# TIXOGEL-VP V XR

## Organically Modified Rheological Additive for Oil and Solvent Phases in Cosmetic Applications

## Product Data

**INCI Name**
Quaternium-90 Bentonite

**Product Description**
TIXOGEL-VP V XR is an organically modified bentonite for use in cosmetic and personal care systems to develop thixotropic rheological control and suspension. It is designed to impart a high degree of gelling efficiency over a wide range of low to medium polar fluids. TIXOGEL-VP V XR needs a polar activator. TIXOGEL-VP V XR has been sterilized by gamma irradiation.

**Typical Properties**
The values indicated in this data sheet are typical and do not constitute specification limits.

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|---|---|
| Form: | Powder |
| Color: | Light cream |
| Date Irradiation min. Dose | 4.0 |
| Specific Density: | 1.8 g/cm³ |
| Primary Particle Size at Complete Dispersion: | 1 - 5 µm |
| Temperature Stability: | 200 – 250 °C |
| Water Content: | max. 3 % |
| Loose Bulk Density: | 350 - 540 g/l |
| Dry Sieve Passing 75 µm: | min. 70.0 % |
| Loss on Ignition (1000 °C): | 36.5 - 40.5 % |
| Microbial Contamination | < 100 cfu/g |

**Recommended Use**
TIXOGEL-VP V XR may be used in all non-polar to medium polar organic fluid systems.

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|---|---|---|
| Suitable solvents: | Mineral Oil, Silicone Oil, Vegetable Oil | |
| Application areas: | Personal Care: | Cream and Lotion<br>Sunscreen Product<br>Antiperspirant |
| | Color Cosmetics: | Liquid Make-up<br>Lipstick<br>Cream Eye Shadow |

**Incorporation and Processing Instructions**
For maximum efficiency, TIXOGEL-VP V XR must be subjected to both very high shear and polar activation. TIXOGEL-VP V XR is effective over a wide range of organic fluid systems and has no processing temperature requirements. TIXOGEL-VP V XR can be dispersed using a high shear equipment e.g. dissolver, rotor-stator system or homogenisator.

Suggested polar activators (based on weight of TIXOGEL-VP V XR) are:

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| Propylene Carbonate/$H_2O$ (95:5) | 10 - 60 % |
| Ethanol/$H_2O$ (95:5) | 10 - 50 % |

TIXOGEL-VP V XR can be incorporated either using a pre-gel or in-situ incorporation.

Pre-gels can be prepared by the following procedure:
1. Add the organic solvent to the dispersion vessel.
2. Slowly add TIXOGEL-VP V XR (10 % by weight of total pre-gel) to mixer under agitation.
3. Mix at very high shear for approx. 15 minutes.
4. Add polar activator.
5. Mix at very high shear for approx. 15 minutes.
6. Then, the other formulation ingredients can be incorporated into the gel.

In-situ incorporation can be accomplished depending on the oil phase.

**Recommended Levels**
Typically, 1-3 % loading (based upon total formulation weight) is a good starting point to increase viscosity, control syneresis and provide thixotropic flow behavior.

These levels are suggested as guideline; optimum levels can be determined by laboratory tests.

**Special Note**
Surfactants and emulsifiers should be added only after the TIXOGEL-VP V XR has been activated. Otherwise possible loss or decrease in efficiency of the TIXOGEL-VP V XR can result. TIXOGEL-VP V XR may be used as an auxiliary emulsifier in water-in-oil emulsion systems.

**Storage and Transportation**
TIXOGEL-VP V XR should be stored dry in unopened, original packaging at temperature between 0°C and 30°C.

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