

# BYK-7420 ES

Liquid rheology additive to generate thixotropic flow behavior in aqueous and highly polar systems to improve the 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.

Active substance: 40 %  
Density (68 °F): 9.18 lbs/US gal  
Solvents: Amide ester  
Flash point: > 248 °F

### Food Contact Legal Status

For the current food contact legal status, please contact our product safety department or visit [www.byk.com](http://www.byk.com) for further information.

### Storage and Transportation

Product is hygroscopic. Store dry. Minor cloudiness of the material that occurs during storage has no influence on the rheological effectivity.

### Special Note

We recommend using BYK-7410 ET and BYK-7411 ES 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.

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

BYK-7420 ES 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 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. Optimal levels are determined through a series of laboratory tests.

### 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 additive is also suitable for retroactively adjusting the viscosity by incorporating it as a post-additive. If the use as a post-additive causes the product to appear non-homogeneous, typical co-solvents can be used to improve the homogeneity.

### 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 ideal for preventing fillers (e.g. graphite,  $\text{MoS}_2$ ) from settling, without negatively impacting 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

BYK-7420 ES is preferably used as an anti-settling additive to produce aqueous filler concentrates (e.g. graphite,  $\text{MoS}_2$ ). 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. Optimal levels are determined through a series of laboratory tests.

### 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.

## Detergents, Cleaning and Care Products

### 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 negatively impacting the residual emptying of the container. Cleaning products with BYK-7420 ES 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. It is not necessary to specifically adjust the pH value or control the temperature during incorporation.

BYK-7420 ES is stable to acids and bases in a pH range of 0-13. The electrolyte resistance and compatibility with surfactants, including cationic surfactants, are excellent. The transparency of the detergents and cleaning products is preserved.

### Recommended Use

BYK-7420 ES is used as a rheology additive to improve the anti-sagging and anti-settling properties in aqueous detergents, cleaning and care products.

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

■ especially recommended    □ recommended

### Recommended Levels

0.3-3.0 % 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. Optimal levels are determined through a series of laboratory tests.

### 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 this causes the product to appear non-homogeneous, typical water-miscible solvents (e.g. alcohols, ketones, glycols, esters) can be used to improve the homogeneity.

## BYK-7420 ES

Data Sheet  
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Additive Guide



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