

Kinetics of glycerol steam reforming for hydrogen generation over Ni-Fe-Ce/Al₂O₃ catalyst

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In this study, We focused on reaction kinetics of glycerol steam reforming for hydrogen production over nickel based catalyst promoted by iron, cerium and supported over alumina. Glycerol steam reforming has been investigated in fixed-bed reactor over a wide range of W/F ratio, 0.65–2.03 g h/mol, at temperatures between 723K and 823K. Kinetic parameters for glycerol steam reforming over Ni-Fe-Ce/Al₂O₃ catalyst were obtained in the kinetically controlled reaction regime to ensure the absence of heat and mass transfer limitations. kinetics study was carried out using the power law equation. The activation energy and the frequency factor were calculated using Arrhenius equation.