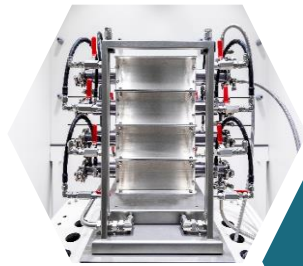


SOLVIONIC

POWERED BY INNOVATION

C
A
T
A
L
O
G
U
E

2
0
2
3



Electrolytes

High quality

Innovative



Content

Glossary	4
About Solvionic.....	5
High quality electrolytes & materials.....	6
Next generation electrolytes	7
I.Lithium ion batteries.....	7
1)Ionic liquids based electrolytes.....	7
2)Hybrid electrolytes	10
II.Sodium ion batteries.....	11
III.Supercapacitors	12
1)Eutectic mixtures for supercapacitors	12
2)Ionic liquids for Supercapacitors	13
IV.Gel/Polymer electrolytes	14
1)Membrane formulations for batteries.....	14
2)Membrane formulations for electrochemical devices.....	15
Ionic liquids	16
Metal salts.....	18
Monomers & polymers	21

Glossary

1- Ionic Liquids Cations

N,N-Diethyl-N-methyl-N-(2-methoxyethyl)ammonium	N122(201)
1-Ethyl-3-methylimidazolium	Emim
1-Butyl-3-methylimidazolium	Bmim
N-Methyl-N-propylpyrrolidinium	PYR13
1-Butyl-1-methylpyrrolidinium	PYR14
N-Methyl-N-propylpiperidinium	PII3
1-Methyl-1-(2-methoxyethyl)Pyrrolidinium	PYR1(201)
Poly[diallyldimethylammonium]	Poly[DDA]

2- Ionic Liquids Anions

Bis(trifluoromethanesulfonyl)imide	TFSI
Bis(fluorosulfonyl)imide	FSI

3- Salts

Lithium bis(trifluoromethanesulfonyl) imide	LiTFSI
Lithium Bis(fluorosulfonyl)imide	LiFSI
Lithium hexafluorophosphate	LiPF6
Sodium bis(fluorosulfonyl)imide	NaFSI
Sodium bis(trifluoromethanesulfonyl)imide	NaTFSI

4- Solvents

Diethyl carbonate	DEC
Dimethyl carbonate	DMC
Ethylene carbonate	EC
Ethyl methyl carbonate	EMC
Propylene carbonate	PC
Vinylene carbonate	VC
Fluoroethylene carbonate	FEC

About Solvionic

Solvionic is a SME developing specialized chemistry of Ionic Liquids. The main market of Solvionic is that of electrochemical devices, and particularly, electrochemical energy storage systems. Our production facilities and strategy allow fast and reliable scale-up of our products, in order to commit to industrial needs.

Our quality control procedures that were specifically developed for ILs products is one of Solvionic's key know-how that allows the commercialization of the highest purity standard of the ILs market.

Solvionic is also expert in the research and development of new materials and processes based on the use of ILs. Our main R&D activity is devoted to the development of the next generation electrochemical energy storage systems based on the use of ILs (next generation metal-ion batteries, supercapacitors... etc.).



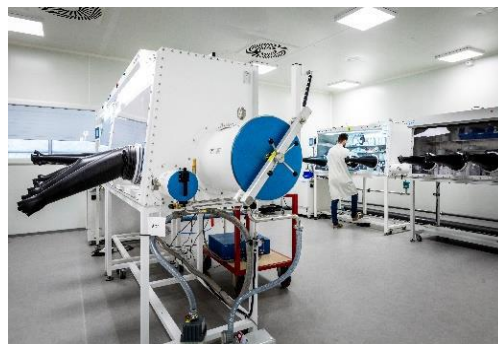
High quality electrolytes & materials

High Purity: Electrochemistry Grade 99.9% - H₂O < 20ppm - Halide < 1ppm - Amine compounds < 10ppm.

Packaging: Our products are packed in aluminum containers filled with argon gas (H₂O < 0.5ppm, O₂ < 0.5ppm).



Quality control



Custom made



Pack size: 50g to 200Kg

Quality Control: we use several analytical methods, such as Ionic Chromatography, Cyclic Voltammetry, Conductivity, Density, Karl-Fisher (water content), Differential Scanning Calorimetry (DSC), Viscosity.

Custom-made Electrolytes & Materials: please feel free to contact us regarding to your specific needs, such as formulations, analytical methods, packaging ...

Next generation electrolytes

Solvionic develops and produces electrolytes of high quality for electrochemical applications in batteries and supercapacitors. Electrolyte development has been focused and ongoing for lithium-ion (Li-ion), sodium-ion (Na-ion) and Lithium-sulfur (Li-S) batteries as well as supercapacitors.

