**Effect of γ-ray MWCNTs on electrical conductivity of a PET/graphite composite**

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**ABSTRACT**

The effects of a compounding method and γ-ray treated multiwall carbon nanotubes (MWCNTs) on the electrical conductivity of graphite/PET composites were investigated. We found that dispersion of MWCNTs in the PET phase plays a critical role in determining the electrical conductivity of graphite/PET/MWCNT composites. Dispersion and electrical conductivity were enhanced by a two-step method in which PET and MWCNTs are compounded in advance and the MWCNT/PET mixture is then compounded again with graphite. It was also observed that γ-ray treated MWCNTs provide enhanced conductivity in the graphite/PET/MWCNT composite. The synergetic effect of the two-step mixing method and γ-ray treatment made it possible to increase the conductivity of graphite/PET composites to a great extent with a very small amount of γ-ray irradiated MWCNTs.