

Density Measurements of Formamide at $T = (288.15 \text{ to } 348.15) \text{ K}$ Over the Pressure Range from (0.1 to 50.0) MPa

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About a quarter of a century ago, Eastal and Woolf suggested that formamide showed an isothermal compressibility minimum. To confirm the existence of the isothermal compressibility minimum, further precise density measurements are required as a function of pressure over wide temperature ranges. The density of formamide has been measured at temperatures from (288.15 K to 348.15) K and at pressures up to 50.0 MPa. The measurements were made using a high-pressure vibrating-tube densitometer. Pressure dependence of the density has been correlated with the Tait equation at each temperature, and the Tait parameters are determined. The isothermal compressibility, thermal expansion coefficient, and other thermodynamic properties have been evaluated at temperatures from (288.15 to 348.15) K and at pressures up to 50 MPa. Temperature dependence of the isothermal compressibility of formamide obtained in this work is compared with the literature values.