

A study of CO<sub>2</sub> capturing process using aqueous NH<sub>3</sub> solutions using NRTL parameters  
obtained from the experimental VLE data

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It is the better option to use ammonia-based solvent for capturing carbon dioxide from flue gas due to the potential low heat requirement during the carbon dioxide desorption than monoethanolamine(MEA) based process. The performance of the carbon dioxide capture process using aqueous ammonia is analyzed by process simulation with NRTL (Non-Random Two Liquid) thermodynamic model using the binary parameters obtained from the thermodynamic experimental data. For verifying NRTL parameters, the VLE (vapor liquid equilibrium) data calculated from these parameters is compared with the experimental VLE data(Ulrich Goppert and Gerd Maurer, 1988). The objective of this study is a process simulation of a CO<sub>2</sub> capturing process with aqueous ammonia using NRTL thermodynamic model and comparison with using e-NRTL model. The result shows NRTL model is easier to complete the simulation of the process because it doesn't need to consider chemical reaction.