

Application of silver nanoparticles in waste water treatment

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ABSTRACT

Nanotechnology plays a vital role in the growth of environmental friendly procedures for treatment of industrial effluent. In this paper we reviewed many research articles which emphasized on role of silver nanoparticles in the field of water treatment. Further several analytical techniques like UV/vis spectroscopy, XRD, DLS, TEM, and FTIR were used for the characterization and understand the formation synthesized nanoparticles followed by kinetic study and process optimization. Most conventional methods of waste water treatment involve use of hazardous chemicals which adversely affect our eco system. Hence, they are not widely used in industries due to their inherent time consumption or expensiveness. Nanoparticles eliminate these drawbacks and hence, they can be effectively utilized for the waste water treatment. This paper produces evident data for efficient use of nanoparticles in water treatment.

Keywords: X-ray powder diffraction (XRD), Dynamic Light Scattering (DLS), Transmission electron microscopy (TEM), Fourier-transform infrared spectroscopy (FTIR)

