عنوان مقاله:

Dynamic Modeling and Simulation of DME Synthesis in Fixed bed reactor

محل انتشار:

ششمین کنگره بین المللی مهندسی شیمی (سال: 1388)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Dimethyl Ether (DME) as a clean fuel is produced in an adiabatic fixed-bed reactor by the methanol dehydration, in industrial scale. Dynamic modeling of an industrial catalytic fixed bed reactor for DME synthesis has been subject of current study. In this study, DME reactor is modeled heterogeneously with consideration of the heat and mass transfer between catalyst pellets and reactant gas. In order to estimate the DME production and dynamic temperature profile, the reactor model which is a set of partial and ordinary differential equations and algebraic equations has been solved numerically. Steady state results of model have been compared with industrial data. The comparison successfully confirms validity and accuracy of proposed model.

کلمات کلیدی:

DME, Fixed bed reactor, Heterogeneous model, Dynamic simulation