I. Lithium ion batteries

1) Ionic liquids based electrolytes

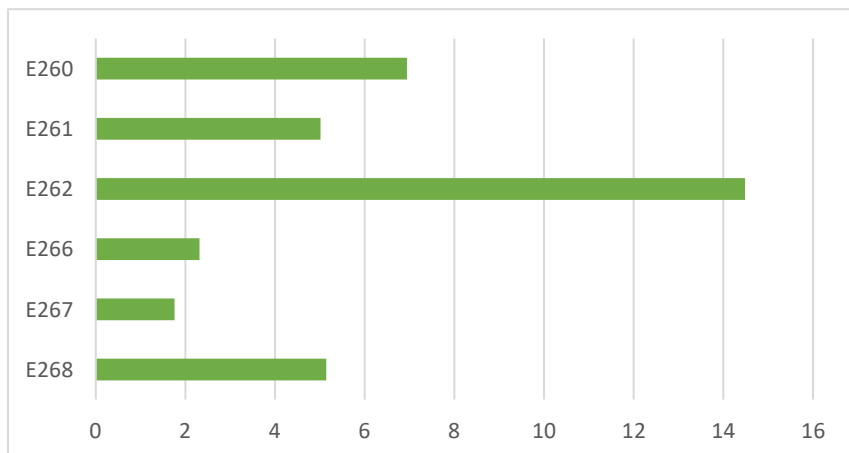


REF.	LiFSI based Formulations	Packaging
E260	LiFSI:PYR13FSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E261	LiFSI:PYR14FSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E262	LiFSI:EmimFSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E266	LiFSI:PYR13FSI (2:3 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E267	LiFSI:PYR14FSI (2:3 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E268	LiFSI:EmimFSI (2:3 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg

Customized electrolyte

BULK packaging or specific needs, please contact us.

Conductivity (mS.cm⁻¹) at 25°C:



LiFSI salt based Electrolytes

References:

Akihiko Sagara et al, "High-Rate Performance Solid-State Lithium Batteries with Silica-Gel Solid Nanocomposite Electrolytes using Bis(fluorosulfonyl)imide-Based Ionic Liquid" *J. Electrochem. Soc.* 167 070549 (2020).

Piper, D. et al., "Stable silicon-ionic liquid interface for next-generation lithium-ion batteries", *Nat Commun* 6, 6230 (2015).

G. B. Appetecchi, "Ionic Liquid-Based Electrolytes for High Energy, Safer Lithium Batteries", In *Ionic Liquids: Science and Applications*; Visser, A., et al.; ACS Symposium Series; ACS: Washington, DC, 2012.

Hong-Bo Han et Al, "Lithium bis(fluorosulfonyl)imide (LiFSI) as conducting salt for nonaqueous liquid electrolytes for lithium-ion batteries: Physicochemical and electrochemical properties", *Journal of Power Sources*, 2011, 196, 3623.



REF.	LiTFSI based Formulations	Packaging
E049	LiTFSI:PYR13 FSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E178	LiTFSI:PYR13 FSI (1:9 mol ratio) + 5%wt. VC + 5%wt. FEC – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E046	LiTFSI:PYR13 TFSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg

Customized electrolyte
BULK packaging or specific needs, please contact us

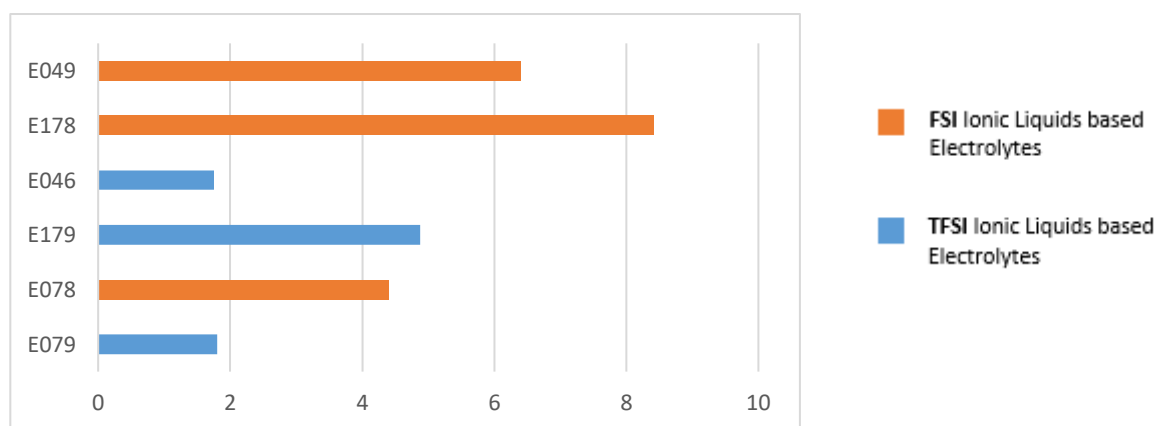
REF.	LiTFSI based Formulations	Packaging
E179	LiTFSI:PYR13 TFSI (1:9 mol ratio) + 5%wt. VC + 5%wt. FEC – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E078	LiTFSI:PYR14 FSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E079	LiTFSI:PYR14 TFSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg

Customized electrolyte

BULK packaging or specific needs, please contact us.

