

CONTENTS

CHAPTER (I)

INTRODUCTION

(a) Corrosion behaviour of aluminium in aqueous solutions.....	3
(b) Pitting corrosion of aluminium.....	9
(c) Corrosion inhibition of aluminium.....	15
AIM AND SCOPE OF THE PRESENT WORK.....	28

CHAPTER (II)

Kinetics of The Corrosion and Inhibition Reactions of Aluminium in Oxalic Acid Solutions.

(A) Introduction.....	30
(B) Experimental.....	31
(C) Results.....	34
(D) Discussion.....	37
1- Effect of acid concentration on the corrosion parameters of aluminium	37
2- Effect of some surfactant compounds on the corrosion parameters of aluminium.....	40
3- Effect of some polymeric compounds on the corrosion parameters of aluminium.....	44

4- Effect of temperature on the dissolution of aluminium in 0.1M oxalic acid solution and on the inhibition of corrosion.....	45
--	----

CHAPTER (III)

Initiation and Inhibition of Pitting Corrosion of Aluminium in Oxalic Acid Solutions.

(A) Introduction.....	62
(B) Experimental.....	63
(C) Results.....	64
(D) Discussion.....	65
1- Initiation of pitting corrosion of aluminium.....	66
2- Effect of cationic surfactant compounds on pitting corrosion of aluminium.....	70
3- Effect of polymeric compounds on pitting corrosion of aluminium.....	72
SUMMARY AND CONCLUSION.....	75
REFERENCES	79
ARABIC SUMMARY	87