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## Recycling of galvanic copper sludge for pure copper production

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**M**etal containing waste sludge from electronic industrial has been rapidly accumulating due to the surge of global demands for electronic components. This study looks into the feasibility of recycling copper from galvanic waste through hydrometallurgy combining with electrometallurgy process. The parameters of copper selective leaching including types of leaching solution, acid concentrations, and liquid-solid ratios were systematically studied. The optimum selective leaching conditions were 1 M and 2 M sulfuric acid

with 24 h leaching duration, 100/1000 g/cc solid-liquid ratio offering copper leach recovery of 42,540 and 45,850 mg/l, respectively. Copper purification was successfully obtained from electrolytic refining process. The effects of electrolysis voltage to the amount and purity of copper cathode were studied. It was found that the optimum parameters for copper purification were using 2 M sulfuric acid with electrolytic voltage of 2.2 V. Under these conditions, the recovery of pure copper was raised up to 92%.

### Biography

Natthicha Ma-Ud has completed his bachelor degree in metallurgical engineering from the School of Metallurgical Engineering, Suranaree University of Technology, Thailand. Presently, he is pursuing masters at the same school.

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