**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General Introduction</td>
<td>01</td>
</tr>
<tr>
<td>2</td>
<td>Materials and Experimental Techniques</td>
<td>65</td>
</tr>
<tr>
<td>3</td>
<td>Isora fibres: Characterization</td>
<td>82</td>
</tr>
<tr>
<td>4</td>
<td>Cure characteristics and mechanical properties of short isora fibre reinforced natural rubber composites</td>
<td>112</td>
</tr>
<tr>
<td>5</td>
<td>Ageing behaviour of short isora fibre reinforced natural rubber composites</td>
<td>150</td>
</tr>
<tr>
<td>6</td>
<td>Equilibrium swelling studies of short isora fibre reinforced natural rubber composites isora/NR composites</td>
<td>165</td>
</tr>
<tr>
<td>7</td>
<td>Dynamic mechanical analysis of short isora fibre reinforced natural rubber composites</td>
<td>187</td>
</tr>
<tr>
<td>8</td>
<td>Summary and Conclusions</td>
<td>209</td>
</tr>
<tr>
<td></td>
<td>List of abbreviations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>List of scientific publications</td>
<td></td>
</tr>
</tbody>
</table>

*Detailed contents are given at the beginning of each chapter*
CHAPTER 1

INTRODUCTION

1 General Introduction

1.1 Classification of Composites

1.2 Fibre Reinforced Composites

1.2.1 Fibres

1.2.2 Chemical structure of Natural fibres

1.2.3 Advantages of Natural fibres as reinforcement in composites

1.2.4 Major drawbacks of Natural fibres

1.2.5 Matrix materials

1.2.6 Fibre matrix interface and interfacial modifications

1.3 Classification of fibre reinforced composites

1.4 Short fibre reinforced rubber composites

1.5 Factors affecting the properties of short fibre rubber composites

1.5.1 Mixing of rubber compounds

1.5.2 Fibre dispersion

1.5.3 Fibre breakage

1.5.4 Critical fibre length and aspect ratio of fibre

1.5.5 Fibre orientation

1.5.6 Fibre concentration

1.5.7 Fibre matrix adhesion

1.6 Hybrid composites

1.7 Cellulose micro fibrils reinforced composites

1.8 Green Composites

1.9 Applications of short fibre reinforced rubber composites

1.10 Isora Fibre

1.11 Scope and objectives of the present work

2 References