RHEOBYK-7420 CA

Liquid rheology additive to produce thixotropic flow behavior in aqueous and highly polar systems for improving anti-sagging and anti-settling properties.

Product data

Composition
Solution of a modified urea

Typical properties
The values indicated in this data sheet describe typical properties and do not constitute specification limits.

Density (20 °C):	1.08 g/cm³
Active substance:	52 %
Solvents:	Cyclic amide
Flash point:	123 °C

Storage and transportation
Product is hygroscopic. Store dry. Minor turbidity of the material that occurs during storage has no influence on the rheological effectiveness. If handled and stored properly, the storage stability specified upon delivery applies in the unopened container.

Special note
We recommend using RHEOBYK-7410 CA or RHEOBYK-7411 CA for medium and low-polarity, non-aqueous systems.

Applications

Coatings industry

Special features and benefits
After being stirred into the coating system, the additive generates a three-dimensional network structure. The resulting thixotropic flow behavior is highly suited for preventing sedimentation and syneresis and increasing the anti-sagging properties without impairing leveling. RHEOBYK-7420 CA is liquid and therefore easy to handle. It is not necessary to specifically adjust the pH value or control the temperature during incorporation.

Recommended use
RHEOBYK-7420 CA is preferably used as an anti-settling additive to produce aqueous pigment, filler, and matting agent concentrates. The additive's excellent shear thinning effect is advantageous for dosing because of its low viscosity. In addition, it is suitable for controlling the thixotropic flow behavior and for optimizing the anti-sagging properties and leveling.

Recommended levels
0.3–1.5 % additive (as supplied) based upon the total formulation to prevent settling.
0.3–3 % additive (as supplied) based upon the total formulation to prevent sagging.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions
Addition into the millbase ensures optimum distribution and therefore the best possible effectiveness and reproducibility in applications. It is not necessary to specifically control the temperature or adjust the pH value. The product is also suitable for adjusting the viscosity afterwards by post addition. If this causes the product to appear inhomogeneous, typical co-solvents can be used to improve the homogeneity. If the product is suitable for the system, its rheological effectiveness builds up, dependent upon time and polarity, and can generally be evaluated 2 to 4 hours after incorporation.

Special note
As the additive contains chloride ions, we recommend testing the corrosion properties of the manufactured coatings for contact with metal and to store the coatings in plastic containers or containers with interior coating to prevent corrosion in metal containers. In the cured film coating, however, no negative impact on its corrosion protection has been found.

Lubricants and foundries

Special features and benefits
After being incorporated into the system, the additive generates a three-dimensional network structure. The resulting thixotropic flow behavior is ideally suited to preventing fillers (e.g. graphite, MoS_2) settling, without negatively impacting handling. RHEOBYK-7420 CA is liquid and therefore easy to apply. It is not necessary to specifically adjust the pH value or control the temperature during incorporation.

Recommended use
RHEOBYK-7420 CA is preferably used as an anti-settling additive to produce aqueous filler concentrates (e.g. graphite, MoS_2). The additive's excellent shear thinning effect causes a sharp drop in viscosity under shear stress, which is advantageous in the subsequent application.

Recommended levels
0.3–2 % additive (as supplied) based upon the total formulation to prevent settling.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions
Addition under controlled stirring ensures optimum distribution and the best possible effectiveness and reproducibility in applications. It is not necessary to specifically control the temperature or adjust the pH value. RHEOBYK-7420 CA is also suitable for adjusting the viscosity afterwards by post addition.

Home care and I&I

Special features and benefits

After being incorporated into the system, the additive generates a three-dimensional network structure. The resulting thixotropic flow behavior is optimally suited to preventing particles (e.g. encapsulated fragrances) from settling without affecting the residual emptying of the container. Cleaning products with RHEOBYK-7420 CA are easy to use and can be applied by spraying. The use of the additive improves adhesion to vertical surfaces, which enhances the cleaning action as a result of the longer exposure time.

The additive is liquid and therefore easy to handle. It is not necessary to specifically adjust the pH value or control the temperature during incorporation.RHEOBYK-7420 CA is stable to acids and bases in a pH range of 0–13. The electrolyte resistance and compatibility with surfactants, including cationic ones, are excellent. Detergents and cleaning products retain their transparency.

Recommended use

RHEOBYK-7420 CA is used as a rheology additive to improve the sagging and settling properties in aqueous cleaning and care products and detergents.

Acidic household cleaners	■
Acidic toilet cleaners	■
Glass and window cleaners	■
Liquid detergents	■
Fabric softeners	■

■ especially recommended □ recommended

Recommended levels

0.3–3 % additive (as supplied) based upon the total formulation, depending on the properties of the formulation to be achieved.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions

Addition under controlled stirring ensures optimum distribution and the best possible effectiveness and reproducibility in applications. It is not necessary to specifically control the temperature or adjust the pH value. The additive is also suitable for adjusting the viscosity afterwards by post addition. If an inhomogeneous appearance occurs, the use of common water-miscible solvents (e.g. alcohols, ketones, glycols, esters) will bring about an improvement.

Adhesives and sealants

Special features and benefits

RHEOBYK-7420 CA builds up a three-dimensional network structure after stirring into the adhesive and sealant formulation and prevents sedimentation, as well as syneresis effects in filled systems. The additive forms a thixotropic flow behavior, which increases the viscosity at a low shear rate, but does not affect the application properties at a high shear rate. When used in higher dosages, the additive enables an improvement of the anti-sagging properties.

Recommended use

RHEOBYK-7420 CA is suitable for use in highly polar and aqueous binder systems.

Recommended levels

0.2–1 % additive (as supplied) based upon the total formulation to prevent settling, depending on the polarity and the solids in the formulation.
0.5–2.5 % additive (as supplied) based upon the total formulation to prevent sagging, depending on the polarity and the solids in the formulation.

The above recommended levels can be used for orientation. The optimum dosage should be determined by application-related test series.

Incorporation and processing instructions

The additive should be added whilst stirring and distributed homogeneously. It is not necessary to specifically control the temperature and adjust the pH value. The additive is also suitable for adjusting the viscosity afterwards by post addition. Rheological effectiveness builds up, dependent upon time and polarity, and can generally be evaluated 2 to 4 hours after incorporation.

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