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**INVESTIGATION OF HYBRID FILLERS IN POLYSTYRENE (MWNT/CUNW/PS) USING NOVEL  
MISCIBLE SOLUTION MIXING METHOD**

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Hybrid composites of Polystyrene/multi-wall carbon nanotubes/copper nanowires (PS/MWNTs/CuNW) were prepared by a novel miscible solvent mixing and precipitation (MSMP) technique. Due to high dispersion and high aspect ratio of MWNTs in polystyrene, electrical percolation was observed at very low volume fraction  $\sim 0.048$ . Using the same methodology, segregated networks of copper nanowires in Polystyrene show better electrical properties than PS-MWNTs composites at volume fraction higher than 0.8. The PS/CuNW composites exhibit electrical conductivities of up to  $104 \text{ S}\cdot\text{m}^{-1}$  and high Electromagnetic Interference (EMI) Shielding effectiveness above 20 dB. By altering the ratio of two fillers in polystyrene, we investigate the synergistic effects of these hybrid nanocomposites. Characterization of the as-prepared PS/MWNTs/CuNW nanocomposites was done via Electron microscopy (EM), electrical conductivity and EMI shielding measurements.