Polytetrafluoroethylene Ptfe Battery Binder Powder For Dry Battery Electrode Fabrication And Cathode Assembly

Item Number: CL32

Introduction

Premium polytetrafluoroethylene PTFE battery binder powder engineered for dry electrode manufacturing and silver oxide cathode pelleting, delivering reliable shear fibrillation, uniform 0.47 g/ml bulk density, and superior electrochemical stability to enhance laboratory cell fabrication workflows and active material retention.

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Application	Description	Key Benefit
Dry Lithium-Ion Electrode Calendering	Solvent-free dry fabrication of high-nickel NMC, LFP, and silicon-graphite composite electrode free-standing films using heated roll presses.	Eliminates solvent drying, prevents active material cracking, and enables ultra-thick electrode coatings with high areal capacity.
Silver Oxide (Ag2O) Cathode Pelleting	Compaction of monovalent silver oxide powder blended with 1% to 5% conductive graphite into positive cell cups under hydraulic pressure.	Delivers structural ductility, prevents pellet crumbling during handling and electrolyte wetting, and ensures consistent pellet packing density.
Solid-State Battery Cathode Composites	Dry blending and shear-forming of solid electrolyte powders (sulfide/oxide) with cathode active materials and conductive additives.	Avoids chemical degradation caused by polar organic solvents while maintaining tight particle-to-particle ionic and electronic contacts.
Electric Double-Layer Capacitor (EDLC) Electrodes	Fabrication of thick, high-surface-area activated carbon electrode sheets supported by a micro-fibrillated fluoropolymer network.	Maintains high open porosity for rapid ion transport while delivering superior mechanical flexibility and peel strength.
Sodium-Ion and Emerging Battery Chemistries	Matrix binding of moisture-sensitive or solvent-reactive sodium cathode compounds into flexible, robust electrode structures.	Provides a non-reactive, water-free binding medium that safeguards moisture-sensitive active materials against premature degradation.
Fuel Cell & Electrolyzer Gas Diffusion Layers	Incorporation into carbon black and catalyst formulations for microporous gas diffusion layers and catalyst-coated membranes.	Imparts controlled hydrophobic properties, mechanical elasticity, and precise gas-permeability channels under compressive cell clamping.

Parameter	Value	Test Standard / Method
Product Item Number	CL32	—
Standard Packaging	1000 g / Pack	Visual / Scale
Visual Appearance	Good (Uniform white powder)	Visual Inspection
Bulk Density	0.47 g/ml	JIS K 6892
Standard Specific Gravity (SSG)	2.160	ASTM D 4895
Average Particle Size	680 µm	JIS K 6891
Extrusion Pressure (RR36)	130 daN	Standard Test Method
Chemical Base	Polytetrafluoroethylene (PTFE)	—
Processing Compatibility	Dry shearing, roll pressing, heated calendering, hydraulic compaction	—