

### Density and CO<sub>2</sub> Solubility of Water + Potassium Carbonate + Sarcosine

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The CO<sub>2</sub> solubility in aqueous blend of potassium carbonate (2) and sarcosine (3) was measured at 343.15, 373.15, 393.15, and 423.15 K and CO<sub>2</sub> partial pressures ranging from (1.0 to 1500) kPa. The density was measured over the temperature range from (298.15 to 353.15) K. Furthermore, the CO<sub>2</sub> solubility in aqueous blend of potassium carbonate and diethanolamine (DEA) was also measured for the comparison. The CO<sub>2</sub> solubility was regressed with an empirical equation and the heat of CO<sub>2</sub> absorption was calculated using Gibbs-Helmholtz equation. The working capacities of the solutions under the various operating conditions were estimated.