Effect of propane dehydrogenation with copper contents and different alumina in Pt-Cu/Al_2O_3 catalyst

이학범, 김수영, 고형림†
한경대학교
(hlkoh@hknu.ac.kr†)

Propylene is an important raw material for petrochemicals. In this study, catalytic activities were focused on different copper mole ratio on Θ or ɣ alumina which were impregnated with platinum. Being prepared catalysts required for the propane dehydrogenation process, the conversion, selectivity and the yield were confirmed through catalytic test. $Pt_{1.5}$-Cu_x catalyst supported on Θ-alumina or ɣ-alumina was prepared progressively. And then propane dehydrogenation reaction by using $Pt_{1.5}$-Cu_x/Al_2O_3 was performed at 620℃ with hydrogen and propane feed stream. The effects on copper contents and type of support on propane dehydrogenation on propane dehydrogenation to propylene have been investigated by some physicochemical characterization such as N_2 chemisorption, X-ray diffaction (XRD), X-ray photoelectron spectroscopy (XPS), EDX, FE-SEM, TEM and TGA.