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Electrocoagulation of chemical mechanical polishing wastewater

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ABSTRACT:

Treatment of chemical mechanical polishing (CMP) wastewater was investigated. The CMP wastewater, as obtained from surface treatment of photovoltaic wafers, was characterized by high suspended solids, high nephelometric turbidity unit (NTU), chemical oxygen demand (COD) and green color. This study determines the feasibility of CMP wastewater treatment by the electrocoagulation process. The COD concentration of the CMP wastewater was found in the range of 700 mg/l which is below the discharge standards. The analysis of the wastewater before and after electrocoagulation shows that the electrochemical process was a total barrier for the metal species, color and a significant reduction in the concentration of the fluoride and sulfate ions.