Additives: The nature of additives is optional and depends on the active materials used in the system whereas in some cases, additives are imperative when graphite is being used as anodes.

Conductivity (mS.cm⁻¹) at 25°C:



References:

M. Moreno et al., 'Ionic Liquid Electrolytes for Safer Lithium Batteries', *Journal of The Electrochemical Society*, 2017, 164, A6026–A6031

Elia et al., 'Exceptional long-life performance of lithium-ion batteries using ionic liquid-based electrolytes', *Energy & Environmental Science*, 2016, 9, 3210–3220

Kim et al., 'Development of ionic liquid-based lithium battery prototypes', *Journal of Power Sources*, 2013, 199, p239–246

Sun et al., 'Electrochemical investigations of ionic liquids with vinylene carbonate for applications in rechargeable lithium ion batteries', *Electrochimica Acta*, 2010, 55, 4618–4626

Appetecchi et al., 'Lithium insertion in graphite from ternary ionic liquid-lithium salt electrolytes', *Journal of Power Sources*, 2009, 192, p599–605

2) Hybrid electrolytes

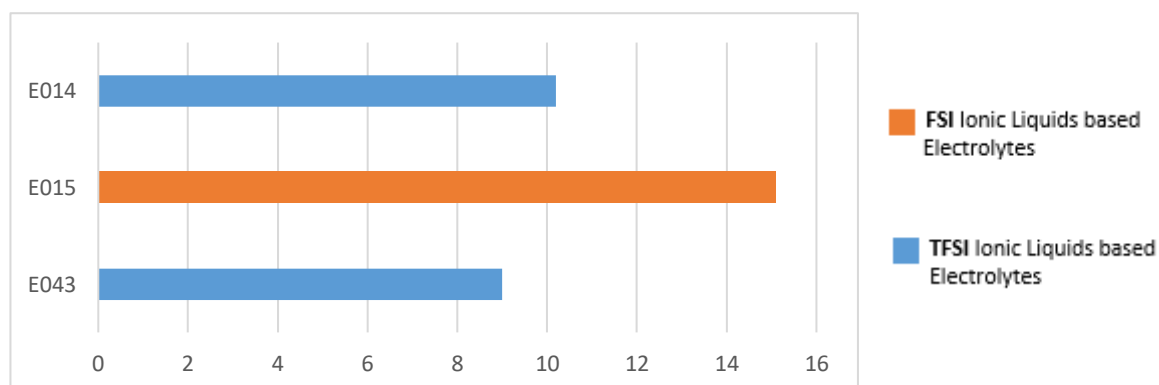
Non-flammable, safe and powerful electrolytes for Li-ion batteries can be obtained by adding ionic liquids into conventional electrolytes. This slightly increases their flash point and reduces their self-extinguishing time down to 15s.g⁻¹ (40wt% addition, flame-retarded) or 0s.g⁻¹ (50wt% addition, non-flammable). This promotes safer conditions for transport and industrial handling compared to pure organic solvents based electrolytes.

REF.	FORMULATIONS	Packaging
E014	Emim TFSI 40% wt. in [1M LiPF₆ in EC:DEC (1:1 vol.%)] – 99.9% H ₂ O < 20ppm – packed under argon	10g to 250g
E015	Emim FSI 40% wt. in [1M LiPF₆ in EC:DEC (1:1 vol.%)] – 99.9% H ₂ O < 20ppm – packed under argon	10g to 250g
E043	PYR13 TFSI 40% wt. in [1M LiPF₆ in EC:DEC (1:1 vol.%)] – 99.9% H ₂ O < 20ppm – packed under argon	10g to 250g

Customized electrolyte

BULK packaging or specific needs, please contact us.

