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CNT reinforced silver nanocomposite: Effect of sintering on their electrical conductivity

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Carbon nanotubes (CNT) reinforced metal-based composites have become an important area of interest to researchers across the world due to the need for materials with unique properties. Metallic nanoparticles particularly noble metals such as silver (Ag) possess properties such as electrical and thermal conductivity that are far superior to their bulk counterparts. Silver has the highest electrical conductivity among all the metals by virtue of which Ag nanoparticles are considered as very promising candidates in flexible electronics silver/CNT nanocomposites have been fabricated using physical mixing method. Surface morphological studies have revealed that CNT's are uniformly distributed into the silver matrix. Fabricated samples have been subjected to sintering for 12 hrs at 800°C. Effect of sintering on the electrical conductivity of the Ag/CNT samples is then analyzed. The electrical conductivity of both single wall carbon nanotube (SWCNT) and multiwall carbon nanotubes (MWCNT) reinforced silver nanocomposites increased appreciably upon sintering.

Biography

Sonia Nain is currently an Assistant Professor of chemistry at the Deenbandhu Chhotu Ram University of science and technology Murthal, Sonapat India. She obtained her PhD degree in 2008 from Kurukshetra University Kurukshetra. Her area of research is analytical chemistry, Synthesis of metal complexes of the Heterocyclic compound and their application and nanocomposite in energy storage devices.

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