

عنوان مقاله:

(Evaluation of the Presence of Wax-Wax-Liquid ($S\alpha$ - $S\beta$ -L

محل انتشار:

پنجمین کنگره بین المللی مهندسی شیمی (سال: 1386)

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خلاصه مقاله:

N-alkanes with odd or even carbon numbers have two distinct patterns of behaviour. When they are being cooled, both odd and even n-alkanes larger than $C_{20}H_{42}$, could solidify in a hexagonal crystalline structure, also known as the "rotator phase". Upon further cooling the hexagonal structure could transform into other solid phase(s). In this study, the two solid phases (rotator and orthorhombic) are considered. The aim of this study is to examine the existence of the solid (wax)-solid (wax) along with the liquid hydrocarbon in the multicomponent systems. In order to pursue our objective, first a solid (rotator, $S\alpha$)-solid (orthorhombic, $S\beta$) model, based on the regular solution theory was developed. The parameters of the two solid phases for the temperature and heat of fusion were determined. The developed model was initially validated for $S\alpha$ - $S\beta$ by using a binary mixture. Then, attempts were made to find the conditions at which the solid-solid-liquid ($S\alpha$ β -L) equilibrium could exist. Mixtures used in this study included, three, four, five and -S multi-component systems. The $S\alpha$ -L modelling has been discussed in the previous studies. The .three-phase model did not converge to any solution for different tested fluids at different conditions

کلمات کلیدی:

Wax; Rotator; Orthorhombic; Crystalline; N-alkane

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