



DATA SHEET
NYACOL® Nano Barium Titanates

Colloidal Performance Materials

Barium Titanate – BT–SD, BT80 and Bt–Min®

NYACOL® Nano Barium Titanates

Nyacol® Nano Barium Titanate is produced using proprietary hydrothermal technology. The process was developed in the early 2000's and commercial production began in 2004.

Nyacol® offers barium titanate powder as a spray-dried and micronized product. The powder is composed of aggregates of the nano-particle barium titanate and the powder particle size is controlled in the micronizing process. Typical properties are shown below.

TYPICAL PROPERTIES

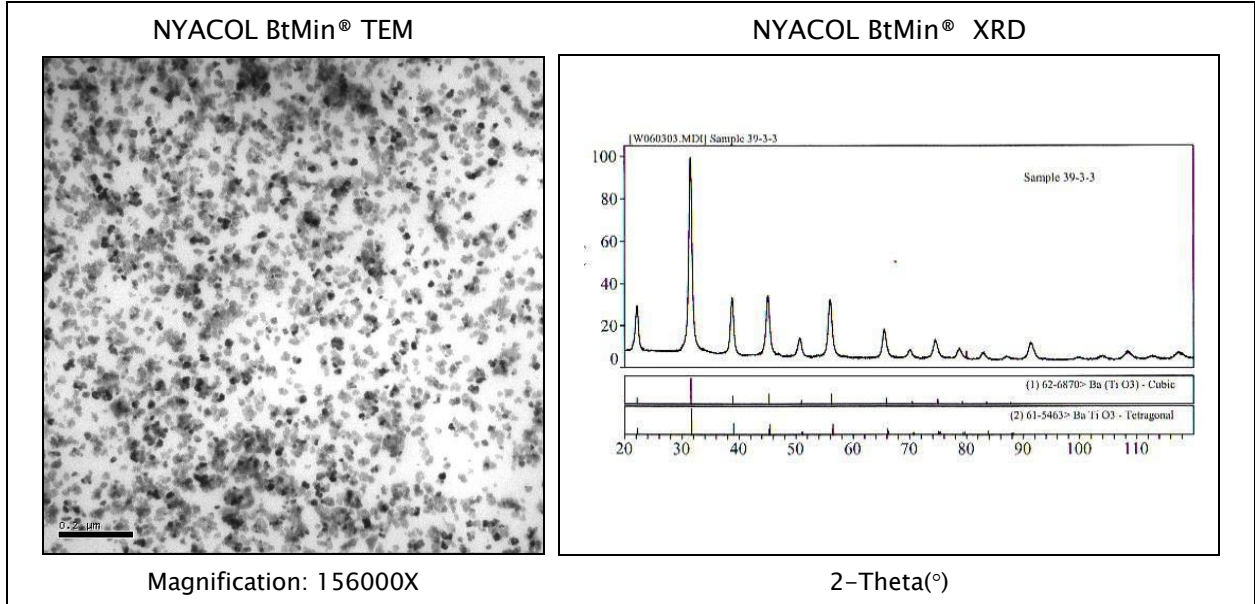
	BT–SD
Chemical Formula:	BaTiO ₃
Particle Size, Microns:	Adjustable 1 - 15
pH:	8 - 9
Ba/Ti Ratio:	Controllable 0.99 - 1.04
Na, ppm:	<1000
Cl, ppm:	<250
Surface Area, BET method, m ² /g	18 - 32

Nyacol® also offers two types of barium titanate dispersions. BT80 is a dispersion in water which demonstrates excellent long term colloidal stability. BtMin® is a dispersion in Isopar L and also has excellent colloidal stability. These products can be used to formulate very thin dielectric layers with excellent uniformity. BtMin® is particularly effective as a sintering control additive for nickel electrodes, enabling production of thin, continuous electrodes.

