RHEOBYK-430

Liquid rheology additive for improving the anti-sagging and anti-settling properties of solvent-borne coatings, adhesives and sealants, as well as detergents, cleaning and care products.

Product data

Composition
Solution of a high molecular weight, urea-modified, medium-polarity polyamide

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

Density (20 °C):	0.86 g/ml
Non-volatile matter (10 min, 150 °C):	29 %
Solvents:	Isobutanol/solvent naphtha 9/1
Flash point:	27 °C
Refractive index (20 °C):	1.43

Storage and transportation
Gelling, separation or turbidity may occur during storage or transportation at temperatures below 10 °C. Its effectiveness is not influenced if it is incorporated under dispersion conditions at a temperature of at least 50 °C.

Applications

Coatings, Adhesives and Sealants

Special features and benefits
With the aid of the pigments and fillers, the additive generates a three-dimensional network structure. The entanglement of the high molecular weight polymers is responsible for the development of the pseudoplastic flow behavior. The polarity of the system and the incorporation temperature influence the rheological effectiveness.

The settling of the pigments and fillers is prevented and outstanding anti-sagging properties are produced due to the rapid rebound in viscosity after shearing. The additive has no "false body effect", no negative influence on the intercoat adhesion, and it is easy to process on account of its liquid form.

Recommended levels
0.1–1.5 % additive (as supplied) based on the total formulation to improve anti-settling properties and 1–3 % to increase stability.

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

Incorporation and processing instructions
Optimum results are achieved if RHEOBYK-430 is incorporated in the millbase while dispersing the pigments/fillers. The typical increase in temperature to 40–50 °C during this phase has a favorable effect; increased temperatures have no negative effect.

Subsequent incorporation (post-addition) under normal stirring conditions at a low shear rate is also possible, however, only if the binder system has suitable polarity and the additive is not subjected to temperatures below 10 °C at any time. If this temperature is not reached, we only recommend incorporation in the millbase of the pigmented/filled systems at a millbase temperature of at least 50 °C.

Special note
The interaction with pigments and fillers can lead to a viscosity increase and a gloss reduction. This effect can be avoided by ensuring optimum stabilization of the solid particles with the use of wetting and dispersing additives.

Detergents, Cleaning and Care Products

Special features and benefits
RHEOBYK-430 is suitable for improving the anti-sagging and anti-settling properties of solvent-borne and solvent-free medium-polarity systems.

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 containing RHEOBYK-430 are easy to use and can be applied by spraying. The use of the additive improves adhesion to vertical surfaces, which increases 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. The modified ureas can also be post-added and used in transparent products.

Recommended use
RHEOBYK-430 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 non-ionic surfactants (alcohol alkoxylates).

Industrial cleaning products (medium-polar solvents)	■
Non-aqueous and low-water liquid detergents	□

■ 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
Optimum results are achieved if RHEOBYK-430 is incorporated while dispersing the abrasives incorporating the capsules. Subsequent incorporation (post-addition) under normal stirring conditions at a low shear rate is also possible if the additive was not subjected to temperatures below 10 °C at any time.

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