

BYK-ET 3033

Aqueous wetting and dispersing additive for aqueous separator coatings and carbon pastes for electrode slurries.

Product Data

Composition

Solution of styrene-maleic anhydride ester

Typical Properties

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

Density (20 °C):	1.06 g/ml
Solvents:	Water
Non-volatile matter (10 min., 150 °C):	40 %
Amine value:	7 mg KOH/g
Acid value:	4 mg KOH/g
Electrochemical stability:	0.1 V to 4.8 V (vs. Li/Li ⁺)

Storage and Transportation

Separation or turbidity may occur at temperatures below 5 °C. Warm to 20 °C and mix well.

Applications

Energy Storage

Special Features and Benefits

The stabilizing effect of BYK-ET 3033 shortens the dispersion process of conductive carbons (e.g. Ketjenblack®, carbon nanotubes, carbon black) or PVDF. Adding BYK-ET 3033 achieves better stabilization of the particles, leading to reduced viscosity of the slurry compared to standard systems without dispersant. BYK-ET 3033 facilitates the formulation of electrode slurries for Li-ion cells with a higher solid content. The higher solid content in turn accelerates the drying process and improves the productivity of the electrode manufacturing. Besides electrode slurries, BYK-ET 3033 is also well suited to disperse PVDF in aqueous separator coatings.

Recommended Levels

Amount of additive (as supplied) based upon:

Carbon nanotubes (CNT):	15-25 %
Carbon black, Ketjenblack®:	5-50 %
PVDF:	5-20 %

The above recommended levels can be used for orientation. Optimal levels are determined through a series of laboratory tests.

Incorporation and Processing Instructions

BYK-ET 3033 should first be mixed with the water. Then the carbons or PVDF should be added and homogeneously mixed in. The measurement of dispersion quality in terms of particle size and viscosity is useful for judging whether the dispersant is the right choice for the system.



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This issue replaces all previous versions.