The Separation of Methyl Palmitate from Simulated Biodiesel Mixtures by Deep Eutectic Solvents

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Biodiesel purification and separation from the crude biodiesel product has attracted much interest in recent years, and one low cost and simple purification process is urgent to explore. The separation of methyl palmitate from the crude biodiesel products is a key point. In this work, a series of choline chloride based deep eutectic solvents (DESs) is explored as a solvent for separation of methyl palmitate from the simulated biodiesel product. DESs are non-toxic, non-reactivity with water and prepared easily at low cost. In addition, the most important thing is being biodegradable The work showed that the choline chloride-ethylene glycol DES had a excellent effect on the separation of methyl palmitate, and high purity of methyl palmitate were obtained with the choline chloride to ethylene glycol ratio decrease or with the choline chloride-ethylene glycol DES to biodiesel ratio increase. Also, such as temperature, time, and DESs/alcohol ratio were also examined systematically.