

Rheological additives

XL02

Features and Advantages:

A synthetic flake silicate for water-based systems, suitable for use in personal care products to provide thixotropic stability.

Product Specifications:

Appearance	White, loose powder
Bulk Density	1,000 kg/m ³
pH (2% aqueous solution)	Approx. 10
Moisture Content	Max. 10%
Screen Residue (60 mesh/250 µm)	Max. 2%
Specific Surface Area	330 m ² /g
Sol Stability (24 hours), Sol Morphology	Max. 50 cP
Dispersibility	Max. 40
Transparency	Max. 20
Lead Content	Max. 5 mg/kg
Arsenic Content	Max. 1 mg/kg
Total Viable Count	Max. 750 cfu/g

Application fields:

Personal Care Products

Characteristics and Benefits

XL02 is suitable for formulations with a pH of 6.5 or lower. In water or aqueous alcohol solutions, it swells to form a transparent, colourless, low-viscosity gel-like dispersion, known as a sol. Even at a

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; For more information, please visit: <https://www.rk-chem.com>

concentration of up to 10 per cent in water, the sol remains free-flowing for up to 24 hours. This additive is also suitable for hard water, as inorganic phosphates are effective chelating agents for Ca^{2+} and Ca^{2+} ions. The unique thixotropic properties provided by XL02 improve the skin feel of personal care products and create a light, non-sticky texture. Furthermore, this additive enhances emulsion stability and prevents the settling of particles, pigments and solid active ingredients. It is compatible with ethanol solutions up to a concentration of 40 per cent. When blended with co-thickeners, it can be used in formulations with an ethanol content of over 60 per cent.

Recommended uses

Face creams and lotions, suncare products, depilatories, shower gels and shampoos, anti-dandruff shampoos, liquid make-up, foundation, eye make-up

Recommended usage

0.1–5% of the total formulation (as supplied); the specific dosage depends on the ingredients. The above recommendations are provided for reference only. The optimum dosage should be confirmed through relevant application series testing.

Addition and processing instructions

XL02 should be added steadily to deionised water at a temperature of 15 to 25 °C under high shear conditions within 10 to 30 seconds. The stirring speed must be sufficiently high to create turbulent vortices, ensuring the powder is well dispersed and preventing caking. Once addition is complete, continue stirring for 20 minutes. Once fully dispersed, a clear, colourless and low-viscosity intermediate product will be obtained. The viscosity of this intermediate product will increase immediately upon mixing with other ingredients in the formulation. This may be influenced by temperature, electrolytes or pH.

Special Note

XL02 is incompatible with cationic compounds. Therefore, when adjusting the pH, it is recommended to use citric acid, lactic acid or sodium dihydrogen phosphate to lower the pH, or sodium hydroxide to raise it. As this additive is a weak base, it will cause the pH to rise; consequently, the pH must be adjusted to below the target value prior to addition.

Packing:

Net weight 25 kg

Storage:

Keep away from sources of fire and light; store in a dark place.