Conductivity (mS.cm⁻¹) at 25°C :

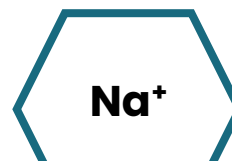


References:

Hess et al., 'Flammability of Li-Ion Battery Electrolytes: Flash Point and Self-Extinguishing Time Measurements', *Journal of The Electrochemical Society*, 2015, 162, A3084-A3097

Guerfi et al., 'Improved electrolytes for Li-ion batteries: Mixtures of ionic liquid and organic electrolyte with enhanced safety and electrochemical performance', *Journal of Power Sources*, 2010, 195, 845-852

II. Sodium ion batteries



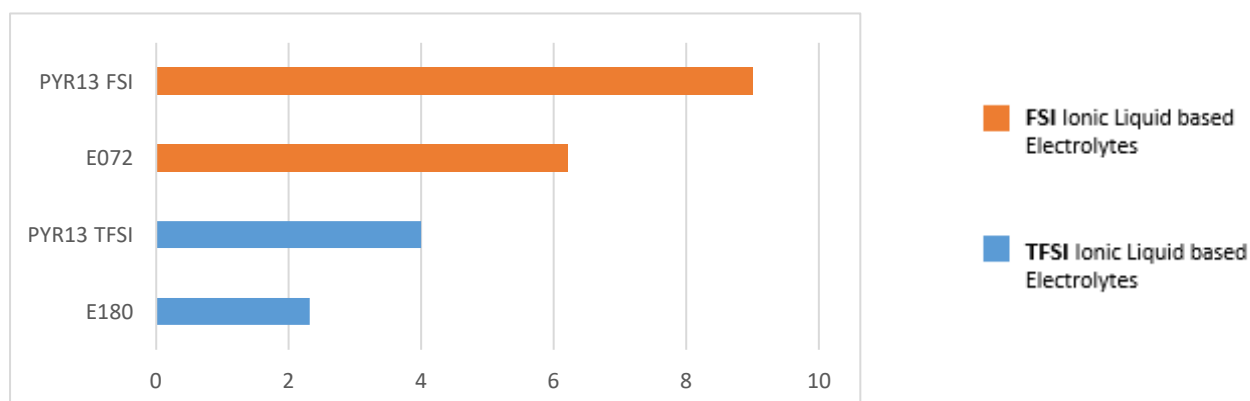
REF.	Ionic Liquids based Electrolytes	Packaging
E072	NaFSI:PYR13 FSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg
E180	NaTFSI:PYR13 TFSI (1:9 mol ratio) – 99.9% H ₂ O < 20ppm – packed under argon	50g to 1kg

Customized electrolyte

BULK packaging or specific needs, please contact us.

Our products for sodium-ion batteries are either based on NaFSI or NaTFSI sodium salts that are dissolved in ionic liquids or organic solvents (carbonates).

Conductivity (mS.cm⁻¹) at 25°C:



III. Supercapacitors

1) Eutectic mixtures for supercapacitors

Solvionic has demonstrated that these eutectic mixtures allow capacitive energy storage from -50 to 100 °C [1].

These eutectic mixtures have a wide stable liquidus temperature range from -80°C to 120°C. Applications in various types of electrodes have been shown [2,3,4]. Results have shown good capacity with maximum voltage range of 3.3 to 3.7V, when cycled at 100°C and 20°C respectively.

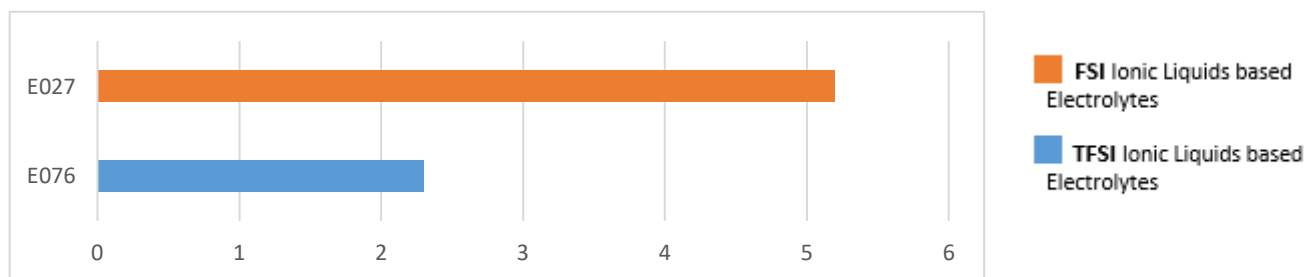


REF.	FORMULATIONS	Packaging
E027	PII3 FSI:PYR14 FSI (1:1 wt.%) – 99.9% H ₂ O < 20ppm – packed under argon	10g to 250g
E076	PII3 TFSI:PYR14 TFSI (1:1 wt.%) – 99.9% H ₂ O < 20ppm – packed under argon	10g to 250g

Customized electrolyte

BULK packaging or specific needs, please contact us.

