Degradation of Electroplating Wastewater by Dark Fenton Reaction

By

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Abstract

In this research, dark Fenton(-like) reaction is applied in order to decompose the organic and inorganic pollutants within the real industrial electroplating wastewater. A tailor-made magnetic functionalized copper-iron bimetallic mesoporous catalyst is developed for this wastewater treatment. Experiments were done to figure out the effectiveness and optimal operation conditions of this treatment method.

Results showed that about 65% and 96% total carbon and total inorganic carbon were removed using the aforementioned catalyst and treatment method. It is also proven that with the special developed catalyst, the treatment can be performed at a milder pH condition (instead of pH3 for Fenton reaction) which saves the cost for pH adjustment and is more environmentally friendly.