RINGKASAN

Katalis mempunyai peranan penting dalam proses reaksi kimia yaitu sebagai zat yang dapat mempercepat reaksi kimia.

Telah dilakukan pembuatan katalis oksidasi gas karbon monoksida (CO) dengan menggunakan logam aktif platina (Pt) 0,1 % dan logam promotor serium (Ce) berpenyangga zeolit alam. Modifikasi zeolit alam dilakukan dengan perlakuan asam, hidrotermal, dan kalsinasi sedangkan preparasi katalis dilakukan dengan metode reimpregnasi basah dengan variasi konsentrasi Ce yaitu 5%, 10%, 15 % dan tahapan impregnasi Ce. Karakterisasi katalis dilakukan dengan Difraktometer Sinar X dan uji aktivitas katalis dilakukan melalui reaksi oksidasi karbon monoksida (CO) yang dianalisis dengan kromatografi gas (KG).

Hasil analisis menunjukkan adanya transformasi komposisi dan peningkatan kristalinitas zeolit alam serta perbedaan ukuran partikel dan keadaan komponen logam Pt. Uji aktivitas katalis terhadap karbon monoksida (CO) memberikan hasil konversi optimum 99,63 % pada suhu 700 °C.

SUMMARY

Catalysts play the important role in chemical processes as the material that can increase the rate of chemical reaction.

The preparation of catalyst for oxidation of carbon monoxide (CO) with platinum (Pt) loading as an active metal 0,1 % and cerium (Ce) as a promotor supported on natural zeolite has been done. The zeolite was prepared by acid treatment, hydrothermal and calcination while the catalyst was prepared by wet reimpregnation methods with Ce loading as much as 5 %, 10 %, 15 % and the steps of Ce impregnation variation. Characterization of the catalyst was done by using the instrument X Ray Difraktometer (XRD) and the activity catalyst test towards oxidation reaction of carbon monoxide was analyzed by gas chromatography (GC)

Analysis results showed the transformation composition and crystalinity increased of natural zeolite and the difference particel size and condition of Pt. The activity catalyst test gived optimum conversion about 99.63 % at 700 °C.