

# Densities and Speeds of Sound of the Binary Mixtures of Methanol + o-Xylene and Methanol + p-Xylene

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In this presentation, we present new experimental measurements of densities and speeds of sound of the binary mixtures methanol + o.xylene and methanol + p.xylene at temperatures  $T=(290 \text{ to } 500) \text{ K}$  and pressure  $p=(0.1 \text{ to } 60) \text{ MPa}$  and at various concentrations. Isentropic compressibility's and excess isentropic compressibility's have been calculated from the experimental results and excess isentropic compressibility's were correlated with the Cibulka equation [1]. The results show positive values of excess isentropic compressibility's in almost the entire composition range for the binary mixture containing methanol, while the excess isentropic compressibility's for the binary system with methanol are negative. We also compared experimental isentropic compressibility's with the values calculated from the Free Length theory and Collision Factor theory.

[1]. Jacobson. B., Acta Chem Scandin., 1952, 6, 1485-1495.