

Hydrogenolysis of Glycerol to 1,2-Propanediol over Hydrotalcite Catalysts

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Glycerol is obtained as a by-product in Biodegel Synthesis and it can be converted into many value added product with catalysts. One such reaction is 1,2-Propanediol(PDO) obtained by Hydrogenolysis of Glycerol with a base catalyst. Reported catalysts find many drawbacks, Here we did an attempt to develop an efficient catalyst for the process. The hydrotalcite based catalysts were prepared by impregnation method and characterized by N₂ physisorption, XRD, SEM, TPR and TEM. Hydrogenolysis of Glycerol was carried out in fixed bed down flow reactor at 190°C, 25 bar pressure. With 900°C calcined Cu/MgAl catalyst 60 % glycerol conversion with 90 % selectivity towards 1,2-PDO was observed. The results shows that the structure and acid-base properties of hydrotalcite showed comparatively high hydrogenolysis activity of dehydration and hydrogenation than other catalysts.