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# Theoretical Evaluation and Experimental Study of Ultrasonic Velocities in Binary Liquid Mixtures of Trichloroethylene with Three Alcohols At 303.15 K

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**Abstract :** Theoretical velocities of binary liquid mixtures of Trichloroethylene (TE) with 1-Pentanol, 1-Hexanol, and 1-Heptanol at  $T = (303.15) \text{ K}$  have been evaluated by employing two theoretical models of the ultrasonic velocity determination, viz. Nomoto (NOM) and Van Dael & Vangeel (VDV). Ultrasonic velocities and densities of these mixtures have also been measured experimentally as a function of composition. A good agreement is found between experimental and theoretical values.  $U_{\text{exp}}^2/U_{\text{imx}}^2$  has also been evaluated for non-ideality in the mixtures. The results are discussed in terms of intermolecular interactions between the component molecules in these binary liquid mixtures.

**Keywords :** Theoretical ultrasonic velocities, experimental velocities, Hydrogen bonding, molecular interaction parameter.

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