WASTEWATER TREATMENT APPLICATIONS OF NANOPARTICLES

Arzu Yalçın
Istanbul University, Istanbul, Turkey
temizsoy@Istanbul.edu.tr

Naim Sezgin
Istanbul University, Istanbul, Turkey
nsezgin@Istanbul.edu.tr

Yüksel Köseoğlu
Fatih University, Istanbul, Turkey
yukselk@fatih.edu.tr

Keywords: Nanoparticles, wastewater treatment, environmental clean-up technologies

ABSTRACT

Particles nano-sized have been present on earth since time immemorial. Human beings have used nanoparticles for thousands of years. Recently, the use of manufactured nanoparticles in industrial and commercial applications have became considerable widespread. Nanoparticles based immobilization technology, which purposed to enhance removal efficiencies, tends to be a novel treatment method. The most commonly used materials such as iron oxides, Fe_2O_3, Fe_3O_4, TiO_2, ZnO have several special properties: high surface area, adsorption capacity, unsaturated surfaces, simple operation and simple production. In this study, the latest applications of nanoparticles in wastewater treatment were discussed and investigated in terms of environmental clean-up technology.