

Applications of ionic liquid to electrolytes

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Ionic liquid are rapidly gain inginterest as replacements for traditional organic solvents used in chemical process. They were initially developed by electrochemists for use as electrolytes in batteries or for metal electrodeposition.

Prior to the main experiments for application of morpholine based ionic liquids to electrolytes, 2 type ionic liquids, alkyl-methyl MorBr, alkyl-methyl MorBF₄, were synthesized and physical properties were measured.

N-alkyl-N-methyl-morpholine bromide, N-alkyl-N-methyl-morpholine TFSI and these type lithium doped ionic liquids appear high ionic conductivity and wide electrochemical stability and possess a good solvent character, and thus might be used for potential electrolytes and good green solvents.

Therefore, all these morpholine based ionic liquids might be used for potential electrolytes in Lithium ion batteries.