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عنوان مقاله:

Measurement of the solubility of carbon dioxide in the MDEA+DMSO+Water and (II) DMSO+Water systems at different temperature

محل انتشار:

شانزدهمین کنگره ملی مهندسی شیمی ایران (سال: 1397)

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خلاصه مقاله:

New experimental VLE data for solubility of carbon dioxide in the aqueous systems of Dimethyl sulfoxide (DMSO) and N-methyldiethanolamine (MDEA) were measured at the different temperatures. In this work, the two systems of DMSO (10-80 wt. %)+water and MDEA+ DMSO + water with composition (40-20-40 wt. %) were used as mixed solvent and the solubility data was obtained at 328.15, 343.15 K and pressure up to 33.4 bar. The solubility data were expressed in terms of partial pressure of CO2 against its loading. The results showed that by increasing temperature the solubility of carbon dioxide reduced for both systems. Hence, the influence of temperature and using DMSO as a physical solvent were investigated on loading of CO2 in mixed-solvents.

کلمات کلیدی:

Solubility, DMSO, chemical solvent, MDEA, physical solvent, CO2.

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