

Physical and Excess Properties of Ternary Mixtures Of 1-Butyl-3-Methylimidazolium Tetrafluoroborate + Monoethanolamine + Water At Temperature from (303.15 To 353.15) K

Malyanah Mohd Taib^a, Majid Majeed Akbar^b, Thanapalan Murugesan^b

^a Department of Gas, Faculty of Chemical and Natural Resources Engineering, Universiti Malaysia Pahang, Lebuhraya Tun Razak, 26300 Gambang, Kuantan, Pahang, Malaysia

^b Chemical Engineering Department, Universiti Teknologi PETRONAS, Tronoh-31750, Perak, Malaysia

ABSTRACT

Physical properties, namely, density and refractive index of the ternary mixture consisting of 1-butyl-3-methylimidazolium tetrafluoroborate + monoethanolamine + water have been measured at temperature range from (303.15 to 353.15) K. The measured density and refractive index data were correlated as a function of concentration and temperature. The excess properties (excess molar volume and excess refractive indices) have been deduced from the experimental physical properties.

KEYWORDS: 1-Butyl-3-methylimidazolium tetrafluoroborate; Ternary mixtures; Monoethanolamine; Water; Physical and excess properties

DOI: 10.1016/j.molliq.2013.10.016