IONIC CONDUCTIVITY MECHANISM IN CURED DEPROTIENIZED NATURAL RUBBER (DPNR) ELECTROLYTE SYSTEM

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CHAPTER 1

INTRODUCTION

1.1 Current issue

Nowadays, battery is one of the most important power sources that are commonly used in the world. The most popular type of batteries is the alkaline battery. An alkaline battery is a liquid base electrolyte. This type of battery is widely used in many electrochemical devices like mobile phone, camera, laptop and etc.

However, the liquid base electrolyte exhibits some problems such as leakage of toxic liquid content and sometimes it may explode. This situation is harmful to the users and also to the environment. Furthermore, this liquid base electrolyte has short lifetime and need time to recharge. Therefore, many researchers had focused on a new development of solid base electrolyte system that can exhibit several advantages over the liquid base electrolyte such as:

a. It is much more stable than liquid base electrolyte and long shelf life.
b. Wide operating temperature range.
c. No gassing, corrosion and leakage. Not harmful towards environment.
d. Easy to prepare in thin film and safe to use.

However, solid polymer electrolyte has poor electrode electrolyte contact and need to be improved.