

**EFFECT OF PHYSICOCHEMICAL PARAMETER ON Cu(II) IONS
ADSORPTION BY SULFURIC ACID TREATED SPENT GRATED
COCONUT (*Cocos nucifera*)**

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TABLE OF CONTENTS

	Pages
ACKNOWLEDGMENTS	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	v
LIST OF FIGURES	vi
LIST OF ABBREVIATIONS	vii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1 INTRODUCTION	
1.1 Back ground of study	1
1.2 Problem statement	4
1.3 Significance of study	5
1.4 Objectives of study	6
CHAPTER 2 LITRETURE REVIEW	
2.1` Copper in the environment	7
2.2 Theory of adsorption	7
2.3 Agriculture solid waste and adsorption method	9
2.4 Spent grated coconut powder	16
2.5 Modification method for plant waste	18
CHAPTER 3 METHODOLOGY	
3.1 Raw Materials	
3.1.1 Raw materials	20
3.1.2 Chemicals and reagents	20
3.1.3 Glass wares	20
3.1.4 Equipment and analytical instrument	21

3.2	Methods	
3.2.1	Collection of raw material sample and chemical treatment	22
3.2.1.1	Sample Collection	22
3.2.1.2	Pretreatment of SGC	22
3.2.1.3	Sulfuric acid treatment treatment	23
3.2.1.4	Preparation of stock solution of copper	24
3.3	Batch adsorption Cu(II) study	
3.3.1	Effect of shaking rate	24
3.3.2	Effect pH	22
3.3.3	Effect of dosage	25
3.3.4	Effect of initial concentration and contact time	26
3.3.5	Isotherm study	26
3.3.6	Expression result	27
CHAPTER 4 RESULT AND DISCUSSION		
4.1	Effect of stirring rate	31
4.2	Effect of adsorbent dosage	32
4.3	Effect of pH	34
4.4	Effect of initial concentration and contact time	36
4.5	Adsorption kinetics studies	38
4.5.1	Pseudo-first-order kinetic model	38
4.5.2	Pseudo-second-order kinetic model	39
4.6	Adsorption isotherm	42
4.6.1	Langmuir isotherm	44
4.6.2	Freundlich isotherm	46
CHAPTER 5 CONCLUSION AND RECOMMENDATIONS		48
CITED REFERENCES		50
APPENDIXES		57
CURRICULUM VITAE		70

ABSTRACT

Effect of physicochemical parameters on Cu(II) ions adsorption by sulfuric acid treated spent grated coconut

In this study, the spent grated coconut was treated with sulfuric acid has been used as an adsorbent material to absorb low-cost Cu(II) in aqueous solution. Use adsorbent materials are preferred low cost compared with an adsorbent material that is commonly used activated carbon because the price is expensive. Parameters examined in this study SSGC dose, pH, stirring rate, contact time and initial concentrations. The equilibrium data were analyzed using the Langmuir and the Freundlich isotherm. The kinetic process for the adsorption of Cu(II) ions onto SSGC were described by applying the pseudo-first-order and pseudo-second-order kinetic model. The Langmuir and Freundlich isotherms models were used in order to investigate the adsorption behavior of SSGC and the best fit to the data was obtained with the Langmuir isotherm model with maximum adsorption capacity (q_{max}) was found to be 192.30 mg g⁻¹. So, it shows that adsorption process was monolayer with the coverage of the Cu(II) ions molecule only takes place at the outer surface of SSGC