



TUBALL™

BATT

H2O 0.4%

TECHNICAL DATA SHEET

Product SKU	Storage duration
02HO17	12 months

Applications:

Lithium-ion batteries. Other.

Overview:

TUBALL™ BATT H2O is a liquid dispersion of single wall carbon nanotubes (SWCNTs) in water that is used as a conductive additive in lithium-ion batteries.

Contact energy@ocsial.com for usage guidelines for specific battery chemistries.

Composition:

TUBALL™ single wall carbon nanotubes	0.4 wt. %
Water	99.0 wt. %
Dispersing agent	0.6 wt. %

Measured characteristics:

Controlled parameters	Unit of measurement	Specifications	Method of evaluation
Appearance	–	Odorless black liquid	Visual inspection
Optical density	Absorbance units	0.45–0.70	Spectroscopy
Stability after centrifugation	%	0.80–1.00	
Solids content	%	0.90–1.10	Weight of dry residue
Viscosity**	cP	As received 800–2,500 As produced 800–1,300	Brookfield viscometer
pH	units	7.0–10.0	pH-meter

**TUBALL™ BATT H2O is a non-Newtonian liquid: it is pseudoplastic and thixotropic, i.e., its viscosity depends on the shear rate (pseudoplastic) and on the history of the applied shear (thixotropic). The thixotropy of TUBALL™ BATT H2O is complex, and its behavior can be toggled between thixotropy and rheopexy by changing certain variables. OCSiAl uses the following measurement method: rookfield viscometer DV2TRV SC4-21 spindle, 20 rpm – 50 rpm – 100 rpm – 20 rpm – 20 rpm – 20 rpm measurement sequence, 0.5 min each step. For the result, take the average value of the 3 last measurements at 20 rpm. Shear rate 18.6 s⁻¹

CONTACT INFORMATION

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