BYK-3456

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):	1.04 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 for further information.

Storage and Transportation
Store in a cool, dry, well-ventilated place.

Applications

Coatings Industry

Special Features and Benefits
Using BYK-3456 can greatly reduce the static and dynamic surface tension, which results in a significant improvement in substrate wetting and leveling. BYK-3456 also enables difficult substrates such as wood, which have porous and uneven surfaces, to be wetted. The additive 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-3456 is ideally suited for use in modern coating systems.

Recommended Use

Wood and furniture coatings	■
Protective coatings	■
Architectural coatings	■
Industrial coatings	□

■ especially recommended □ recommended

Recommended Levels
0.1-1 % 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.

Leather Coatings

Special Features and Benefits
Using BYK-3456 can greatly reduce the static and dynamic surface tension, which results in a significant improvement in substrate wetting and leveling. BYK-3456 also enables difficult substrates that have porous and uneven surfaces to be wetted. The additive does not stabilize foam, has no negative impact on recoatability, and does not increase surface slip. As a result of its high compatibility with various binder systems, even with a low proportion of co-solvent, BYK-3456 is ideally suited for use in modern coating systems.

Recommended Use

Leather coatings	■

■ especially recommended □ recommended

Recommended Levels
0.1-1 % 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-3456 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-3456 does not have a foam-stabilizing effect.

Recommended Use
BYK-3456 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 final formulation. However, it can be used at any stage during manufacture.

Printing Inks

Special Features and Benefits
BYK-3456 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 % 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-3456 is used in aqueous inkjet inks. Reducing the static and dynamic surface tension improves both substrate wetting and also jettability. Using BYK-3456 can also optimize ink filtering. The additive has little foam-stabilizing effect and offers good hydrolytic stability. In UV inks, BYK-3456 improves leveling.

Recommended Use

Aqueous inkjet inks	■
UV-curable inkjet inks	■

■ especially recommended □ recommended

Recommended Levels
0.1-1 % 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.

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Household, Industrial, and Commercial Cleaning Agents

Special Features and Benefits
BYK-3456 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. The additive does not stabilize foam, has no effect on surface slip, and does not influence the next coating application. BYK-3456 is fluorine-free.

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 final formulation. However, it can be used at any stage during manufacture.

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