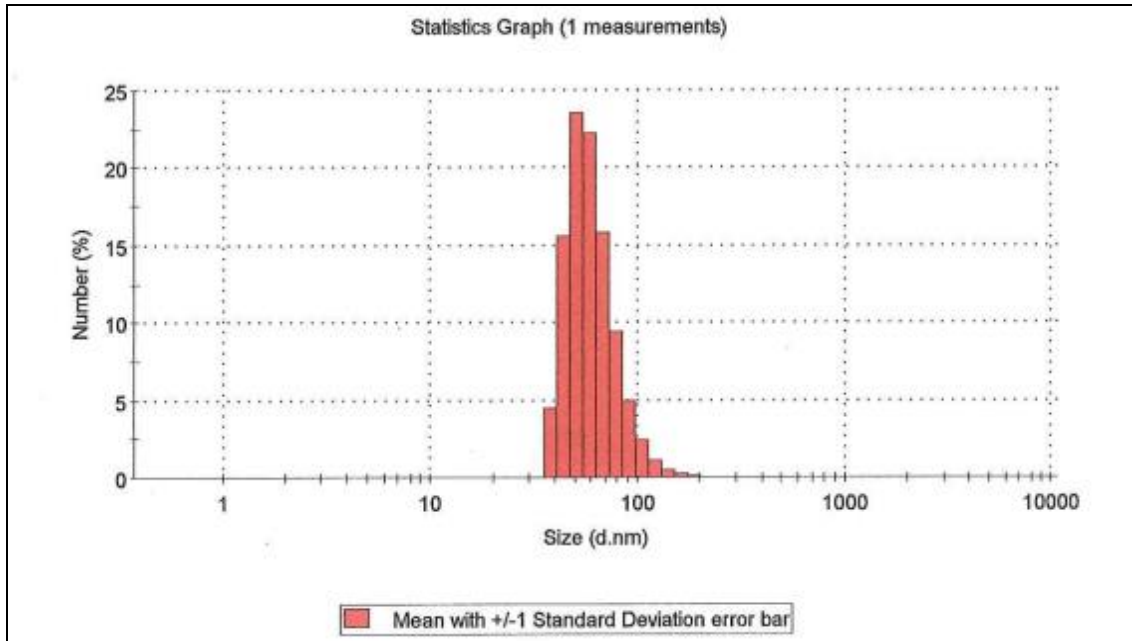
TYPICAL PROPERTIES

	BT80	BtMin®
Chemical Formula:	BaTiO ₃	BaTiO ₃
Carrier:	Water	Isopar L
Solids, %:	25 - 50	35
Particle Size, nm:	50	50
pH:	8 - 9	Not applicable
Surface Area, m ² /g	18 - 32	18 - 32

The following figures show typical properties for particle size by Malvern zetasizer and TEM, and XRD on the powder.



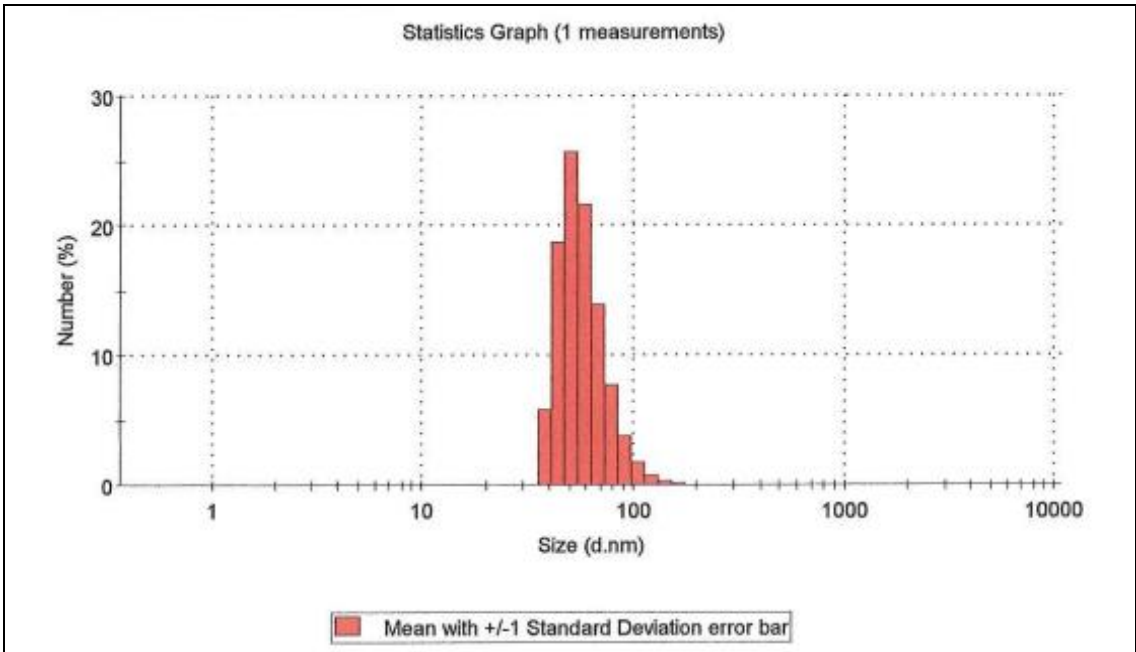
BtMin[®] TYPICAL PSD





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BT80 TYPICAL PSD



TO ORDER MATERIAL OR FOR INFORMATION

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