

## A dynamic model for DME synthesis in a lab scale reactor

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To design and operate a reactor, it is needed to develop a catalyst and analyze the behavior of the reactor. So computer simulation using various numerical methods is applied for this purpose.

DME(Dimethyl Ether), the simplest ether, is considered as one of the most promising candidates for the substitute of LNG and diesel fuel because physical properties of DME are similar with them of LPG and its cetane number which evaluates the efficiency of diesel engine is higher than diesel fuel.

In this study, we analyze a dynamic model of a lab scale reactor for DME synthesis from syngas, using ACM(Aspen Custom Modeler), through the simulation which is considered reaction, heat transfer, mass transfer, and so on.