

Viscosity and density measurement for mixtures of choline chloride + glycerol solutions with alcohols or water

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Deep eutectic solvents (DESs) are usually prepared by quaternary ammonium salt and hydrogen bond donor (HDB), and characterized by much lower eutectic point than melting points of pure materials. DESs have similar physicochemical properties with ionic liquids (ILs) such as non-volatility, inflammability, high thermal stability, and good ionic conductivity. Moreover, they have diverse advantages over ILs in terms of nontoxic, eco-friendly, and low cost. However, usually DESs have a disadvantage of high viscosity. In order to adjust the viscosity of DESs and to expand the application of DESs to various chemical processes. In this study, we measured viscosity and density of DES mixtures, which made of choline chloride based DES with water or alcohols with temperatures and compositions. The results are expected to be used as basic property data for developing various chemical processes.