

Transient Binary Mixture Batch Distillation

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A theoretical analysis and a series of experiments of transient batch distillation of a binary mixture are given. We use transient mass and energy balances with a thermodynamic model to compute the time dependent top product composition and flow rate under a given heating condition to obtain the target ethanol concentration with optimum power consumption. We compared the computation results with experimental results. The optimum heating condition together with reflux strategy is provided.