NANOBYK-3652

Nanoparticle dispersion (surface-treated silica) to improve the scratch resistance of solvent-borne clear coatings which are used as automotive coatings, industrial coatings or wood and furniture coatings.

Product Data

Composition
Dispersion of surface-treated silica nanoparticles

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

Density (68 °F):	9.51 lbs/US gal
Non-volatile matter (20 min., 302 °F):	31 %
Carrier:	Methoxypropylacetate/methoxypropanol
Flash point:	118 °F
Nanoparticle content:	25 %
Particle size D50:	20 nm
Viscosity (68 °F):	10 mPa·s

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
To be stored and transported below 40 °C (104 °F). Mix well before use.

Special Note
Dried additive residues must be removed from the container since they can lead to seeds when introduced into the final product. The content of methoxypropanol in this NANOBYK additive is also unproblematic in 2K polyurethane formulations.

Applications

Coatings Industry

Special Features and Benefits
The additive provides the so-called “immediate reflow effect” due to the silica nanoparticles which are evenly distributed in the coating and which act like shock absorbers. They absorb the impacting energy and only release it very slowly. This results in an elastic coating surface with a consistent hardness. Mechanical impact leaves hardly any trace and the coating surface is virtually undamaged. It therefore provides perfect long-term protection.

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Recommended Use

Industrial coatings	■
Wood and furniture coatings	■
Automotive refinish coatings	■
Automotive OEM coatings	■

■ especially recommended

Recommended Levels

0.5-6.0 % 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 product reaches its full effectiveness when added at low shear forces. This ensures that even distribution in the binder system is achieved. It is recommended that all surface active compounds in the formulation are removed, as silicones which reduce the surface tension in order to improve the substrate wetting, anti-cratering properties and surface slip, are not generally required when using the NANOBYK additive. If necessary, the leveling can be optimized later on using acrylate or silicone additives which have no effect or only a very minor effect on the surface tension.

Additive Guide

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