عنوان مقاله:

Patel-Teja viscosity equation of state for modeling the viscosity of binary and ternary liquid hydrocarbon mixtures

محل انتشار:

کنفرانس بین المللی یافته های نوین پژوهشی در شیمی و مهندسی شیمی (سال: 1394)

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نویسندگان:

Mahmood Asadi - *Department of chemical Engineering, Fars Science and Research Branch, Islamic Azad University, Shiraz, Iran*

Mansoor Taheri Anaraki - *Department of chemical Engineering, Shiraz Branch, Islamic Azad University, Shiraz, Iran*

خلاصه مقاله:

The aims of this study are to reduce the parameters of viscosity equation of state and to improve the performance of the viscosity equation of state. To achieve this aim, the Patel-Teja viscosity equation of state in combination with the proposed mixing rule is applied to model the viscosities of the binary and ternary systems for temperatures ranged (297.75-373.35) K and pressures ranged (49.95-246.26) bar. First, the parameters of pure components containing (C1-nC10) have been obtained. Subsequently, pressure temperature-dependent and constant expressions of binary interaction coefficient for binary mixtures have been correlated. These empirical correlations of the parameters of pure components and binary interaction coefficients have been utilized for ternary mixtures containing (15.01 mole% nC5+9.94 mole% nC8+75.05 mole% nC10) and (75.07 mole% nC5+10.01 mole% nC8+14.92 mole% nC10). For these ternary mixtures, the predictions show good agreements with experimental viscosities (overall AAD~8.69%).

کلمات کلیدی:

Viscosity; Equation of state; Mixing rule; Mixture