

Recovery of copper from leaching residual solutions by means of a hollow-fiber membrane extractor

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A process of recovery of copper from acid leach residual solution with 5-dodecylsalicylaldehyde dissolved in n-hexane was carried out at 30°C in a countercurrent tubular membrane extractor using a hollow fiber as solid support. The effect of the extractant concentration and the pH of the feed aqueous solution on the metal transfer rate and extent of extraction were investigated. It was found that both the flux of metal and extraction extent were highly influenced by the extractant concentration, and slightly by the pH of feed solution. No co-transport of other metallic ions was observed over a pH value of 1.9, allowing attainment of a copper-loaded organic solvent free of impurities.