Short Communication

Removal of Cr(VI) From Electroplating Industry Effluent via Electrochemical Reduction

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In the present work, an electrochemical reduction process with iron and titanium electrodes was investigated for hexavalent chromium (Cr(VI)) removal. The removal of Cr(VI) and its resulting species was investigated by measuring the efficiency of the electrochemical reduction treatment. For the Cr(VI) removal, a lower performance was found for the titanium electrode than the iron electrode. Therefore, the resulting Cr(VI) reduction, which occurred through electrochemical reduction using iron electrodes, was chemical reduction by the anodically generated Fe(II). Furthermore, the resulting Cr(III) was efficiently precipitated as Cr(OH)₃ and was rapidly removed from solution.

Keywords: Pollution management; Electrode configuration; Industry Effluent; Electrochemical reduction; Cr(VI) removal

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