BYK-310

Silicone-containing surface additive for solvent-free and solvent-borne coating systems, printing inks, adhesive systems and ambient curing plastic systems with a strong reduction in the surface tension. Thermostable up to 410 °F.

Product Data

Composition
Solution of a polyester-modified polydimethylsiloxane.

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

Density (68 °F):	7.55 lbs/US gal
Non-volatile matter (10 min., 302 °F):	25 %
Solvents:	Xylene
Flash point:	77 °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
Separation or turbidity may occur at temperatures below 5 °C (41 °F). Warm to 20 °C (68 °F) and mix well.

Applications

Coatings Industry

Special Features and Benefits
The additive provides a strong reduction of the surface tension of coating systems. It therefore particularly improves substrate wetting and avoids cratering. Surface slip and gloss are also increased. BYK-310 is a thermostable silicone additive which, in contrast to conventional silicones, shows no thermal decomposition at temperatures between 302 °F and 446 °F. Consequently, when re-coating, no loss in adhesion and no surface defects occur, which can be caused by the decomposition products of conventional silicones above 302 °F.

Recommended Use
The additive is particularly recommended for all solvent-borne coatings and can also be used in solvent-free systems.

Recommended Levels
0.05-0.3 % additive (as supplied) based upon total formulation. In solvent-free systems up to 0.5 %.

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.

Special Note
Unlike so-called silicone oils, this additive is very user-friendly. Nevertheless, it should be determined in series testing, whether foam is stabilized in certain systems. Similarly, the recoatability, the migration of silicone in stacked sheets as well as cratering should be checked.

Printing Inks

Special Features and Benefits
The additive provides a strong reduction of the surface tension of the systems. It therefore particularly improves substrate wetting and avoids cratering. Surface slip and gloss are also increased.

Recommended Use
Recommended for all solvent-borne printing inks.

Recommended Levels
0.05-0.3 % additive (as supplied) based upon 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.

Special Note
Unlike silicone oils, this additive is very user-friendly. Nevertheless, it should be determined in series testing, whether foam is stabilized in certain systems. Similarly, the recoatability and cratering should be checked.

Adhesives & Sealants

Special Features and Benefits
BYK-310 is a highly effective silicone additive. It provides a strong reduction of the surface tension, thereby improving the wetting of critical substrates.

Recommended Use
Recommended for improving the substrate wetting of epoxy-based adhesive systems.

Recommended Levels
0.05-0.3 % additive (as supplied) based upon 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.

Special Note
Unlike silicone oils, this additive is very user friendly. Nevertheless, its influence on the adhesive properties should be checked.

Ambient-curing Plastic Systems

Special Features and Benefits
BYK-310 is a highly effective silicone additive. It provides a strong reduction of the surface tension, thereby improving the wetting of critical substrates. It also exhibits high temperature stability.

Recommended Use
Recommended for improving the substrate wetting of ambient-curing epoxy-based resin systems.

Recommended Levels
0.05-0.3 % additive (as supplied) based upon 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.

Special Note
Unlike silicone oils, this additive is very user friendly. Nevertheless, it should be determined in series testing, whether surface defects occur in certain systems.

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