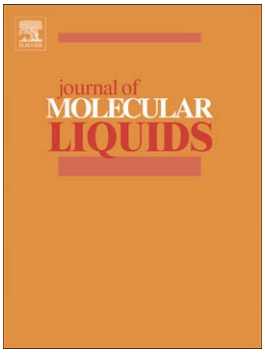


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# Volumetric and Viscosities Properties of Aqueous Solutions of some Monoalkanolamines

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## Abstract

Density (ρ) and viscosities of some aqueous solutions of methylethanolamine (MEA), ethylethanolamine (EEA), dimethylethanolamine (DMEA), 3-(dimethylamino)-1-propanol (DMAP-1) and 3-(Dimethylamino)-2-propanol (DMAP-2) were determined from 303.15 to 323.15 K at different compositions in the range $0 \leq x_1 \leq 1$, where $x_1$ is the mole fraction of alkanolamines. Excess molar volumes ($V_m^E$) are negative for all systems in the whole range of composition at all temperatures with minima occurring at $x_1$ ~ 0.35 to 0.40. The depth of minima varies as, DMPA-2+W > DMEA+W > DMPA-1+W > EEA+W > MEA+W. The Δη values have been found to be positive for all systems in the whole range of composition at all temperatures with large maxima at aqueous region. The heights of maxima for η as well as Δη vary as EEA+W > DMAP-1+W > MEA+W > DMEA+W > DMAP-2+W. The mixture properties and their corresponding excess/deviation data have been fitted well with the polynomial equations and Redlich-Kister polynomial equations, respectively.

**Keywords**: Densities; Excess molar volumes, Viscosities; Deviation in viscosities; Strength of association; Hydrophobicity;

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