PIERSICA, INC.

PIRION–F Specification Sheet

I. PIRION-F Description

The polymer is carbonate-fluorinated methacrylate copolymer, appearing as a white to off-white powder. It is soluble in DMSO, NMP, DMF, and DMAc.

II. Tested Properties of PIRION

PHYSICAL PROPERTIES	STANDARD TEST	RESULT
Density	ISO 1183	1.88 g/cc
Viscosity in DMF	rt, wt% = 25 %	20,000 cP
Viscosity in NMP	rt , wt% = 25 %	116,000 cP
Viscosity in EC	60 °C, wt% = < 2 %	< 5 cP
Viscosity in liquid electrolyte	60 °C, wt% = < 0.2 %	< 5 cP
Molecular Weight	GPC	450k Da
MECHANICAL PROPERTIES	STANDARD TEST	VALUE
Tensile Strength	ASTM D638	4,100 PSI
Elongation at Break	ASTM D638	1.22 %
Electrode Peel Strength	ASTM D3330-18	21 N/mm
Electrode Scratch Hardness	ASTM D7027	94 MPa
ELECTROCHEMICAL PROPERTIES	STANDARD TEST	VALUE
Voltage Stability	Voltage scan	>10V vs Li^0/Li^+
Ionic Conductivity (mixed with LiTFSI)	EIS	> 0.5 mS/cm
THERMAL PROPERTIES	STANDARD TEST	VALUE
Melting Point	DSC	none
Glass Transition Point	DSC	0 °C
Thermal Decomposition	TGA	>325 °C
DESCRIPTIVE PROPERTIES	STANDARD TEST	VALUE
Form as Delivered	Visual inspection	Fine powder/pellets/beads
Moisture Sensitive	FTIR	Reacts with hot basic water
Water Absorption	ASTM D570-22	5.87%