

**Active Material Characteristics**

<b>Product Name:</b>	NANOMYTE® BE-50E		
<b>Product Description:</b>	Lithium Nickel Manganese Cobalt Oxide (NMC811, 622, 532 or 111) electrode sheets		
<b>Formula:</b>	LiNi <sub>x</sub> Mn <sub>y</sub> Co <sub>z</sub> O <sub>2</sub> (x+y+z=1)		
<b>Purity:</b>	> 98%		
<b>Average Particle Size (D<sub>50</sub>):</b>	<b>NMC111:</b> 8 – 12 μm	<b>NMC622:</b> 10 – 13 μm	
	<b>NMC532:</b> 8 – 12 μm	<b>NMC811:</b> 10 – 13 μm	
<b>Specific Surface Area:</b>	<b>NMC111:</b> 0.3 – 0.8 m <sup>2</sup> /g	<b>NMC622:</b> 0.2 – 0.5 m <sup>2</sup> /g	
	<b>NMC532:</b> 0.3 – 0.8 m <sup>2</sup> /g	<b>NMC811:</b> 0.2 – 0.5 m <sup>2</sup> /g	

**Standard Electrode Tape Characteristics**

<b>Current Collector:</b>	Aluminum		
<b>Current Collector Thickness:</b>	16 μm		
<b>Sheet Size:</b>	5 in x 10 in (12.7 cm x 25.4 cm)		
<b>Capacity:</b>	2 mAh/cm <sup>2</sup> ± 5% (custom material loading available upon request)		
<b>Tape Thickness:</b>	<b>NMC111:</b> 70 – 75 μm	<b>NMC622:</b> 58 – 60 μm	
(excluding current collector)	<b>NMC532:</b> 70 – 75 μm	<b>NMC811:</b> 58 – 60 μm	
<b>Standard Tape Composition:</b>	90% Lithium Nickel Manganese Cobalt Oxide ["NMC"] (active material)		
	5% Poly(vinylidene fluoride) ["PVDF"]		(binder)
	5% Carbon Black ["Super P"]		(conductive carbon)

**Electrical Characteristics**

<b>Nominal voltage vs. Li/Li<sup>+</sup>:</b>	3.75V		
<b>Minimum capacity range:</b>	150 – 180 mAh/g (depending on the NMC composition)		
<b>Experimental capacity</b>	<b>NMC111:</b> ≥ 160 mAh/g	<b>NMC622:</b> ≥ 170 mAh/g	
(2.7 – 4.4V @ 0.1C):	<b>NMC532:</b> ≥ 165 mAh/g	<b>NMC811:</b> ≥ 190 mAh/g	

**Recommended Operating Conditions**

<b>Maximum Charge Voltage:</b>	4.8V vs. Li/Li <sup>+</sup> (Recommended: 4.4V)
<b>Maximum Charge Current:</b>	1C
<b>Cutoff Voltage For Discharge:</b>	2.0V vs. Li/Li <sup>+</sup> (Recommended: 2.7V)
<b>Maximum Discharge Current:</b>	5C

**Available Quantities**

NEI's standard electrode sheets are ready-to-ship and available in packages of 2, 5, and 10 sheets

**Storage & Handling**
**Precautions for Safe Handling**

Appropriate personal protective equipment should be used at all times. Provide good ventilation or extraction. Avoid contact with eyes and skin. Wash hands thoroughly after handling.

**Conditions for Safe Storage**

Keep container tightly closed in a moisture-free and well-ventilated place.

**Refer to SDS for complete information on the safe handling of this material.**

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