Conductivity (mS.cm⁻¹) at 25°C :



References :

- [1] R. Lin et al., Capacitive energy storage from - 50 to 100 °C using an ionic liquid electrolyte, *The Journal of Physical Chemistry Letters*, 2011, 2 (19), 2396–2401
- [2] R. Lin et al., Outstanding performance of activated graphene based supercapacitors in ionic liquid electrolyte from - 50 to 80 °C, *Nano Energy*, 2013, 2 (3), 403–411
- [3] Huang et al., On-chip micro-supercapacitors for operation in a wide temperature range, *Electrochemistry Communications*, 2013, 36, 53–56
- [4] Lecoer et al., Self-standing electrochemical double layer capacitors for operation in severe temperature conditions, *Materials for Renewable and Sustainable Energy*, 2013, 2 (2) 13

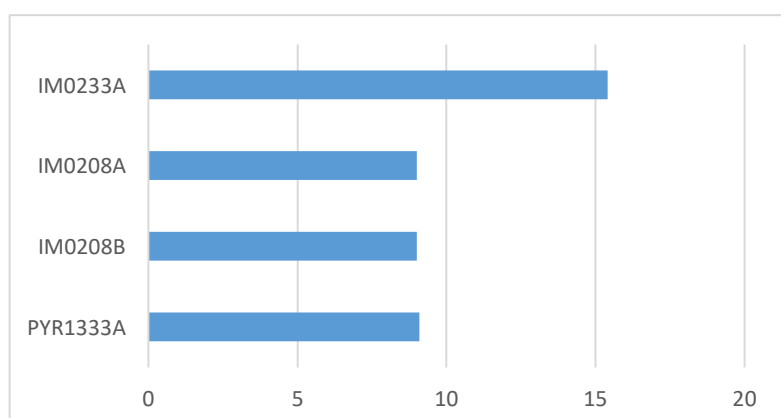
2) Ionic liquids for Supercapacitors

1-Ethyl-3-Methylimidazolium-based (Emim) ionic liquids are one of our best selling products in this domain. Their relatively high ionic conductivities (amongst ionic liquids) and thermal stability render them as good performing electrolytes in supercapacitors in general. They are available in different electrochemical grades.

REF.	IONIC LIQUIDS	EW (V) at RT (1mA/cm ²)	PACKAGING
IM0233A	Emim FSI – 99.9% anhydrous [235789-75-0] fw : 291.30 ; mp : -13 d : 1.39 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm – packed under argon	4.6	10g to 250g
IM0208A	Emim TFSI – 99.9% anhydrous [174899-82-2] fw : 391.31 ; mp : -16 ; d : 1.52 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm – packed under argon	4.7	10g to 5Kg
IM0208B	Emim TFSI – 99.5% [174899-82-2] fw : 391.31 ; mp : -16 ; d : 1.52 ; Hydrophobic Halides ≤ 10ppm ; H ₂ O < 500ppm – packed under nitrogen	4.5 – 4.7	50g to 5kg
PYR1333A	PYR13 FSI – 99.9% anhydrous [852620-97-4] fw : 308.37 ; mp : -9 ; d : 1.343 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm – packed under argon	5.4	10g to 250g

BULK packaging or specific needs, please contact us.

Conductivity (mS.cm⁻¹) at 25°C :



IV. Gel/Polymer electrolytes

Formulations were recently developed by SOLVIONIC which can be processed (casting, deep-coating, etc.) into flexible, transparent and self-standing polymer electrolytes.

We can produce customized electrolyte using :

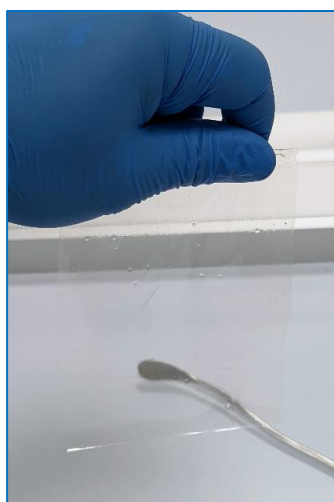
XM of Salt in Pyr14FSI + PolyDDATFSI (**proportions**) in **%Solvent**

LiFSI
Or
LiTFSI

Ex:
60 :40
70 :30
50 :50
40 :60

Acetone
Butanone
Acetonitrile
Propylene carbonate

1) Membrane formulations for batteries



Next generation of electrolyte formulations for thin film type electrolyte. A picture of the electrolyte film obtained as such is inserted (40-50 μ m): self-standing, stretchable and flexible.

