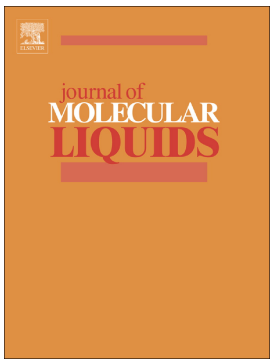


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# Density, surface tension and viscosity of Ga-Sn eutectic based alloys with Zn additions

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**Abstract**

The density, surface tension and viscosity of Ga-Sn eutectic alloys with additions of 3.6, 10.0, 25.0, 50.0, 75.0, 90.0 wt. % of Zn were measured using the discharge crucible method (DC). The above-mentioned physicochemical properties were determined in 323-823 K temperature range. Over a wide range of temperatures the density, surface tension and viscosity of liquid Ga-Sn eutectic based alloys increase with an increase in Zn. The obtained experimental results exhibit a good agreement with the Brillo and Egry model for density, Toop, Kohler, Muggiano and Butler models in the case of surface tension and Sato, Kucharski, Melywen-Hughes, Kozlov, Romanov and Petrov, Gasior and Schick models in the case of viscosity.

*Keywords: density, discharge crucible method, Ga-Sn alloys, gallium, surface tension, viscosity*