Water Purification by Multifunctional Carbon Nanotubes


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Abstract

Clean and fresh water facilities are a must to ensure human health, sustainable agriculture and industry as well as environmental and ecological balance. The world population is increasing day by day, which is calculated of about 80 million/per year and total water demand of this huge population is almost 64 billion cubic meters/year. The interior hydrophobic homes of carbon nanotubes (CNTs) allow the friction free passes of water molecules but reject most salts, ions, conventional priority pollutants and newly emerging micropollutants, suggesting the gold-rush possibilities of constructing next generation water purification membranes. Here, we discussed CNT-based water treatment facilities such as adsorption, composite and membrane technologies to capitalize the CNT surface properties for the total removal of both organic and inorganic impurities from land and sea water.

Keywords: Carbon nanotube; Water purification; Sorption; Composite; Membrane.

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