

Electrochemical property measurements for mixtures of choline chloride based deep eutectic solvents + nickel chloride electrolyte

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Recently, many studies have focused on choline chloride (ChCl) based deep eutectic solvent (DES) that have similar physicochemical properties with ionic liquids (ILs). DES has advantages over ILs many aspects such as cheap, non-toxic and eco-friendly features. DESs have been researched in the electrochemistry field because they have many electrochemical properties such as wide potential window, high solubility of metal salts, and high conductivity compared with other non-aqueous solvents. This study was investigated for obtain basic electrochemical property data, which can be used for various processes such as deposition of nickel. Electrochemical experiments on mixtures of ChCl based DESs blended with nickel chloride were carried out in cyclic voltammetry and chronoamperometry methods. Finally, potential window and oxidation-reduction potential were confirmed for the electrolyte by the obtained data.