

Experimental Assessment of Artificial Flavors Production

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Abstract : The Esterification kinetics of acetic acid with isopropnol in the presence of sulfuric acid as a homogenous catalyst was studied with isothermal batch experiments at 60,70 and 80°C and at a different molar ratio of isopropnol to acetic acid. Investigation of kinetics of the reaction indicated that the low of molar ratio is favored for esterification reaction, this is due to the reaction is catalyzed by acid. The maximum conversion, approximately 60.6% was obtained at 80°C for molar ratio of 1:3 acid : alcohol. It was found that increasing temperature of the reaction, increases the rate constant and conversion at a certain mole ratio, that is due to the esterification is exothermic. The homogenous reaction has been described with simple power-law model. The chemical equilibrium combustion calculated from the kinetic model in agreement with the measured chemical equilibrium.

Keywords : artificial flavors, esterification, chemical equilibria, isothermal

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