

# BYK-3455

Fluorine-free, silicone-containing additive for improving substrate wetting and leveling in aqueous systems and solvent-free UV coatings.

## Product Data

### Composition

Polyether-modified polydimethylsiloxane

### Typical Properties

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

Density (20 °C): 1.02 g/ml  
Non-volatile matter (10 min., 150 °C): > 90 %  
Flash point: > 100 °C

### 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

Store in a cool, dry, well-ventilated place.

### Special Note

BYK-3455 is used to improve substrate wetting and leveling. It has low foam stabilization, offers high hydrolytic stability and is fluorine-free.

## Applications

### Coatings Industry

#### Special Features and Benefits

Using BYK-3455 can greatly reduce the static and dynamic surface tension, which results in a significant improvement in substrate wetting and leveling. BYK-3455 also enables difficult substrates such as wood, which have porous and uneven surfaces, to be wetted.

BYK-3455 does not stabilize foam, has no negative impact on recoatability and does not increase surface slip. Coating defects such as "picture framing" and "fish eyes" are considerably reduced. As a result of its high compatibility with various binder systems, even with a low proportion of co-solvent, BYK-3455 is ideally suited for use in modern coating systems.

**Recommended Use**

Wood coatings	■
Industrial coatings	■
Protective coatings	■
Architectural coatings	■
Leather coatings	■

■ especially recommended

**Recommended Levels**

0.1-1.0 % additive (as supplied) based on the total formulation.

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

**Incorporation and Processing Instructions**

The additive can be incorporated during any stage of the production process, including post-addition.

**Adhesives & Sealants****Special Features and Benefits**

BYK-3455 is a highly effective additive to reduce surface tension in aqueous adhesive systems. It thereby improves the wetting of critical substrates and increases adhesion. BYK-3455 does not have a foam stabilizing effect.

**Recommended Use**

BYK-3455 is particularly suitable for use in wood and packaging adhesives.

**Recommended Levels**

0.05-0.5 % additive (as supplied) based on the total formulation.

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

**Incorporation and Processing Instructions**

It is preferable to add the additive to the already completed formulation. However, it can be used at any stage during manufacture.

**Printing Inks****Special Features and Benefits**

BYK-3455 is used for aqueous and 100 % UV flexographic inks for substrate wetting. Leveling can be substantially improved, particularly for UV and overprint varnishes.

**Recommended Levels**

0.2-1.0 % additive (as supplied) based on the total formulation.

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

## Inkjet Inks

### Special Features and Benefits

BYK-3455 is used in aqueous inkjet inks. Reducing the static and dynamic surface tension, improves both substrate wetting and also jettability. Using BYK-3455 can also optimize ink filtering. BYK-3455 has low foam stabilization and offers good hydrolytic stability.

In UV inks, BYK-3455 improves leveling.

### Recommended Use

Aqueous inkjet inks	■
UV-curable inkjet inks	■

■ especially recommended

### Recommended Levels

0.1-1.0 % additive (as supplied) based on the total formulation.

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

## Household, Industrial, and Commercial Cleaning Agents

### Special Features and Benefits

BYK-3455 is used in care products to improve substrate wetting. Greatly reducing surface tension not only improves substrate wetting, it also achieves exceptional leveling of the care product. BYK-3455 does not stabilize foam, has no impact on surface slip and does not influence the next coating application. BYK-3455 is fluorine-free.

### Recommended Use

BYK-3455 is used in self-shine emulsions (matt and gloss), wax cleaning agents and semi-aqueous cleaning agents with a plasticizer content of < 5 %.

### Recommended Levels

0.01-0.5 % additive (as supplied) based on the total formulation.

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

### Incorporation and Processing Instructions

It is preferable to add the additive to the already completed formulation. However, it can be used at any stage during manufacture.

## Paper Coatings

### Special Features and Benefits

BYK-3455 reduces the dynamic and static surface tension of paper coatings and thereby improves wetting of the paper substrate and the leveling properties of the coating.

### Recommended Use

The additive can be added to all paper coatings and can be used for all coating processes. It is particularly suitable for high-speed doctor blade coatings (rod/blade coating).

### Recommended Levels

0.1-1.0 % additive (as supplied) based on the total formulation.

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

### Incorporation and Processing Instructions

The additive can be incorporated during any stage of the production process, including post-addition.



Additive Guide



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