

## RHEOBYK-431

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, non-polar polyamide

#### Typical Properties

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

Density (20 °C):	0.87 g/ml
Refractive index (20 °C):	1.43
Non-volatile matter:	25 %
Solvents:	Isobutanol/monophenyl glycol 6/1
Flash point:	30 °C

#### Storage and Transportation

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. If in doubt, we recommend testing the effectiveness.

### 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

0.1-2 % additive (as supplied) based on the total formulation to improve anti-settling properties and 1-4 % to increase stability.

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

**Incorporation and Processing Instructions**

Optimum results are achieved if RHEOBYK-431 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-431 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 with RHEOBYK-431 are easy to use and can be applied by spraying. The use of the additive 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. The detergents and cleaning products retain their transparency. The modified ureas can also be post-added and used in transparent products.

**Recommended Use**

RHEOBYK-431 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 (low-polar solvents)	<input checked="" type="checkbox"/>
Non-aqueous and low-water liquid detergents	<input 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. Optimal dosages are determined through a series of laboratory tests

**Incorporation and Processing Instructions**

Optimum results are achieved if RHEOBYK-431 is incorporated while dispersing the abrasive materials/ incorporating the capsules. Subsequent incorporation (post-addition) under normal stirring conditions at a low shear rate is also possible if the additive is not subjected to temperatures below 10 °C at any time.

# RHEOBYK-431

Data Sheet  
Issue 06/2020



Additive Guide



**BYK-Chemie GmbH**  
P.O. Box 10 02 45  
46462 Wesel  
Germany  
Tel +49 281 670-0  
Fax +49 281 65735

[info@byk.com](mailto:info@byk.com)  
[www.byk.com](http://www.byk.com)

ACTAL®, ADD-MAX®, ADD-VANCE®, ADJUST®, ADVITROL®, ANTI-TERRA®, AQUACER®, AQUAMAT®, AQUATIX®, BENTOLITE®, BYK®, BYK®-DYNWET®, BYK®-MAX®, BYK®-SILCLEAN®, BYKANOL®, BYKETOL®, BYKJET®, BYKO2BLOCK®, BYKOPLAST®, BYKUMEN®, CARBOBYK®, CERACOL®, CERAFAK®, CERAFLOUR®, CERAMAT®, CERATIX®, CLAYTONE®, CLOÍSITE®, DISPERBYK®, DISPERPLAST®, FULACOLOR®, FULCAT®, GARAMITÉ®, GELWHITE®, HORDAMER®, LACTIMON®, LAPONITE®, MINERAL COLLOID®, MINERPOL®, NANOBYK®, OPTIBENT®, OPTIFLO®, OPTIGEL®, PAPERBYK®, PERMONT®, POLYAD®, PRIEX®, PURE THIX®, RECYCLOBLEND®, RECYCLOBYK®, RECYCLOSSORB®, RECYCLOSTAB®, RHEOBYK®, RHEOCIN®, RHEOTIX®, SCONA®, SILBYK®, TIXOGEL®, VISCOBYK® and Y 25® are registered trademarks of the BYK group.

The information herein is based on our present knowledge and experience. The information merely describes the properties of our products but no guarantee of properties in the legal sense shall be implied. We recommend testing our products as to their suitability for your envisaged purpose prior to use. No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding any products mentioned herein and data or information set forth, or that such products, data or information may be used without infringing intellectual property rights of third parties. We reserve the right to make any changes according to technological progress or further developments.

This issue replaces all previous versions – Printed in Germany