NANOBYK-3603

Surface additive based on aluminum oxide nanoparticles to improve the scratch resistance of aqueous systems.

Product Data

Composition
Aluminum oxide nanoparticle dispersion in water

VOC-free

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

Density (20 °C):	1.41 g/ml
Non-volatile matter (10 min., 150 °C):	43 %
Solvents:	Water
Nanoparticle content:	40 %
Particle size D50:	25 nm

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 between 5 °C and 40 °C. Separation may occur during storage. Mix well before use.

Special Note
Dried additive residues must be removed from the container since they can lead to seeding when introduced into the final product.

Applications

Coatings Industry

Special Features and Benefits
NANOBYK-3603 significantly improves the scratch resistance of aqueous coating systems, without having a negative impact on properties such as gloss and transparency. As the aluminum oxide nanoparticles are very small, it is even suitable for highly transparent and high-gloss coatings, and can be used in clear or pigmented systems. Even low levels of NANOBYK-3603 provide long-term protection against scratching. NANOBYK-3603 can be utilized in aqueous coatings and in aqueous, radiation-curable systems, and also in
- acrylate dispersions,
- self-crosslinking acrylate dispersions,
- styrene acrylate dispersions,
- urethane acrylate dispersions,
- aliphatic polyester polyurethane dispersions.

Recommended Use

Architectural coatings	■
Industrial coatings	■
Wood and furniture coatings	■

■ especially recommended

Recommended Levels
1-5 % 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
The product reaches its full effectiveness when added at low shear forces. This ensures that even distribution in the binder system is achieved.

Polishes

Special Features and Benefits
NANOBYK-3603 significantly improves the scratch resistance of aqueous car polishes.

Recommended Use
The additive is recommended for use in aqueous car polishes.

Recommended Levels
10-15 % additive (as supplied) based on the formulated carnauba wax / LDPE-based car polishes.

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 system is achieved.

Special Note
An additional dosage of NANOBYK-3603 in combination with BYK-SILCLEAN 3720 also improves scratch resistance.

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