**Ref. EM005 - LiTFSI:PYR14TFSI (1:9 mol) + 58 wt. % Poly([DDA][TFSI]),
in acetone.**

At 20°C = 3.5 mS.cm⁻¹

EW at RT (0.1mA/cm²) = 4.4 V

Custom-made:

The same type of formulations are also available with other metallic salts (ex: NaTFSI, Mg(II) TFSI, Ca(II)TFSI, Zn(II)TFSI, ...)

REF.	FORMULATIONS	PACKAGING
EM005	[LiTFSI:PYR14TFSI 1:9 (mol.)] : PolyDDATFSI 42:58 (wt.), 50% acetone H ₂ O < 20ppm packed under argon	50g to 1kg
EM009	[LiTFSI : PYR14FSI 1:9 (mol.)] : PolyDDAFSI 42:58 (wt.), 50% acetone H ₂ O < 20ppm packed under argon	50g to 1kg
EM011	[MgTFSI:PYR14FSI 1:9 (mol.)] : PolyDDAFSI 42:58 (wt.),50% acetone H ₂ O < 100ppm packed under argon	50g to 1kg
EM015	[ZnTFSI:PYR14FSI 1:9 (mol.)] : PolyDDAFSI 42:58 (wt.),50% acetone H ₂ O < 100ppm packed under argon	50g to 1kg
EM022	[LiFSI:PYR14FSI 1:9 (mol.)]:PolyDDAFSI 42:58 (wt.),50% acetonitrile H ₂ O < 20ppm – packed under argon	50g to 1kg
EM028	[LiFSI:PYR14FSI 2:3 (mol.)]:PolyDDAFSI 42:58 (wt.),50% acetonitrile H ₂ O < 20ppm – packed under argon	50g to 1kg

Customized electrolyte

BULK packaging or specific needs, please contact us.

References :

MacFarlane et al., 'Energy applications of ionic liquids', *Energy Environ. Sci.*, 2014, 7, 232

G.B. Appetecchi et al., 'Ternary polymer electrolytes containing pyrrolidinium-based polymeric ionic liquids for lithium batteries' *Journal of Power Sources*, 2010, 195, p3668

2) Membrane formulations for electrochemical devices

REF.	FORMULATIONS	PACKAGING
EM001	1-Allyl-3H-Imidazolium TFSI : PMMA 60:40 (wt.), 50wt% butanone Application : H ⁺ conducting membrane for electrochromic devices	50g
EM002	N,N-diethyl-N-(2-hydroxyethyl)Am TFSI + 40 wt. % PMMA,50% in butanone Application : H ⁺ conducting membrane for electrochromic devices	50g
EM003	[0,3M LiTFSI in BmimTFSI] : PMMA 60:40 (wt.), 50wt% in butanone Application : Li ⁺ conducting membrane for electrochromic devices	50g

Customized electrolyte

BULK packaging or specific needs, please contact us.

References :

Duluard et al., 'Soft matter electrolytes based on polymethylmetacrylate dispersions in lithium bis(trifluoromethanesulfonyl)imide/1-butyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide ionic liquids', *Electrochimica Acta*, 2010, 55, p8839-8846

Ionic liquids

REF.	IONIC LIQUIDS	(mS.cm ⁻¹) at RT	EW (V) at RT (1mA/cm ²)	PACKAGING
IM0233A	Emim FSI - 99.9% anhydrous [235789-75-0] fw : 291.30 ; mp : -13 d : 1.39 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	17.7	4.6	10g to 5kg Bulk
IM0208A	Emim TFSI - 99.9% anhydrous [174899-82-2] fw : 391.31 ; mp : -16 ; d : 1.52 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	9.0	4.7	10g to 5kg Bulk
PYR1333A 	PYR13 FSI - 99.9% anhydrous [852620-97-4] fw : 308.37 ; mp : -9 ; d : 1.343 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	9.1	5.4	10g to 5kg Bulk
PYR1308A	PYR13 TFSI - 99.9% anhydrous [223437-05-6] fw : 408.40 ; mp: 12 ; d: 1.4 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	4.0	5.9	10g to 5kg Bulk
PYR0433A	PYR14 FSI - 99.9% anhydrous [1057745-51-3] fw : 322,28 ; mp: -17.7 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	6,9	5,7	10g to 5kg Bulk
PYR0408A	PYR14 TFSI - 99.9% anhydrous [223437-11-4] fw : 422.41 ; mp: -6 ; d: 1.4 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	2,8	6,1	10g to 5kg Bulk

REF.	IONIC LIQUIDS	(mS.cm ⁻¹) at RT	EW (V) at RT (1mA/cm ²)	PACKAGING
PYRSF1908A	PYR(1201) TFSI - 99.9% anhydrous [757240-24-7] fw : 424.38 ; mp: 5.4 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application : Electrochemistry	3,8	5.9	10g to 5kg Bulk
PYRSF1933A	PYR(1201) FSI - 99.9% anhydrous [1235234-47-5] fw : 324.36 ; mp: 5.8 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm - packed under argon Application: Electrochemistry	7,3	5.6	10g to 5kg Bulk
AM0308A	N-Trimethyl-N-propylammonium bis(trifluoromethanesulfonyl)imide [268536-05-6] fw : 382 ; mp :19 ; Hydrophobic Halides ≤ 1ppm ; H ₂ O < 20ppm Application: Electrochemistry	3.3	5.8	10g to 5kg Bulk

BULK packaging or specific needs, please contact us.



