RINGKASAN

Telah dilakukan preparasi katalis Cu-ZnO/Al_2O_3 dengan metoda ko-impregnasi kering. Muatan Cu adalah sebesar 5% berat. Sebagai variabel bebas adalah perbandingan mol Cu/ZnO. Karakterisasi katalis dilakukan dengan analisis komposisi kimia (AAS), analisis komponen mineral, uji fisisorpsi dan uji kemisorpsi.

Analisis komposisi kimia memperlihatkan bahwa tingkat keberhasilan proses ko-impregnasi kering dalam memasukkan prekursor ke penyangga Al_2O_3 berkisar pada 91,77 - 95,79 %. Hasil analisis komponen mineral memperlihatkan bahwa setelah proses kalsinasi semua komponen (Cu, Zn, Al) ada dalam bentuk oksidanya, dan setelah proses reduksi komponen Cu ada dalam bentuk logam sementara komponen Zn dan Al tetap dalam bentuk oksida. Uji fisisorpsi memperlihatkan bahwa pemasukan prekursor pada Al_2O_3 menyebabkan penurunan luas permukaan total. Dari uji kemisorpsi didapatkan bahwa penambahan ZnO mempengaruhi luas permukaan situs aktif dan mencapai optimum pada katalis dengan perbandingan mol Cu/ZnO = 1/0,5 dengan hasil S_{Cu} = 1,7781 m^2/g dan D_{Cu} = 5,52 %.

SUMMARY

Preparation of catalyst Cu-ZnO/Al_2O_3 was done by dry co-impregnation method. Copper loading was presented as much as 5% weight. Ratio mole of Cu/ZnO had been treated as a free variable. Characterization of the catalyst was done by using the instrument AAS, instrument XRD, physisorption test and chemisorption test.

Analysis of chemical composition using the instrument AAS showed that the dry co-impregnation process succeded in infiltrating precursor into support Al_2O_3 with successful degree 91.77-95.79%. Analysis of mineral components using the instrument XRD showed that after calcination process all components were in oxides form, and after reduction process copper was in metallic state while zinc and aluminium components were still remained in oxides form. The physisorption test results showed that penetrated of precursor to support Al_2O_3 caused total surface area decreased than its initial. The chemisorption test results showed that ZnO effected the surface area of active sites and reached optimum value at catalyst with ratio mole Cu/ZnO = 1/0.5 which has S_{Cu} = 1.7781 m^2/g and D_{Cu} = 5.52 %.