

Fabrication of Plasma Modified Multi-Walled Carbon Nanotubes Derivatives and Their Composites with Polyolefins

이종일, 정희태^{1,*}
호남석유화학(주); ¹KAIST
(heetae@kaist.ac.kr*)

Covalent sidewall functionalization of multi-walled carbon nanotubes (MWNTs) has been accomplished by reaction of fluorinated MWNTs (F-MWNTs) obtained by CF₄ plasma treatment with aliphatic amines. X-ray photoelectron spectroscopy (XPS) results provide evidence of functional groups attached to the surfaces of MWNTs. Subsequently, the modified MWNTs were mixed with polyolefins at different concentration of modified MWNTs. The composites show significant increase in electrical conductivity in comparison with pristine MWNTs/ polyolefins composites. The characteristics and properties of the composites will be presented.