

Liquid-Liquid Equilibrium (LLE) for the ternary systems of Methyl *tert*-Amyl Ether (TAME) + water + Ionic liquids at 298.15 K and Atmospheric Pressure

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Methyl *tert*-butyl ether (MTBE) dominates so far the market of fuel oxygenates, however the insufficient supply of this ether and the worry about the contamination of ground water increases the interest in heavier ethers. Recently, there has been considerable progress to find alternative fuel additives as anti-knock agents for non-leaded gasoline. Methyl *tert*-amyl ether (TAME) is could be a suitable and alternative candidate for gasoline antiknock agents. However TAME is a hazardous material to contaminate ground water and need to be separated properly from water. Ionic liquids (ILs) are recently being extensively evaluated as environmentally friendly (or green solvents) alternatives to conventional organic solvents in a variety of industrial processes.

In present work, we report liquid-liquid equilibrium (LLE) data at 298.15K under atmospheric pressure for the ternary systems of TAME + water + Ionic liquids at 298.15 K by using tie-line measuring method. In addition, a data reduction was carried out for the experimental ternary LLE data by using the NRTL and UNIQUAC models.