Metal salts

Solvionic develops and produces metallic salts intended for the applications of electrodeposition, energy storage and catalysis.

REF.	SALTS	PACKAGING
M0333A	Lithium bis(fluorosulfonyl)imide 99.9% LiF ₂ NO ₄ S ₂ ; [171611-11-3]; fw : 187,07 H ₂ O ≤ 20ppm - packed under argon	50g to 10Kg
M1133B	Sodium(I) Bis(fluorosulfonyl)imide 99.7% Na F ₂ NO ₄ S ₂ ; [100669-96-3]; fw : 203,30 H ₂ O ≤ 20ppm - packed under argon	10g to 10kg
S001	Lithium(I) Bis(trifluoromethanesulfonyl)imide 99% LiC ₂ F ₆ NO ₄ S ₂ ; [90076-65-6]; fw : 287,10 H ₂ O ≤ 5000ppm - packed under nitrogen	50g to 10kg
S001A	Lithium(I) Bis(trifluoromethanesulfonyl)imide 99.9% LiC ₂ F ₆ NO ₄ S ₂ ; [90076-65-6]; fw : 287,10 Extra-Dry H ₂ O ≤ 20ppm - packed under argon	50g to 10Kg
M1108C	Sodium(I) Bis(trifluoromethanesulfonyl)imide 99.5% NaC ₂ F ₆ NO ₄ S ₂ ; [91742-21-1]; fw : 303,13 H ₂ O ≤ 20ppm - packed under argon	10g to 10kg
M1208C	Magnesium(II) Bis(trifluoromethanesulfonyl)imide 99.5% Mg(C ₂ F ₆ NO ₄ S ₂) ₂ ; [133395-16-1]; fw : 584,59 H ₂ O ≤ 250ppm - packed under argon	10g to 10kg
M1908C	Potassium(I) Bis(trifluoromethanesulfonyl)imide 99.5% KC ₂ F ₆ NO ₄ S ₂ ; [90076-67-8]; fw : 319,14 H ₂ O ≤ 250ppm - packed under argon	10g to 10kg
M2008C	Calcium(II) Bis(trifluoromethanesulfonyl)imide 99.5% Ca(C ₂ F ₆ NO ₄ S ₂) ₂ ; [165324-09-4]; fw : 600,38 H ₂ O ≤ 250ppm - packed under argon	10g to 1kg
M2508C	Manganese(II) Bis(trifluoromethanesulfonyl)imide 99.5% Mn(C ₂ F ₆ NO ₄ S ₂) ₂ ; [207861-55-0]; fw : 615,22 H ₂ O ≤ 250ppm - packed under argon	10g to 5Kg

REF.	SALTS	PACKAGING
M2908C	Copper(II) Bis(trifluoromethanesulfonyl)imide 99.5% Cu(C ₂ F ₆ NO ₄ S ₂) ₂ ; [162715-14-2]; fw : 623,82 H ₂ O ≤ 20ppm - packed under argon	10g to 5kg
M3008B	Zinc(II) Bis(trifluoromethanesulfonyl)imide 99.5% Zn(C ₂ F ₆ NO ₄ S ₂) ₂ ; [168106-25-0]; fw : 625,68 H ₂ O ≤ 100ppm - packed under argon	10g to 1kg
M4708C	Silver(I) Bis(trifluoromethanesulfonyl)imide 99.5% AgC ₂ F ₆ NO ₄ S ₂ ; [189114-61-2]; fw : 388,01 H ₂ O ≤ 20ppm - packed under argon	5g to 50g
M5508C	Cesium(I) Bis(trifluoromethanesulfonyl)imide 99.5% CsC ₂ F ₆ NO ₄ S ₂ ; [91742-16-4]; fw : 413,05 H ₂ O ≤ 20ppm - packed under argon	10g to 1kg
M5608C	Barium(II) Bis(trifluoromethanesulfonyl)imide 99.5% Ba(C ₂ F ₆ NO ₄ S ₂) ₂ ; [168106-22-7]; fw : 697,61 H ₂ O ≤ 250ppm - packed under argon	10g to 1kg
M5708C	Lanthanum(III) bis(trifluoromethanesulfonyl)imide 99.5% La(C ₂ F ₆ NO ₄ S ₂) ₃ ; [168106-26-1]; fw : 979,42 H ₂ O ≤ 20ppm - packed under argon	10g to 250g
M5808C	Cerium(III) bis(trifluoromethanesulfonyl)imide 99.5% Ce(C ₂ F ₆ NO ₄ S ₂) ₃ ; [1046099-39-1]; fw : 980,54 H ₂ O ≤ 20ppm - packed under argon	10g to 500g

BULK packaging or specific needs, please contact us.

