

## RHEOBYK-7470 CA

Lithium-chloride-free, liquid rheology additive for the adjustment of a highly thixotropic flow behavior in aqueous and highly polar systems to improve the sag resistance and anti-settling properties.

### Product data

#### Composition

Solution of modified urea

#### Typical properties

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

Density (20 °C): 1.01 g/ml  
Active substance: 47.7 %  
Solvents: Cyclic amide  
Flash point: 108 °C

#### Storage and transportation

Moisture sensitive. Store dry and at temperatures below 35 °C. 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.

### Applications

#### Coatings industry

##### Special features and benefits

Through the formation of a three-dimensional network structure, thixotropic flow behavior is adjusted, and viscosity is therefore modified in the low shear range. This has a positive effect on properties such as anti-settling performance during storage and sag resistance during the application process, without having a negative effect on leveling. The additive is easy to handle and dose due to the liquid delivery form. It is not necessary to additionally adjust the pH value or control the temperature to activate the rheological effect.

##### Recommended use

RHEOBYK-7470 CA is particularly recommended as an anti-settling additive for manufacturing aqueous pigment, filler, and matting agent concentrates. The strong shear thinning effect results in a positive effect on dosing.

Furthermore, the additive can be used for all common aqueous coating systems. RHEOBYK-7460 CA is recommended for use in solvent-based and solvent-free systems.

**Recommended levels**

0.3–1.5 % additive (as supplied) based on the total formulation to prevent settling.

0.3–3 % additive (as supplied) based on 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 while stirring using medium shear forces to ensure homogenous distribution in the coating system within a short time. Adding to the letdown or as a post-additive for adjusting the viscosity is therefore preferable. If an inhomogenous appearance occurs, typical co-solvents can be used to improve the compatibility. Use in the millbase is generally possible, but should be checked on a case-by-case basis. It is not necessary to specifically control the pH value or temperature during manufacturing.

If the additive is suitable for use in the coating system, its rheological effectiveness builds up, dependent upon time and polarity, and can generally be evaluated a few hours after incorporation.

**Leather finishes and coated fabrics****Special features and benefits**

The liquid additive is used to increase thixotropy in various polyurethane dispersions. It enables faster manufacturing and processing and improves the anti-settling and anti-sagging properties. RHEOBYK-7470 CA reduces floating in pigmented formulations.

**Recommended use**

Polyurethane dispersions for artificial leather applications

**Recommended levels**

0.1–0.5 % additive (as supplied) based on the total formulation to prevent settling and floating.

0.3–1 % additive (as supplied) based on the total formulation to prevent sagging. In exceptional cases doses of up to 3 % are possible.

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 post-added to the polyurethane dispersion slowly while stirring.

**Lubricants and mold release****Special features and benefits**

After being incorporated into the system, the additive generates a three-dimensional network structure. The resulting thixotropic flow behavior is ideal for preventing fillers (e.g. graphite, MoS<sub>2</sub>) from settling, without having a negative effect on handling. 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.

**Recommended use**

RHEOBYK-7470 CA is preferably used as an anti-settling additive for manufacturing aqueous filler concentrates (e.g. graphite, MoS<sub>2</sub>). The additive's excellent shear thinning effect causes a significant drop in viscosity under shear stress, which is advantageous in the subsequent application.

**Recommended levels**

0.3–2 % additive (as supplied) based on 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. The additive is also suitable for subsequently adjusting the viscosity by incorporating it as a post-additive.

**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 ideal for preventing particles (e.g. encapsulated fragrances) from settling without affecting the residual emptying of the container. Cleaning products with RHEOBYK-7470 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-7470 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-7470 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	<input checked="" type="checkbox"/>
Acidic toilet cleaners	<input checked="" type="checkbox"/>
Glass and window cleaners	<input checked="" type="checkbox"/>
Liquid detergents	<input checked="" type="checkbox"/>
Fabric softeners	<input checked="" type="checkbox"/>

especially recommended    recommended

**Recommended levels**

0.3–3.0 % additive (as supplied) based on 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 subsequently adjusting the viscosity by incorporating it as a post-additive. If an inhomogenous appearance occurs, the use of common water-soluble solvents (e.g. alcohols, ketones, glycols, esters) will bring about an improvement.

## Adhesives and sealants

### Special features and benefits

RHEOBYK-7470 CA builds up a three-dimensional network structure after stirring into the adhesive and sealant formulation and prevents settling and 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. The additive is liquid and therefore easy to dose. It is not necessary to control the temperature to activate the rheological effect.

### Recommended use

RHEOBYK-7470 CA is suitable for use in highly polar and aqueous binder systems.

### Recommended levels

0.2–1.5 % additive (as supplied) based on the total formulation to prevent settling, depending on the polarity and the solids content of the formulation.

0.5–2.5 % additive (as supplied) based on the total formulation to prevent sagging, depending on the polarity and the solids content of 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 while stirring and distributed homogeneously. It is not necessary to specifically control the temperature. The additive is also suitable for subsequently adjusting the viscosity by incorporating it as a post-additive. Rheological effectiveness builds up, dependent upon time and polarity, and can generally be evaluated 2 to 4 hours after incorporation.



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