Preparation of Advance Nano-hybrid Catalyst using N-heterocyclic Carbene-metal Adduct

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Advanced nano-hybrid catalyst was prepared for contorlling the reaction rate in the synthesis of polyurethane (PU). Bead type of polystyrene divinylbenzene (PSDVB) was used as a supporting material and imidazolium salt was added to PSDVB for the synthesis of supporting material. N-heterocyclic carbene (NHC)-Fe was successfully adsorbed on the surface of the supporter for the preparation of advanced polyurenet catalyst. We confirmed the synthesis of catalyst using FT-IR, XRD, XPS, EDX, SEM, and TEM analysis. PSDVB supported NHC-Fe catalyst showed the good performance for controlling the reaction rate in the synthesis of PU due to the good catalytic activity. It means that DVBPS supported NHC-Fe Catalys can ben effectively used for the PU industry owing to the control of curing time of PUR.
Key Words : Polyurethane, Chloromethyl Polystyrene, N-heterocylic carbene, Fe