

Ionic liquids : preparations and limitations

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Abstrak

ABSTRACT

Ionic liquids are considered as an ideal alternative to volatile organic solvents and chemical industries in the future, because they are non-volatile. Ionic liquids are also considered as new novel chemical agents and widely regarded as a greener alternative to many commonly used solvents. Ionic liquids have been studied for a wide range of synthetic applications and have attracted considerable interest for use as electrolytes in the areas of organic synthesis, catalysis, solar cell, fuel cells, electrodeposition and supercapacitors.

However, some ionic liquids suffer from more or less some

drawbacks such as toxicity, preparation and high cost in the process for use. Most recently, three types of ionic liquids are attracted much attentions specifically traditional ionic liquid, protic ionic liquid and deep eutectic solvent, where their preparation, mechanism and limitation were differentiated. However, those liquids are having their own advantages and limitations based on applications. Traditional ionic liquid and protic ionic liquid are highly cost and toxic for applied engineering research, but they consist of micro-biphasic systems composed of ionic compounds which

have more varieties in the applications. The deep eutectic solvent is very economic for large-scale possessing but there are only limited ionic mixtures to certain application such as electrochemistry.