

### Recovery of gold from chloride solutions using lipid-containing alginate capsule

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Gold is one of the precious metals having great demand. The present study investigates the advantage of hollow alginate capsule containing lipid (phosphatidylcholine, derived from egg yolk) for the sorption and recovery of gold from their secondary sources like electronic scrap. Sorption process was carried out in 0.1M HCl solutions where the effect of pH was negligible. Langmuir and Freundlich adsorption isotherms were constructed from equilibrium adsorption results. The maximum adsorption capacity of 259 mg/g was observed. Pseudo-second-order kinetic model was better to fit the kinetic results than pseudo-first-order kinetic model. Desorption studies were successfully carried out using 5% thiourea in 2M HCl to recollect the gold from gold-sorbed capsules. The regenerated sorbent can be reused 4-5 times.