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**CORROSION BEHAVIOR OF ALUMINUM ALLOYS 6063 IN ACIDIC MEDIA**

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# TABLE OF CONTENTS

<b>SUBJECT</b>	<b>PAGE</b>
<b>TITLE PAGE</b>	<b>i</b>
<b>APPROVAL FORM</b>	<b>ii</b>
<b>ACKNOWLEDGEMENT</b>	<b>iii</b>
<b>TABLE OF CONTENTS</b>	<b>iv</b>
<b>LIST OF TABLE</b>	<b>v</b>
<b>LIST OF FIGURE</b>	<b>vi</b>
<b>LIST OF ABBREVIATIONS/SYMBOLS</b>	<b>vii</b>
<b>ABSTRACT</b>	<b>viii</b>
<b>ABSTRAK</b>	<b>ix</b>
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 General Overview	1
1.2 Objective	3
1.3 Chapter Organization	4
<b>CHAPTER 2 LITERATURE REVIEW</b>	
2.1 Aluminum alloys	5
2.1.1 Aluminum alloy 6063	5
2.1.2 Mechanical properties	6
2.1.3 Aluminum extrusion alloy	6
2.2 Definition of Corrosion	7

2.3	Corrosion theory	8
2.4	Type of corrosion	8
2.4.1	Stress-corrosion	9
2.4.2	Galvanic corrosion	9
2.4.3	High temperature corrosion	10
2.4.4	Mass transport-controlled corrosion	10
2.4.5	Erosion-corrosion	11
2.5	Terminology of Corrosion	12
2.6	Corrosion Protection.	12
2.6.1	Corrosion inhibitor	13

### **CHAPTER 3 METHODOLOGY**

3.1	Introduction	16
3.2	Materials and chemical requirement	16
3.3	Experimental procedures	17
3.3.1	Sample preparation	18
3.3.2	Weight loss experiment	18
3.3.3	Determination of corrosion rates	19
3.3.4	Determination of inhibitor efficiency	19
3.3.5	Observation morphological of aluminum alloys 6063	20

### **CHAPTER 4 RESULTS AND DISCUSSION**

4.1	Introduction	21
4.2	Weight loss of aluminum alloy (AA 6063) in acidic media	21
4.3	Corrosion Rate of AA6063	24
4.4	Inhibitor efficiency, % <i>I</i>	27
4.5	Surface morphology analysis by SEM	29
4.6	Energy Dispersive Spectroscopy	34

## **CHAPTER 5 CONCLUSION**

5.1	Conclusions	40
5.2	Future research	41

<b>REFERENCES</b>	42
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<b>CURRICULUM VITAE</b>	44
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## LIST OF TABLES

<b>TABLES</b>	<b>PAGE</b>
2.1 The mechanical properties of 6063	6
2.2 Terminology of corrosion phenomena	12
4.1 Value of weight loss of aluminum alloy (AA6063) in 0.5M Acetic acid ( $C_2H_4O_2$ ) and 0.1M Sulphuric acid ( $H_2SO_4$ ) with and without inhibitor in different temperature.	22
4.2 Data of corrosion rates of aluminum alloy (AA6063) in 0.5M Acetic acid ( $C_2H_4O_2$ ) and 0.1M Sulphuric acid ( $H_2SO_4$ ) with and without inhibitor in different temperature.	25
4.3 Data of inhibitor efficiency Sodium benzoate.	28
4.4 Percentage of $Al_2O_3$ film developed on the AA6061 surface after immersion in acidic media with present and absent of Sodium benzoate	34

