BYK-3451

Silicone surfactant for aqueous printing inks and overprint varnishes, inkjet inks, aqueous coatings, adhesives, and care products providing a significant reduction in surface tension. Particularly suitable for improving the wetting of aqueous systems on very non-polar substrates. Does not increase the surface slip.

Product Data

Composition
Polyether-modified siloxane

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

Active substance:	100 %
Density (20 °C):	1.01 g/ml

Food Contact Legal Status
For the current food contact legal status, please contact our product safety department or visit www.byk.com for further information.

Special Note
The additive is also suitable for systems that do not contain organic co-solvents. If the system contains increased quantities of co-solvents, the silicone surfactant will not be as effective. In such formulations, we recommend the use of a polysiloxane, e.g. BYK-333 or BYK-3760.

Applications

Printing Inks

Special Features and Benefits
The additive causes a considerable reduction in the surface tension of aqueous systems. BYK-3451 especially improves substrate wetting on non-polar substrates, such as polyethylene, polypropylene, and coated offset paper, as well as leveling. It only marginally, if at all, stabilizes foam, and the recoatability is not impaired. BYK-3451 is characterized by its good substrate wetting properties, particularly also with thin-layered application. The additive does not increase the surface slip. If a greater surface slip is required, we recommend that it is combined with a polysiloxane such as BYK-333 or BYK-3760.

Recommended Use
The additive is suitable for all aqueous printing inks and overprint varnishes, particularly also for formulations which do not contain co-solvents. BYK-3451 is especially recommended if improvement in the substrate wetting of aqueous systems on very low-polar substrates, e.g. polyethylene and polypropylene is required.

Printing inks	■
Overprint varnishes	■

■ especially recommended □ recommended

Recommended Levels
0.1-1 % additive (as supplied) based on the total formulation in printing inks and overprint varnishes.

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.

Inkjet Inks

Special Features and Benefits
The additive causes a considerable reduction in the surface tension of aqueous systems. BYK-3451 especially improves substrate wetting on non-polar substrates, such as polyethylene, polypropylene, and coated offset paper, as well as leveling. It only marginally, if at all, stabilizes foam, and the recoatability is not impaired. BYK-3451 is characterized by its good substrate wetting properties, particularly also with thin-layered application. The additive does not increase the surface slip. If a greater surface slip is required, we recommend that it is combined with a polysiloxane such as BYK-333 or BYK-3760.

Recommended Use
The additive is recommended for all aqueous inkjet inks.

Inkjet Inks	■

■ especially recommended □ recommended

Recommended Levels
0.1-1.5 % additive (as supplied) based on the total formulation in inkjet inks.

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.

Aqueous care products, especially floor care products

Special Features and Benefits
The additive causes a considerable reduction in the surface tension of aqueous systems. BYK-3451 especially improves substrate wetting on non-polar substrates and leveling. It leads to no or little stabilization of the foam in the system and does not impair the next layer. The additive does not increase the surface slip. If a greater surface slip is required, we recommend that it is combined with a polysiloxane such as BYK-333 or BYK-3760. BYK-3451 is especially recommended if improvement is required in the substrate wetting of aqueous systems on very low-polar substrates.

Recommended Use
The additive is recommended for aqueous care products in the neutral pH range.

Recommended Levels
0.05-0.5 % additive (as supplied) based on the total formulation in aqueous care products.

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.

Adhesives and Sealants

Special Features and Benefits
BYK-3451 provides a significant reduction in the surface tension of aqueous adhesive systems, even at a low dosage. The additive improves substrate wetting on non-polar substrates, such as polyethylene, polypropylene, and siliconized separating films, and encourages the spreading of aqueous systems on the substrate. BYK-3451 is characterized by its good substrate wetting properties, particularly also with thin-layered application. It only marginally, if at all, stabilizes foam.

Recommended Use
The additive is recommended for all aqueous adhesive systems, especially for aqueous contact adhesive dispersions.

Recommended Levels
0.05-1 % additive (as supplied) based on the total formulation in aqueous adhesive and sealant systems.

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.

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Coatings Industry

Special Features and Benefits
The additive causes a considerable reduction in the surface tension in aqueous coatings and thus especially improves substrate wetting and leveling. It only marginally, if at all, stabilizes foam, and the recoatability is not impaired. The additive does not increase the surface slip. If a greater surface slip is required, we recommend that it is combined with a polysiloxane such as BYK-333 or BYK-3760.

Recommended Use
The additive is especially recommended for all aqueous coatings that do not contain co-solvents, particularly those based on styrene-acrylic, pure acrylate, PU-acrylate combinations, polyurethanes, and also for alkyd emulsions.

Architectural coatings	■

■ especially recommended □ recommended

Recommended Levels
0.1-0.5 % 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.

Additive Guide

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