

CATALYST PERFORMANCE TESTING: CATALYTIC CONVERSION OF DILUTED GLYCEROL TO HIGHER VALUE ADDED PRODUCT

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ABSTRACT

Glycerol production has increased dramatically over the passed few years as a result of tremendous biodiesel demand. Glycerol can be converted to various higher value added products. One of the products that can be converted from glycerol is olefin. Olefin has numerous benefits as it is tough, light and stain resistant. This study will focus on the analysis of the effect of reactant and catalyst bed dilution on the conversion of glycerol to olefin. The temperature for this reaction is set at 700°C as high temperature will favour high olefin production. Feed of glycerol/water mixture are varied at from 5 to 60wt%. The dilution of well mixed catalyst bed was varied to different degree of dilution to observe the conversion of glycerol using glass pellet as the inert material. Highest conversion was obtained when the catalyst and diluents were very well mixed. With higher degree of catalyst dilution, the yield of olefin increase as the dilution fraction approaches one.

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