<table>
<thead>
<tr>
<th>CONTENT</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x</td>
</tr>
<tr>
<td>LIST OF PLATES</td>
<td>xii</td>
</tr>
<tr>
<td>LIST OF ABBREVIATIONS</td>
<td>xiii</td>
</tr>
</tbody>
</table>

**CHAPTER ONE: INTRODUCTION**

1.1 General                                    | 1

1.2 Manufacture of Rubber Thread               | 3

1.3 Regulatory Standards                       | 6

1.4 Scope and Objectives of the Present Study  | 8

**CHAPTER TWO: LITERATURE REVIEW**

2.1 Mechanism of the Anaerobic Digestion Process | 9

2.2 Historical Development of Anaerobic Treatment of Wastewater | 12

2.3 Factors Controlling the Anaerobic Digestion Process | 29

2.4 Upflow Anaerobic Filter                    | 38

2.5 Treatment of Wastewater from Rubber Products Manufacturing Factories | 46
CHAPTER THREE: MATERIALS AND METHODS

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Characteristics of Rubber Thread Manufacturing Industry Wastewater

4.2 Removal of Zinc from Rubber Thread Manufacturing Industry Wastewater

4.3 Start-up Performance of Anaerobic Filter with Rubber Thread Manufacturing Industry Wastewater

4.4 Study of Factors which Influence the Performance of Anaerobic Filter in the Treatment of Rubber Thread Manufacturing Industry Wastewater

4.4.1 Influence of Organic Loading Rates

4.4.2 Influence of Hydraulic Retention Time

4.4.3 Influence of Temperature

4.4.4 Influence of pH

4.4.5 Influence of Micronutrients Addition

4.4.6 Specific Biogas Yield

4.4.7 Minimum Requirements of Nutrients

4.5 Attached versus Suspended Growth

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

REFERENCES