REF.	SALTS	PACKAGING
M1105C	<p>Sodium(I) trifluoromethanesulfonate 99.5%</p> <p>NaCF_3SO_3 ; [2926-30-9] ; fw : 172,06</p> <p>$\text{H}_2\text{O} \leq 20\text{ppm}$ - packed under argon</p>	10g to 1Kg
M1205C	<p>Magnesium(II) trifluoromethanesulfonate 99.5%</p> <p>$\text{Mg}(\text{CF}_3\text{SO}_3)_2$; [60871-83-2] ; fw : 322,44</p> <p>$\text{H}_2\text{O} \leq 250\text{ppm}$ - packed under argon</p>	10g to 10kg
M1905C	<p>Potassium(I) trifluoromethanesulfonate 99.5%</p> <p>KCF_3SO_3 ; [2926-27-4] ; fw : 188,07</p> <p>$\text{H}_2\text{O} \leq 250\text{ppm}$ - packed under argon</p>	10g to 1kg
M3005B	<p>Zinc(II) trifluoromethanesulfonate 99.5%</p> <p>$\text{Zn}(\text{CF}_3\text{SO}_3)_2$; [54010-75-2] ; fw : 363,54</p> <p>$\text{H}_2\text{O} \leq 100\text{ppm}$ - packed under argon</p>	10g to 1Kg

BULK packaging or specific needs, please contact us.

References :

Wagner et al., 'Counterintuitive Role of Magnesium Salts as Effective Electrolyte Additives for High Voltage Lithium-Ion Batteries', *Advanced Material Interfaces*, 2016, p1600096

Senguttuvan et al., 'A High Power Rechargeable Nonaqueous Multivalent Zn/V2O5 Battery', *Advanced Energy Materials*, 2016, p1600826

REF.	MONOMERS	PACKAGING
AMSF2908B	N,N,N,N-butyltrimethylmethacryloyloxyethylammonium TFSI - 99.5% fw : 494,47 ; Hydrophobic Halides ≤ 10ppm ; H ₂ O ≤ 500ppm - packed under nitrogen	10g to 50g
PYR3108B	1-Allyl-1-Methylpyrrolidinium TFSI- 99.5% fw : 406,36 ; Hydrophobic Halides ≤ 10ppm ; H ₂ O ≤ 500ppm - packed under nitrogen	10g to 50g

BULK packaging or specific needs, please contact us.

REF.	CROSSLINKERS DIMERS	PACKAGING
IMSF4208B	1,4-butanediyl-3,3'-bis-1-vinylimidazolium Di-TFSI - 99.5% fw : 804,63 ; Hydrophobic Halides ≤ 10ppm ; H ₂ O ≤ 500ppm - packed under nitrogen	10g

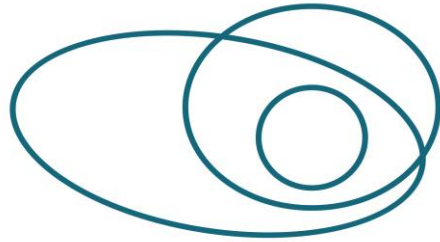
BULK packaging or specific needs, please contact us

REF.	POLYMERS	PACKAGING
AM5408B	Poly(diallyldimethylammonium TFSI) - 99.5% Hydrophobic Halides ≤ 10ppm ; H ₂ O ≤ 500ppm - packed under nitrogen	10g to 50g
AM5433B	Poly(diallyldimethylammonium FSI) - 99.5% Hydrophobic Halides ≤ 10ppm ; H ₂ O ≤ 500ppm - packed under nitrogen	10g to 50g

BULK packaging or specific needs, please contact us.

References :

Zamory et al, 'Polymeric ionic liquid nanoparticles as binder for composite Li-ion Electrodes', Journal of Power Sources, 2013, 240, 745-752



SOLVIONIC

POWERED BY INNOVATION

11 chemin des Silos

31100 Toulouse – France

Tel. : **+33(0)5 32.26.20.20** – Email : sales@solvionic.com

www.solvionic.com

