

RECOVERY OF GOLD FROM ALKALINE THIOSULFATE SOLUTIONS WITH ION EXCHANGE RESINS

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ABSTRACT

Thiosulfate process is one of the most promising alternatives to the cyanide process for gold leaching. Gold together with copper and silver can be extracted effectively from ammoniacal thiosulfate solutions using strong base ion exchange resins. The effects of variables in the exchange process were evaluated by batch experiments with synthetic thiosulfate leach liquors. Species of copper complexes formed in solution have great influence on the fixation of gold onto the resin. Polythionates produced by the action of the Cu^{2+} complex over thiosulfate compete adversely on the fixation of gold. Addition of glycine to gold-copper thiosulfate solutions confers a positive effect in gold recovery.