

Epoxydation of Vegetable Oils Using the Heterogeneous Catalysis, Amorphous Ti-SiO₂

김경훈*

POSCO 엔지니어링연구센터

(kim116@posco.com*)

The epoxydation reaction of the vegetable oil derivative methyl oleate with tert-butyl hydroperoxide in the presence of amorphous Ti-SiO₂ catalysts prepared by different methods using various silica sources was carried out. The reaction conditions were optimized. The relation between the properties of the catalysts such as BET surface area as well as titanium dispersion and the catalytic performance was in focus of the investigation. Based on the catalytic results in small batch reactors, the reaction was scaled up in a larger 4 L batch-reactor. Similar conversions and selectivities were obtained in comparison with the small scale experiments.