

Ionic Liquid for Electrochromic Devices Under European Community Program

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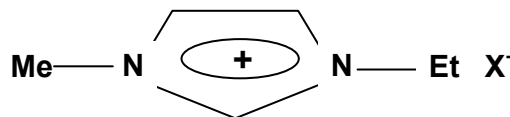
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Ionic liquids (ILs) or Room temperature molten salts (RTMS) are known since 1914 [1]. Chloroaluminate based salts were first reported in 1951 by Hurley and Wier [2] and Wilkes et al. [3]; more recently (1992), Wilkes and Zaworotko [4] have shown that more hydrolytically stable anions could be used, and this field of research has increased significantly. The new ILs suffer negligible vapour pressure, good thermal and chemical stability, in particular toward air and moisture. These properties make them particularly easy to work with and their use is being more and more considered for many applications in chemistry (synthesis, catalysis, separation and purification methods, electrodeposition...). Moreover, they offer high ionic conductivity and a large electrochemical window and a strong resistance against oxidation which explains the considerable attention given to electrochemical studies.

This paper presents the applications of ionic liquids developed in the framework of the European Community program [5] for electrochromic devices. The results concerning the comparison of two ionic liquids of the imidazolium family in terms of electrochemical properties are presented. These ionic liquids have the same cations: ethyl-methyl-imidazolium (EMI⁺) while their anions are bis-

(trifluoromethanesulfonyl)-imide (TFSI) and hexafluorophosphate (PF₆⁻).



$X^- = \text{TFSI}^-, \text{PF}_6^-$

References

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