Editorial
Volume 11:4, 2020
DOI: 10.37421/ csj.2020.11.219

Chemical Sciences Journal

ISSN: 2150-3494 **Open Access**

Ultrasonic Study of Anionic Surfactants in Binary Liquid Mixtures

Katta Eswar Srikanth*

Department of Physics, DNR College, Bhimavaram, Andhra Pradesh, India

Editorial Note

Ultrasonic study of anionic surfactants in binary liquid mixtures is considerable importance in understanding the molecular interactions between component molecules. A number of experimental techniques have been used to investigate the interactions between the components of binary liquid mixtures. Ultrasonic velocity provides a way for liquids to study the molecular interaction and to elucidate internal structure of liquids. Various thermodynamic properties of liquid mixtures can be easily determined with the help of ultrasonic velocity, which are cannot be determined by other means.

An exhaustive literature survey reveals that the knowledge of sound velocity in liquids has been found to be very helpful in the study of acoustic absorption spectrometry, convective flow electrochemistry, ultra spectrometry for liquids, high velocity inter particle collision, structure isomerisation and molecular motion of liquids of n-alkanes, crystal growth from solution [6], shear independence spectrometry, ultrasonic spectrometry of polystyrene latex suspension, sono chemical removal of nitric oxide from fuel gas, gas-phase RTD measurement in gas and gas solid reactors, desorption of metal from activated carbon, aqueous fluids. An exhaustive survey of recent literature reveals that a good experimentation has been done for measurement of ultrasonic velocity of single components and binary liquid mixtures and some work also reported ternary liquid mixtures.

Measurement of ultrasonic velocity are reported for associated liquid mixtures especially for amines, easter, ethanols, ketones combinations, this lack of experimental data on associated binary mixtures intensify the need of theoretical evalution of sound velocity for liquid mixtures.

In recent year's measurement of ultrasonic investigations found extensive applications in determining the physicochemical behaviour of liquid mixtures. Several researchers carried out ultrasonic investigations and correlated the experimental results of ultrasonic velocity with the theoretical relations of Nomoto, van Deal and Vangeel ideal mix relations impedance relation Rao's Specific velocity and Junjie and interpreted the results in terms of molecular interactions. There has been an increasing interest in the study of intermolecular interactions in the last two decades and numbers of experimental techniques have been used to investigate the interactions between the binary liquid mixture components. Ultrasonic study of liquid mixtures, due to its non-destructive nature, has been extensively carried out in different branches of science to measure the thermodynamic properties to predict the nature of molecular interaction between the molecules in a medium. The ultrasonic sound velocity and the thermodynamic parameters derived from it have been widely used to interpret the interactions between unlike molecules in the binary liquid mixtures.

The ultrasonic velocity measurements in liquid and polymer solutions are much simpler and more accurate than ultrasonic absorption measurements and can be performed at a faster rate as well. Recently an extensive investigation has been made for analysing the ultrasonic velocity results in terms of existing empirical and theoretical relationships, correlating ultrasonic velocity, molecular weight and density in terms of Rao constant which is an additive property and can be used for structural analysis of solid polymers. It has been convincingly established that the Rao's formalism also applies to polymer solution as well.

How to cite this article: Katta Eswar Srikanth. "Ultrasonic Study of Anionic Surfactants in Binary Liquid Mixtures." *Chem Sci J 11* (2020). doi: 10.37421/ CSJ.2020.11.219

***Address for Correspondence:** Katta Eswar Srikanth, Department of Physics, DNR College, Bhimavaram, Andhra Pradesh-534202, India, E-mail: eswarsrikanth.katta@gmail.com*

Received 10 September 2020; **Accepted** 15 September 2020; **Published** 22 September 2020