Measurement of the Thermal Conductivity of Liquid Dimethoxy Methane from 293 to 400K at Atmospheric Pressure

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Dimethoxy methane (DMM), as a fuel additive, for its large oxygen content, is attracting more and more attention. It is used in diesel engine to reduce the particle emission, but the thermophysical properties data was scare. In this paper, the liquid thermal conductivity of dimethoxy methane was measured with a transient hot wire method at atmospheric pressure, with an uncertainty of less than ±2%. The apparatus was calibrated using toluene, and the experimental data shows good agreement with the data in literature. This experiment was carried out in our laboratory, and the temperature range was from 293 to 400 K. The uncertainty of temperature is within ±5mK. The equation of thermal conductivity for DMM was correlated.