

Impacts of CuO, TiO₂, SiO₂ Nanoparticles on Biological Phosphorus Removal

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Abstract : This study explored the impacts of CuO, TiO₂, SiO₂ nanoparticles on biological phosphorus removal. Experimental results showed that the phosphorus removal ability of phosphorus accumulating organism (PAO) was initially inhibited when CuO nanoparticle concentration was 5 mg/l. The inhibition of phosphorus removal for 1000 mg/l of TiO₂ with sunlight was higher than without sunlight case. The inhibition of phosphorus removal began at 500 mg/l SiO₂ nanoparticle concentration. Inhibition became apparent when SiO₂ nanoparticle concentration was up to 1000 mg/l.

Keywords : nano copper oxide, nano titanium dioxide, nano silica, enhanced biological phosphate removal

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