

High Purity Lipf6 Lithium Hexafluorophosphate Solution For Lithium Ion Battery Electrolyte Research

Item Number: FZ50



Introduction

Discover high-purity LiPF6 lithium hexafluorophosphate solution for lithium-ion battery electrolyte research. Packaged in sealed stainless steel containers for optimal stability, this specialized solution ensures superior electrochemical performance and reliable solid electrolyte interphase formation.

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Application	Description	Key Benefit
Lithium-Ion Coin Cell Assembly	Precision electrolyte dispensing for R&D coin cells (CR2032, CR2016) evaluating novel cathode and anode active materials.	Provides standardized ionic conductivity and rapid wetting for reliable, reproducible baseline electrochemical data.
Pouch Cell Prototyping	Liquid electrolyte injection during pilot-scale and laboratory pouch cell fabrication for multilayer electrode stacks.	Uniform carbonate solvent penetration accelerates electrode impregnation while maintaining long-term cycling stability.
Solid Electrolyte Interphase (SEI) Characterization	Fundamental electrochemical studies analyzing interphase formation dynamics and impedance growth on graphite and silicon anodes.	Predictable EC solvent reduction yields uniform passivation layers, enabling accurate spectroscopic and microscopic interphase analysis.
High-Rate Discharge & Power Testing	Dynamic rate capability testing across varying C-rates to evaluate concentration polarization and lithium transference dynamics.	Low-viscosity linear carbonate blends (DMC/EMC/DEC) minimize diffusion limitations and internal cell impedance during fast charging.
Cathode Material Validation	Performance verification of high-voltage NMC, LCO, and LFP cathode compositions under continuous charge-discharge cycling.	Robust aluminum collector passivation prevents oxidation corrosion and active metal dissolution at elevated operating voltages.
Separator Wetting and Compatibility Studies	Evaluating wetting kinetics and ionic resistance across microporous polyolefin, ceramic-coated, and non-woven battery separators.	Optimized surface tension parameters ensure rapid pore penetration and consistent electrolyte uptake across diverse membrane chemistries.
Low-Temperature Electrochemical Analysis	Testing battery performance at sub-ambient temperatures using customized ternary solvent formulations.	Ternary organic carbonate systems prevent salt precipitation and preserve adequate ionic transport kinetics at reduced operating temperatures.
Electrolyte Additive Screening	Serving as a standardized, ultra-pure baseline formulation for investigating novel film-forming, flame-retardant, or high-voltage additives.	Ultra-pure baseline chemistry ensures that observed shifts in electrochemical performance are strictly attributable to experimental additive chemistries.

Parameter	FZ50-ECDEC-11	FZ50-ECDMC-11	FZ50-ECDMDEC-111	FZ50-ECDMCEMC-111
Primary Product Code	FZ50	FZ50	FZ50	FZ50
Electrolyte Salt	LiPF6 (Lithium Hexafluorophosphate)	LiPF6 (Lithium Hexafluorophosphate)	LiPF6 (Lithium Hexafluorophosphate)	LiPF6 (Lithium Hexafluorophosphate)
Salt Concentration	1.0 mol/L	1.0 mol/L	1.0 mol/L	1.0 mol/L
Solvent Composition	EC / DEC	EC / DMC	EC / DMC / DEC	EC / DMC / EMC
Solvent Volume Ratio	1:1 (v/v)	1:1 (v/v)	1:1:1 (v/v/v)	1:1:1 (v/v/v)
Packaging Volume	200 mL / bottle	200 mL / bottle	200 mL / bottle	200 mL / bottle
Container Type	Sealed Stainless Steel Vessel	Sealed Stainless Steel Vessel	Sealed Stainless Steel Vessel	Sealed Stainless Steel Vessel

Parameter	FZ50-ECDEC-11	FZ50-ECDMC-11	FZ50-ECDMDEC-111	FZ50-ECDMCEMC-111
Operating Atmosphere Requirement	Inert Gas / Vacuum (Glove Box)	Inert Gas / Vacuum (Glove Box)	Inert Gas / Vacuum (Glove Box)	Inert Gas / Vacuum (Glove Box)
Moisture Sensitivity	Highly Hydrolytic (Avoid moisture)	Highly Hydrolytic (Avoid moisture)	Highly Hydrolytic (Avoid moisture)	Highly Hydrolytic (Avoid moisture)
Passivation Performance	Positive Al Current Collector Passivated	Positive Al Current Collector Passivated	Positive Al Current Collector Passivated	Positive Al Current Collector Passivated
Chemical Storage	Cool, Dry, Inert Environment (<25°C)	Cool, Dry, Inert Environment (<25°C)	Cool, Dry, Inert Environment (<25°C)	Cool, Dry, Inert Environment (<25°C)