>
<td>20 kg</td>
</tr>
<tr>
<td>TIXOGEL-VP V XR*</td>
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<td>020617</td>
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<tr>
<td>GARAMITE-7308 XR*</td>
<td>Quaternium-90 Sepiolite (and) Quaternium-90 Montmorillonite</td>
<td>20633</td>
<td>10 kg</td>
</tr>
<tr>
<td>TIXOGEL-CCT 6030</td>
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<td>021002</td>
<td>16 kg</td>
</tr>
<tr>
<td>TIXOGEL-IDD 1538</td>
<td>Isododecane (and) Quaternium-90 Bentonite (and) Propylene Carbonate</td>
<td>020999 021011</td>
<td>15 kg 15.4 kg</td>
</tr>
<tr>
<td>TIXOGEL-VSP 1438</td>
<td>Cyclopentasiloxane (and) Cyclohexasiloxane (and) Quaternium-90 Bentonite (and) Propylene Carbonate</td>
<td>20747 20750</td>
<td>18 kg 200 kg</td>
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<tr>
<td>RHEOCIN**</td>
<td>Trihydroxystearin</td>
<td>020634</td>
<td>20 kg</td>
</tr>
</tbody>
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ECKART globally represents and distributes BYK additives in Personal Care and Cosmetics

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