

COMPRESSED LIQUID DENSITIES OF 1-HEXANOL, 1-HEPTANOL AND 1-OCTANOL VIA A VIBRATING TUBE DENSIMETER FROM 313 TO 363 K AND 25 MPa.

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ABSTRACT

PvT properties in a liquid phase were determined for 1-Hexanol, 1-Heptanol and 1-Octanol from 313 to 363 K and up to 25 MPa with an uncertainty better than ± 0.05 %. The classical calibration method of the vibrating tube densimeter was used with N_2 and H_2O as reference fluids.

The 1-Hexanol, 1-Heptanol and 1-Octanol liquid densities reported in this work are correlated with the Starling and Han equation of state (BWRS EoS) and Tait equation using a least square optimization, with a relative deviation lower than ± 0.06 % for both fluids. Calculated values using BRWS EoS for 1-Hexanol, 1-Heptanol and 1-Octanol were compared with the literature data at atmospheric pressure liquid densities and both sets of data agree

Keywords: An apparatus for PVT data, EOS, Liquid densities

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