



Additivity of sound velocity in binary liquid mixtures.

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Ideality and additivity of sound velocity in liquid mixtures are discussed. The methods of calculation of deviations of sound velocity from theoretically predicted values are analyzed using literature data for 24 different binary liquid systems. Calculations of such deviations, assuming linearity with mole fraction of a component, were found to be wrong. It is also shown that the Nomoto relation predicting the sound velocity in liquid mixtures yields results similar to those of the equation of Ernst *et al.*, while the Van Dael model often fails. The validity of Rao's hypothesis on additivity of molar sound velocities (Rao constant) has been confirmed.

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Strona internetowa wydawcy

<http://link.springer.com>