Optimasi sintesis butana dari minyak jarak melalui reaksi perengkahan katalitik dengan katalis alumina JRC-ALO-7 = Optimization of butane synthesis from Jatropha oil using catalytic cracking reaction with alumina JRC-ALO-7 catalyst

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Abstrak

Butana merupakan komponen penting dalam industri petrokimia. Optimasi sisntesis hidrokarbon fraksi butana dari minyak jarak dilakukan dengan melakukan pergantian katalis untuk membentuk siklus reaksi perengkahan. Reaksi dilakukan pada fasa cair dalam reaktor semi tumpak bertekanan atmosferik, dengan rasio massa katalis/minyak jarak 1:100 dan suhu 320°C. Produk gas butana dianalisis dengan Gas Chromatography. Berdasarkan hasil simulasi data penelitian, diketahui bahwa kondisi optimal reaksi berupa 5 siklus reaksi perengkahan, dengan waktu reaksi total 238 menit dan yield butana rata-rata 34,4%. <hr>Butane is an important component in the petrochemical industry. Optimization of butane synthesis from jatropha oil done by doing regeneration catalyst to form cracking reaction cycle. Reaction carried out in liquid phase in the semi batch reactor at atmospheric pressure, the mass ratio catalyst / jatropha oil 1:100 and temperature range 320°C. Butane gas products were analyzed by Gas Chromatography. Based on the results of simulation research data, it is known that the optimum conditions of catalytic cracking reaction are 5 cycle of cracking reaction, with a total reaction time of 238 minutes and butane yield an average of 34,4%.