

Thermal Conductivity of Aqueous SrBr₂ Solutions at High Temperatures and High Pressures

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Accurate high-pressure and high-temperature thermal conductivity measurements were made on H₂O + SrBr₂ solutions at pressures up to 100 MPa over a temperature range between 293 and 473 K using a parallel – plate apparatus. The concentration studied were between 2.5 and 20 mass %. The estimated accuracy of the method is about 1.6 %. The pressure, temperature, and concentration dependences of the thermal conductivity have been studied. The thermal conductivity shows almost linear dependence on pressure and concentration. Along each isobar, a given concentration shows the thermal-conductivity maximum at a temperature of about 413 K. The measured values of thermal conductivity at atmospheric pressure were compared with the values reported by other author and values calculated with various correlation equations and prediction techniques.