

**ADSORPTION OF NI(II) ON CHEMICALLY MODIFIED SPENT
GRATED COCONUT (*COCOS NUCIFERA*)**

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ABSTRACT

BIOSORPTION OF Ni(II) ON CHEMICALLY MODIFIED SPENT GRATED (SGC) *COCOS NUCIFERA* COCONUT: KINETIC AND ISOTHERM

Plant waste which comes from coconut process output was determined as new adsorbent to be analysed to optimise the efficiency of adsorbent to be used. In this study, the treated spent grated *cocos nucifera* was chosen to be investigated for treating Ni(II) contaminant. Several parameter or condition such as pH, dosage, concentration and contact time were studied to get optimum condition in order to treat water from heavy metal contaminants such as Ni(II). pH 5 was chosen as optimum pH and 0.02 g of adsorbent selected to be the best dosage. The concentrations of 10 mg L⁻¹ of Ni(II) possessed the high percentage removal resulted. Pseudo-second-order showed that the internal diffusion mechanism and chemical nature process occur in this adsorption. The maximum capacity, q_{\max} determined from Langmuir plot gave about 163.93 mg/g which classified among the higher adsorption capacity recorded. The best fitted Langmuir graph indicated that monolayer adsorption occurred onto a homogeneous surface.