

## Low pressure vapor liquid equilibria data for PEGDME+ water, PEGDME+ methanol systems

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Formaldehyde ( $\text{CH}_2\text{O}$ ) is the simplest and the most commercially important aldehydes. Formaldehyde is used primarily to make thermosetting urea-, phenol- and melamine-formaldehyde resins; butanediol; polyacetal resins and methylenebis (4-phenyl isocyanate) (MDI). It is a colorless gas at room temperature and is soluble in water, alcohols and other polar solvents. The information of phase equilibria is vary important to design and operate separation process, such as an extractive distillation. Thus, in this research, P-T-x data for the binary systems, PEGDME (polyethylene glycol dimethyl ether) + water and PEGDME + methanol, were measured at low pressure region using a static type equilibrium apparatus. We observed azeotrope point in these systems. The experimental data were correlated by the Peng-Robinson (PR) equation of state combined with Wong-Sandler mixing rules. The NRTL model was used as an activity coefficient model for the mixing rules.