

## **Magnetite nanoparticles in wastewater treatment**

### **ABSTRACT**

Clean water is very important for health and well-being of humans and ecosystem. However, over the year, a billion tons of industrial waste, fertilizers and chemical waste were dumped untreated into water bodies, such as rivers, lake and oceans contributing towards water pollution, then threatening human health and ecosystem. Hence, the need for clean water has urged scientists to research and find solutions for improving water quality. Application of nanoparticles in wastewater treatment improves the environmental quality by elimination of harmful pollutants in wastewater. Magnetite is one of the nanoparticles used in wastewater treatment because of its specific large surface area, high reactivity in adsorption and recoverable from treated water via magnetic separation technology. Preparation method of magnetite nanoparticles is the important key to its adsorption efficiency.

**Keyword:** Adsorption; Heavy metals removal; Magnetic adsorbents; Magnetite nanoparticles; Review; Wastewater; Wastewater treatment