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RESEARCH PAPERS

悬浮床催化精馏合成支链烷基苯的模拟

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摘要 Suspension catalytic distillation (SCD) has been developed recently as an innovative technology in catalytic distillation. In this paper, a brief introduction to SCD is given and an equilibrium stage (EQ) model is developed to simulate this new process for synthesis of linear alkylbenzene (LAB) from benzene, and 1-dodecene.Since non-ideality of this reaction system is not strong, EQ model developed could be applied to it successfully.Simulation results agree well with experimental data, and indicate some characteristics of SCD process as an advanced technology for the production of LAB: 100% conversion of olefins, low temperature (90-100℃) and low benzene/olefin mole ratio.

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Simulation of Suspension Catalytic Distillation for Synthesis of Linear Alkylbenzene

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Abstract Suspension catalytic distillation (SCD) has been developed recently as an innovative technology in catalytic distillation. In this paper, a brief introduction to SCD is given and an equilibrium stage (EQ) model is developed to simulate this new process for synthesis of linear alkylbenzene (LAB) from benzene, and 1-dodecene.Since non-ideality of this reaction system is not strong, EQ model developed could be applied to it successfully.Simulation results agree well with experimental data, and indicate some characteristics of SCD process as an advanced technology for the production of LAB: 100% conversion of olefins, low temperature (90-100℃) and low benzene/olefin mole ratio.

Key words suspension catalytic distillation; equilibrium stage model; linear alkylbenzene

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