

EXPERIMENTAL STUDY OF THE ELASTIC PROPERTIES OF 1-CHLORO-SUBSTITUTED N-ALKANES AND THE POSSIBILITY OF THEIR PREDICTION

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The possibility of predicting the density under pressure was studied for 1-chloro-substituted n-paraffins using the parameter of inverse reduced fluctuations, which is directly related to isothermal compressibility. This parameter can be determined on the basis of liquid thermodynamic properties on the saturation line and consists of only two constant factors unchanged within a relatively wide temperature range starting from the melting point. It is confirmed by comparison with experimental data for different classes of liquids. Experimental data on density, ultrasonic velocity, and heat capacity at constant pressure were obtained for 1-chloropropane, 1-chlorobutane, 1-chlorohexane, 1-chloroheptane and 1-chlorononane in a wide range of temperatures and pressures in Condensed Matter Physics Research Center, Kursk State University [1,2].

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 2. Melent'ev, V. V.; Bolotnikov, M. F.; Neruchev, Yu. A. Speeds of Sound, Densities, and Isentropic Compressibilities of 1-Chlorohexane at Temperatures from (293.15 to 413.15) K and Pressures up to 200 MPa. *J. Chem. Eng. Data* 2006, 51, 181.