## LIST OF FIGURE

FIGURES	PAGE
2.1 Chemical structure formula of sodium benzoate	16
3.1 Flowchart of experimental method	17
4.1 Weight loss vs. temperature for AA6061 in	
(a) 0.5M Acetic acid	23
(b) 0.1M Sulphuric acid with and without inhibitor	23
4.2 Graph of corrosion rate vs. temperature for AA6061 in	
(a) 0.5M Acetic acid	26
(b) 0.1M Sulphuric acid with and without inhibitor	26
4.3 Graph of inhibitor efficiency of Sodium benzoate in 0.5 M acetic acid and 0.1M Sulphuric acid in different temperature	28
4.4 Aluminum Alloy AA6063 after immersion in Acetic Acid 0.5 M at	
(a) 293 K	30
(b) 313 K	30
(c) 333K	30
4.5 Aluminum Alloy AA6063 after immersion in Acetic Acid 0.5 M with Sodium benzoate at	
(a) 293 K	31
(b) 313 K	31
(c) 333K	31

4.6	Aluminum Alloy AA6063 after immersion in Sulphuric Acid 0.1 M at	
	(a) 293 K	32
	(b) 313 K	32
	(c) 333K	32
4.7	Aluminum Alloy AA6063 after immersion in Sulphuric Acid 0.1 M with Sodium benzoate at	
	(a) 293K	33
	(b) 313K	33
	(c) 333K	33
4.8	EDS analysis of polished AA6061 before immersion	35
4.9	EDS analysis of AA6063 after immersion in Acetic acid 0.5 M	36
4.10	EDS analysis of AA6061 after immersion in Acetic acid 0.5 M with inhibitor	37
4.11	EDS analysis of AA6061 after immersion in Sulfuric acid 0.1 M	38
4.12	EDS analysis of AA6061 after immersion in Sulfuric acid 0.1 M with inhibitor	39

## LIST OF ABBREVIATION SYMBOLS

K	Kelvin
ppm	parts per million
SEM	Scanning Electron Microscopy
MIC	Microbiology Influence Corrosion
EDS	Energy Dispersive Spectroscopy
A	Total surface area
$W_i$	Weight loss with the present of sodium benzoate
$W_u$	Weight loss with the absence of sodium benzoate
$\%I$	Inhibitor efficiency

## ABSTRACT

The main purpose of the study of corrosion behavior of aluminum alloys 6063 in acidic media is to investigate the way of aluminum being protected with suitable corrosion inhibitor. This is because aluminum alloys 6063 was widely use in multi purpose industry. In this case, sodium benzoate is used as the protector or medium to inhibit and lower the process of corrosion. The acetic acid (0.5M) and sulphuric acid (0.1M) have been chosen for this purpose. This research investigates the corrosion of aluminum alloy 6063 as variation of temperature. The samples were immersed in the acid media with the temperature of 283K, 293K, 303K, 313K, 323K, and 333K. The methods that used in this research are weighing the weigh lost of the sample and corrosion rate. To get the condition of corrosion and composite of the sample surface, the Scanning Electron Microscopy (SEM) and Energy Dispersive Spectroscopy (EDS) analysis were used.

## ABSTRAK

Tujuan utama kajian atas kelakuan aluminum aloi 6063 dalam media asid adalah untuk menyiasat kaedah perlindungan aluminum dengan pembantut pengaratan. Hal ini kerana penggunaan aluminum aloi 6063 adalah meluas dalam pelbagai industri. Dalam keadaan ini, sodium benzoate digunakan sebagai pelindung atau medium pembantut dan mengurangkan proses pengaratan. Manakala penggunaan asid seperti asid asetik (0.1M) dan asid sulfuric (0.5M) telah dipilih. kajian ini menyiasat pengaratan aluminum aloi berkadaran dengan suhu. Sampel- sample direndam dalam asid media dengan suhu 283K, 293K, 303K, 313K, 323K, dan 333K. Antara cara atau langkah yng telah digunakandlam kajian ini ialah penimbangan kehilangan berat (*weight lost*) sampel dan kadar pengaratan. Bagi menentukan keadaan pengaratan dan komposit permukaan sampel, kaedah SEM (*Scanning Electron Microscopy*) dan EDS (*Energy Dispersive Spectroscopy*) analisis digunakan.