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 (68 °F):	8.51 lbs/US gal
Non-volatile matter (10 min., 302 °F):	> 90 %
Flash point:	> 212 °F

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.

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.

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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

BYK USA Inc.
524 South Cherry Street
P.O. Box 5670
Wallingford, CT 06492
USA
Tel 203 265-2086
Fax 203 284-9158

cs.usa@byk.com
www.byk.com