Quaternary Phosphonium Ionic Liquids

**HISHICOLIN PX-25TFSI**
(P2225-TFSI)

Chemical name: Triethyl pentyl phosphonium bis(trifluoromethylsulfonyl)imide
F.W.: 469.44
Melting point: 17 °C
Density: 1.32 g cm\(^{-3}\) (25 °C)
Viscosity: 88 mPa s (25 °C)
Conductivity: 1.7 mS cm\(^{-1}\) (25 °C)

**HISHICOLIN PX-4MTFSI**
(P4441-TFSI)

Chemical name: Tri-n-butyl methyl phosphonium bis(trifluoromethylsulfonyl)imide
F.W.: 497.50
Melting point: 16 °C
Density: 1.28 g cm\(^{-3}\) (25 °C)
Viscosity: 207 mPa s (25 °C)
Conductivity: 0.42 mS cm\(^{-1}\) (25 °C)

**HISHICOLIN PX-2METFSI**
(P222(2O1)-TFSI)

Chemical name: Triethyl(2-methoxyethyl) phosphonium bis(trifluoromethylsulfonyl)imide
F.W.: 457.39
Melting point: 10 °C
Density: 1.39 g cm\(^{-3}\) (25 °C)
Viscosity: 44 mPa s (25 °C)
Conductivity: 3.6 mS cm\(^{-1}\) (25 °C)

**HISHICOLIN PX-2MMTFSI**
(P222(1O1)-TFSI)

Chemical name: Triethyl(methoxymethyl) phosphonium bis(trifluoromethylsulfonyl)imide
F.W.: 443.36
Melting point: 14 °C
Density: 1.42 g cm\(^{-3}\) (25 °C)
Viscosity: 35 mPa s (25 °C)
Conductivity: 4.4 mS cm\(^{-1}\) (25 °C)
Technical notes

1) Electrochemical and thermal stabilities

Reference: *Electrochemistry Communications*, 9, 2353 (2007).

2) Application to lithium battery electrolytes


ASIA:
Organic Chemicals Sales Dept.
11-1, 9-chome, Kameido, Koto-ku, Tokyo 136-8515, Japan
Tel +81-3-3636-8077  Fax +81-3-3636-8132
E-mail : orga.sales@nippon-chem.co.jp

USA, EU:
JCI USA, Inc.
1311 Mamaroneck Avenue, Suite 145, White Plains, NY 10605
Tel +1-914-761-6555  Fax +1-914-761-6940
E-mail : info@jciusa.com

www.nippon-chem.com
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