

عنوان مقاله:

Liquid-Liquid Equilibria of (Water + Propionic Acid + Benzyl acetate) Ternary System at $T = 298.2$

محل انتشار:

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خلاصه مقاله:

Liquid-liquid equilibrium data for ternary system of (water + propionic acid + benzyl acetate) were measured and correlated at $T = 298.2$ K and atmospheric pressure. The solubility curve data were determined using the cloud-point titration method. The phase diagram for the ternary system shows type-1 liquid-liquid equilibrium (LLE) behavior, where the two liquid pairs (acid + water) and (acid + ester) are totally miscible and one liquid pair (water + ester) is partially miscible. The acid-base titration, the Karl-Fisher technique, and refractive index measurements were used to obtain the tie-line data. The distribution coefficients and separation factors were calculated over the biphasic area. The reliability of the tie line data was determined by the Othmer-Tobias equation. The results show separation factors confirm the ability of this solvent for extraction of propionic acid from water. In conclusion, the liquid extraction results obtained for propionic acid can give important contribution in environmental, clinical, and industrial database.

کلمات کلیدی:

Liquid-Liquid equilibrium; Propionic acid; Ester

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