NEI Corporation

Specification Sheet

NANOMYTE® AQB-90E

(NVP electrode sheets for Aqueous Batteries)

Active Material Characteristics

Product IDs: **AQB-90E** (single-sided) | **AQB-90E-DS** (double-sided)
Active Material: Sodium Vanadium Phosphate
Chemical Formula: $Na_3V_2(PO_4)_3$
Material Class: Polyanionic cathode material
Crystal Structure: NASICON-type
Average Particle Size (D_{50}): ~ 5.7 µm
Specific Surface Area: ~ 20 m^2/g

Electrode Tape Characteristics

Current Collector: Carbon Paper (205 µm thick)
Standard Sheet Size: 5 inch x 10 inch (127 mm x 254 mm) coated edge-to-edge
Calendered: Yes
Electrode Coating: Single or Double-sided sheets (as specified)
Coating Thickness: 25 µm ± 5% (per side, excluding current collector)
Standard Areal Capacity: 1.0 mAh/cm^2 ± 5% (per side)
Active Material Loading: 9.5 mg/cm^2 ± 5% (per side)

Standard Composition:

Weight %	Material	Description
70%	Sodium Vanadium Phosphate ["NVP"]	(active material)
20%	Carbon Black ["Super C65"]	(conductive carbon)
10%	Poly(vinylidene fluoride) ["PVDF"]	(binder)

**Specifications can be modified upon request to accommodate different active material loadings, coating thickness, & capacity*

Electrochemical Characteristics

Typical First Discharge Capacity: 105 mAh/g (@ 0.5C)
Minimum First Discharge Capacity: ≥ 90 mAh/g (@ 0.5C)
Nominal voltage vs. SCE: 0.4 V
Voltage Range vs. SCE: -0.4 – 0.6 V

These reference values were obtained in aqueous cells with an electrolyte of 2 M Zn(OTF)2 and 1 M NaOTF, and a Zn metal electrode

Ordering Increments

NEI's electrode sheets are supplied in price-break tiers of 2, 5, 10, 25, 50, & 100 sheets, with a 2-sheet minimum per material. Bulk quantities are available upon request.

Precautions for Safe Storage & Handling

Handling: Appropriate personal protective equipment should be used at all times. Avoid contact with eyes and skin. Handle in a dry and well-ventilated area. Avoid actions that abrade, sand, or grind the coated surface, which can release respirable dust.

Storage: Store sheets flat and in a cool, dry place, away from heat and moisture.

Note: In its manufactured and shipped form, this article does not pose a physical hazard or health risk to humans or the environment. However, processing that generates dust or exposure to extreme temperatures may release hazardous particles.

Always refer to the Safety Data Sheet (SDS) for complete health and safety protocols.

This product should not be used in any commercial battery.

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