# Thermodynamic Properties of 1-Dodecene in the Liquid State

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Thermodynamic properties of liquid 1-dodecene have been calculated using a grid algorithm [1, 2] based on speed of sound data obtained in a previous study [3] over a wide range of temperatures and pressures. As additional information required for these calculations, we used the most reliable literature data of densities and isobaric heat capacities at atmospheric pressure and those obtained by us on the basis of structure-property correlations in the homologous series of 1-alkenes. Detailed tables containing values of sound speed, density, isobaric, and isochoric heat capacities, isobaric expansion coefficient, isothermal compressibility, enthalpy, and entropy in the range of temperatures from 303 to 433 K and at pressures from 0.1 to 100 MPa have been developed. The density values obtained in the above-identified range of parameters were fitted with a Tait equation. The thermodynamic properties for 1-dodecene in the investigated temperature range and at pressures exceeding atmospheric pressure have been obtained for the first time.

[1] T. S. Khasanshin, A. P. Shchamialiou, and O.G. Poddubskij, *Int. J. Thermophysics* **24**, 1277 (2003).
[2] T. S. Khasanshin, A. P. Shchamialiou, and O.G. Poddubskij, *High Temp. – High Press*. **35/36**, 227 (2003/2004).
[3] T. S. Khasanshin, O.G. Poddubskii, and A. P. Shchemelev, *High Temp.* **43,** 530 (2005). [Translated from *Teplofiz. Vys. Temp.* **43,** 533 (2005)].