

# **PRODUCTION OF RENEWABLE ENERGY USING SINGLE CHAMBER MICROBIAL FUEL CELL FROM WASTE**

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## PREFACE

Microbial Fuel Cells (MFC) have gained importance in the last few decades due to their ability to produce energy, either as electricity or hydrogen, from renewable resources such as biodegradable substances and their mild operating conditions. Microbial fuel cells are devices that use bacteria to turn the energy stored in chemical bonds into electrical current that we can use without the need for combustion. The traditional MFC consisted of anode and cathode compartments but there are single chamber MFCs. Progress in design has given numerous aspects that are to be investigated so as to attain a cell that may produce significant yields. A concept was devised and put to test where in the effect of replacing the natural terminal acceptor, oxygen, with a substance that could utilize these electrons to generate energy was stipulated. Thus began a succession of scientific study to develop such technology that might exploit these naturally produced electrons for energy generation.

Besides the advantages of this technology, it still faces practical barriers such as low power and current density. In this book different parts of MFC such as anode, cathode and membrane have been reviewed and to overcome the practical challenges in this field some practical options have been suggested. Also, this demonstrates the improvement of MFCs with summarization of their advantageous and possible applications in future application.

*✍ Mrs. Samatha Singh*

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*✍ Mrs. Samatha Singh*

# CONTENTS

<b>CHAPTER 1</b>	
<b>INTRODUCTION</b> .....	<b>1</b>
1.1. ENERGY SCENARIO IN INDIA .....	4
1.2. ENERGY SOURCES FOR ELECTRICITY PRODUCTION .....	5
1.3. BACKGROUND, MICROBIAL FUEL CELLS .....	6
1.4. BIOLOGICAL MECHANISM.....	8
1.5. MICROBIAL FUEL CELL TECHNOLOGY .....	9
1.5.1. MEDIATED MICROBIAL FUEL CELL.....	9
1.5.2. MEDIATOR-FREE MICROBIAL FUEL CELL OR MEDIATOR-LESS FUEL CELLS .....	10
1.6. FUEL CELL CHEMISTRY .....	11
1.7. THERMODYNAMIC PRINCIPLES.....	12
1.8. WASTEWATER TREATMENT .....	13
<b>CHAPTER 2</b>	
<b>LITERATURE REVIEW</b> .....	<b>15</b>
<b>CHAPTER 3</b>	
<b>MATERIALS AND METHODS</b> .....	<b>25</b>
3.1. TYPES OF MICROBIAL FUEL CELL .....	27
3.2. MFC COMPONENTS .....	27
3.3. DESIGNS OF MICROBIAL FUEL CELL .....	28
3.3.1. TWO CHAMBER MFC.....	28
3.3.2. SINGLE CHAMBER MFC .....	28
3.3.3. UP FLOW MFC .....	29
3.3.4. STACKED MFC.....	30
3.4. ELECTRODE MATERIALS .....	30
3.5. MICROBES IN MFC .....	31
3.5.1. MR1 – SHEWANELLA PUTRFICIANS.....	32
<b>CHAPTER 4</b>	
<b>EXPERIMENTS AND RESULTS</b> .....	<b>35</b>
4.1. EXPERIMENTS.....	37
4.1.1. ANALYSES .....	37
4.1.2. EFFICIENCY CALCULATIONS.....	38
4.2. MICROBIAL FUEL CELL 1.....	39
4.2.1. WASTEWATER .....	40
4.2.2. ENRICHMENT OF MICROBES .....	40
4.3. MICROBIAL FUEL CELL 2.....	44
4.3.1. THE EFFICIENCY CALCULATIONS .....	48
4.4. MICROBIAL FUEL CELL 3.....	48
4.4.1. THE EFFICIENCY CALCULATIONS .....	51
4.5. COMPARATIVE STUDY BETWEEN MFC 2 AND MFC 3 .....	52
4.6. MODEL FORMULATION .....	54

<b>CHAPTER 5</b>	
<b>CHALLENGES .....</b>	<b>57</b>
5.1. CHALLENGES IN MICROBIAL FUEL CELL DEVELOPMENT & OPERATION .....	59
5.2. POWER DENSITY OBTAINABLE FROM MFCS .....	59
5.3. RATE-LIMITING FACTORS IN MFCS.....	60
5.4. PROTON MASS TRANSFER .....	60
5.5. THE MFC AS A WASTEWATER TREATMENT PROCESS.....	60
<b>CHAPTER 6</b>	
<b>APPLICATIONS.....</b>	<b>61</b>
6.1. SUSTAINABLE DEVELOPMENT .....	63
6.2. WASTE MANAGEMENT.....	64
6.3. WASTE WATER TREATMENT.....	64
6.4. HYDROGEN PRODUCTION .....	65
6.6. POWER SUPPLY TO REMOTE SENSORS .....	65
6.7. BOD SENSING .....	65
6.8. IN-SITU POWER SOURCE FOR REMOTE AREAS.....	65
<b>CHAPTER 7</b>	
<b>FUTURE SCOPE .....</b>	<b>67</b>
<b>CHAPTER 8</b>	
<b>CONCLUSION .....</b>	<b>71</b>
<b>REFERENCES.....</b>	<b>75</b>
JOURNALS.....	77
TEXT BOOKS.....	80
REPORTS .....	80