RHEOBYK-7411 CA

Liquid rheology additive for low-polarity solvent-borne and solvent-free systems to produce a highly thixotropic flow behavior and to improve 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):	1.03 g/cm³
Active substance:	45 %
Solvents:	Cyclic amide
Flash point:	110 °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-7420 CA for medium and high-polarity as well as 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 increasing the anti-sagging properties without impairing leveling. As a result of the associative interaction of RHEOBYK-7411 CA with the used binder, the rheological effect is also significantly dependent upon the type and quantity of the binder.

Recommended levels
0.1–1 % additive (as supplied) based upon the total formulation to prevent settling.
0.3–1.5 % 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
The additive should be added whilst stirring using moderate shear forces to ensure a rapid, homogeneous distribution. It is not necessary to specifically control the temperature. RHEOBYK-7411 CA is suitable both as an additive in the millbase and for adjusting the viscosity afterwards by post addition. 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
If used with driers (siccatives), discoloration may occur due to the formation of metal complexes. The rheological effectiveness should then be tested.

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-7411 CA are easy to use and can be applied by spraying. The use of the product improves adhesion to vertical surfaces, which improves the cleaning action as a result of the longer exposure time. The additive is liquid and therefore easy to handle. Detergents and cleaning products retain their transparency.

Recommended use
RHEOBYK-7411 CA is used as a rheology additive to improve the sagging and settling properties of cleaning products and detergents based on low-polar solvents. It can also be used in nonionic surfactants (low polarity alcohol ethoxylates and propoxylates).

Industrial cleaners (non-polar solvents)	■
Non-aqueous liquid detergents	■

■ especially recommended □ recommended

Recommended levels
0.5–2 % 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
The additive should be added whilst stirring using moderate shear forces to ensure a rapid, homogeneous distribution. It is not necessary to specifically control the temperature. RHEOBYK-7411 CA is also suitable for subsequently adjusting the viscosity afterwards by post addition.

Adhesives and sealants

Special features and benefits
RHEOBYK-7411 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-7411 CA is suitable for use in low-polar binder systems, e.g. silane-modified polymer systems.

Recommended levels
0.2–1.0 % 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. The additive is also suitable for subsequently 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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