Effect of 1-Butyl-3-Methylimidazolium-Hexafluoroantimonate Concentration on Curing Behavior in Cationic Epoxy Cure System

남윤희, 장의성, 이진우, 최승혁, 최봉구, 한학수*
연세대학교
(hchan@yonsei.ac.kr*)

The latent thermal cationic initiator 1-butyl-3-methylimidazolium-hexafluoroantimonate (BMH) was newly synthesized and characterized with FT-IR, 1H NMR spectroscopy. The initiation mechanism during the reaction of new catalytic BMH difunctional epoxy [diglycidyl ether of bisphenol A (DGEBA)] system with increase of BMH concentration have been studied by differential scanning calorimetry (DSC). From DSC measurements of the DGEBA/BMH system, it was found that this system exhibited excellent thermal latent characteristics at a given temperature as indicated by multiple exotherms. The conversion and conversion rate of the DGEBA/BMH system increased with increasing the concentration of initiator, attributed to the high activity of BMH. And the thermal property of DGEBA/BMH system was characterized by thermogravimetric analaysis (TGA).