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Reactive Extraction of Caproic Acid using Tri-n- Butyl Phosphate (TBP) in Non Toxic Diluents

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Abstract:The present paper deals with the study of reactive extraction of caproic acid using tri-n-butyl phosphate in non-toxic diluents (oils obtain from sunflower, soybean, and rice bran) in different proportions and combinations of extractant and the non-toxic diluents. Results were presented in terms of distribution coefficients, loading ratio, degree of extraction, equilibrium complexation constants and the kinetics of reaction involved. The data obtained were found to be useful for process engineers to efficiently design reactive extraction process for the recovery of caproic acid by thorough understanding of the equilibrium characteristics. Also, the problem of toxicity in reactive extraction could be reduced by using the natural non-toxic diluents with the extractant.

Keywords :Reactive extraction, TBP, Nontoxic diluent, Caproicacid, Toxicity, batch process.

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