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EFFECT OF TEMPERATURE ON REMOVAL OF COMPLEX CYANIDE METAL ION FROM SIMULATED WASTE EFFLUENTS

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Abstract

Due to the widespread use of cyanide in electronics, metal plating and mining industries, cyanide discharges are of great concern to everybody. Cyanide when combined with metals form simple and complex compounds. There is a need to treat waste streams containing cyanide and its complexes. This paper throws light on feasibility of treating simulated waste effluents containing complex potassium ferro cyanide – $K_4Fe(CN)_6$ using sodium hypochlorite. Variables tried include : pH (8 – 12). CN:Cl ratio (1:25 to 1:100) temperature (Ambient and 40 to 95°C) and constant reaction time and initial metal concentration (Co) of 4 hours and 6 mg/l respectively. Maximum removal (98.0 %) was observed at CN;Cl ratio of 1:100 and pH – 12. Removal at ambient temperature was found to be insignificant, (1.8 % at 24 hours of contact time).

Keywords : Complex Potassium Ferro Cyanide, CN : Cl Ratio, pH, Temperature.