

Removal of heavy metal from electroplating wastewater using electrocoagulation: a review

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ABSTRACT

Electrocoagulation is one of the promising processes to treat a variety of wastewater including electroplating wastewater, distillery effluent, pulp, and paper mill effluent, etc. This method is well applicable to treat wastewater of chemical oxygen demand range in 1,000–20,000 mg/dm³. In addition, the electrocoagulation process is very effective in the removal of metal or heavy metal from the wastewater depending on the nature of the metal and its concentration. However, a number of technologies such as coagulation, adsorption, precipitation, and membrane separation are also available to treat such type wastewater but in the last few decade, electrocoagulation method gains more popularity due to its versatility and environmental compatibility. The present article gives a critical and concise review of electroplating effluent towards heavy metals removal from electroplating effluent. Additionally, the role of electrocoagulation on the removal of various pollutants from different industrial wastewater including mining, textile, pulp, paper mill, distillery, chemical, paint, petroleum, and tannery are also summarized. The concept of electrocoagulation and its operating parameters are also explained in detail.

Keywords: Electrocoagulation; Heavy metal; Electroplating effluent; Organics; Operating parameter

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