International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.10 No.1 pp 104-109, 2017

Immobilization kinetics of lipase on mesoporous material (Santa Barbara Amorphous-15)

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Abstract : The present study focuses on the immobilization kinetic of *Aspergillus niger* lipase on SBA-15 (Santa Barbara Amorphous-15) obtained from water glass. Freundlich and Langmuir isotherms were used to describe equilibrium nature of immobilization. Lipase immobilization was dependent on the pH of solution and the lipase uptake was greater at pH 6-7. The maximum adsorption capacity for SBA-15 calculated from the Langmuir equations reaches to 35.6 mg g^{-1}. The kinetics of adsorption was examined using pseudo first-order and pseudo second-order. The adsorption of lipase on SBA-15 followed pseudo second-order kinetics.

Keywords : SBA-15, Immobilization, Lipase, Isotherms.

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