

APPLICATION OF ACTIVATED CARBON INTO NONWOVEN FABRIC

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENT.....	iii
LIST OF TABLE.....	iv
LIST OF FIGURES.....	v
LIST OF ABBREVIATIONS.....	vi
ABSTRACT.....	vii
 CHAPTER	
1 INTRODUCTION	
1.1 Introduction	1
1.2 Objective	2
2 LITERATURE REVIEW	
2.1 Material	3
2.2 Definition of Nonwoven	4
2.2.1 Fibers used in Nonwoven	5
2.2.2 Web Formation Method	5
2.2.2.1 Dry Laid	5
2.2.2.2 Wet Laid	6
2.2.2.3 Spunbonded	7
2.2.3 Bonding Methods	8
2.2.3.1 Inherently Bonded	9
2.2.3.2 Thermally Bonded	10
2.2.3.3 Mechanical Bonded	10
2.2.3.4 Chemical Bonded	13
2.2.4 Finishing and Converting Nonwoven	15
2.2.5 Properties of Nonwoven	16
2.2.6 Application of Nonwoven	17

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ABSTRACT

Activated carbon are excellent adsorbent and thus are used to purify, decolorize, deodorize, dechlorinate, detoxicate, filter or remove or modify the salts and also can separate and concentrate in order to permit recovery. The adsorbent properties of activated carbon are essentially attributed to their large surface area, a high degree of surface reactivity, universal adsorption effect, and favorable pore size, which makes the internal surface accessible, enhances the adsorption rate, and enhances mechanical strength. Considering its characteristics, the combination with finished textile material, that is nonwoven, which is then become a new technique in application of activated carbon. The application techniques involve only a simple skilled technique that is widely used at home or at small-scale industry at the low cost operation. These sealed and stitching techniques are operating without needed a skilled or authorized person to handling on. The low cost operations means that the raw material is directed combine with the activated carbon. The diaper liner used is already made and it is easily obtained in the market. The main objective of this study is to invent the new technique of applying activated carbon into nonwoven with the significant to be adsorbent to the unnecessary and unpleasant odor, and also can be applied to be a water filter to separate the unneeded or harmful substance.

CHAPTER 1

INTRODUCTION

1.1 Brief Introduction to Activated Carbon and Nonwoven

Activated carbon is formerly known as excellent absorbent and thus is used to purify, decolorize, dechlorinate, filter or removal of taste, odor and color from many other application. The process of carbonization followed by activation of the initially carbonaceous material, which is usually of vegetable origin, obtains activated carbon. Commercial activated carbon products are produced from organic material that are rich in carbon, particularly coal, lignite, wood, nut shells, peat, pitches and cokes.

While nonwoven fabric which are more informatively described by the German term "Fliess-stoffe" literally translated as "fleece-fabric", comprise sheet material composed of more-or-less randomly oriented fiber segments bonded together in some way. They thus contrast strongly with the regular, geometrically defined arrangements in woven, knitted, and braided fabrics. In the other words, nonwoven materials are structures which consist of a web of fibers joined by chemical or *mechanical means.*(1)

Non woven is characterized as a flexible porous property, which can be produced depending on the specific end uses. This property gives the perfect combination to attach the activated carbon into the material.