

Solid Polymer Electrolytes: Fundamentals and Technological Applications

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IONIC CONDUCTIVITY AND ELECTRICAL PROPERTIES OF CARBOXYMETHYL CELLULOSE - NH₄Cl SOLID POLYMER ELECTROLYTES

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Abstract

In this present work, carboxymethyl cellulose (CMC) – ammonium chloride (NH₄Cl) solid polymer electrolyte (SPE) films were prepared by solution casting method. The ionic conductivity and electrical properties of SPE films were investigated using Electrical Impedance Spectroscopy. SPE film containing 16 wt. % NH₄Cl exhibited the highest ionic conductivity of 1.43×10^{-3} S/cm at ambient temperature, 303K. The temperature dependence SPE films showed an Arrhenius-type relation where the regression values obtained from the log conductivity versus reciprocal temperature is close to unity (87%). The electrical properties have been measured as a function of frequency of ϵ' , ϵ'' , M_p , M_i shows a non-Debye type behavior.

Keywords: Solid polymer electrolyte, carboxymethyl cellulose, ammonium chloride, ionic conductivity, electrical properties

1. Introduction

Solid polymer electrolytes (SPEs) have received widespread attention due to their technological applications in rechargeable batteries, super capacitors, fuel cells, gas sensors and electrochromic power sources [1]. SPEs have several been reported to exhibit several advantages including favorable electrical, optical and mechanical properties, ease of fabrication in the thin film form and ability to form effective electrode-electrolyte contacts [2].

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Solid Polymer Electrolytes: Fundamentals and Technological Applications overview of both the fundamental and applied aspects of solid polymer electrolytes. Solid polymer electrolytes: Fundamentals and technological Applications. Fiona M. Gray. VCH Publishers Inc., New York pp. x + , price ?Solid polymer electrolytes?fundamentals and technological applications. By Fiona M. Gray, VCH, Weinheim , X, pp., DM Topics discussed include: * Polymer Electrolyte-based Devices * Homopolymer Solid Polymer Electrolytes: Fundamentals and Technological Applications. Solid Polymer Electrolytes: Fundamentals and Technological Applications [Fiona M. Gray] on apothecary-bottles.com *FREE* shipping on qualifying offers. This book is a. Solid Polymer Electrolytes: Fundamentals and Technological Applications by Fiona M. Gray () [Fiona M. Gray] on apothecary-bottles.com *FREE* shipping on. Gray, Fiona Mary. / SOLID POLYMER ELECTROLYTES: FUNDAMENTALS AND TECHNOLOGICAL APPLICATIONS. New York: Wiley-VCH, Weinheim, If you are searched for a ebook Solid Polymer Electrolytes: Fundamentals and Technological Applications by Fiona M. Gray in pdf form, then you've come to the .apothecary-bottles.com: Solid Polymer Electrolytes: Fundamentals and Technological Applications () by Fiona M. Gray and a great selection of similar . Polymer electrolytes: Fundamentals and applications provides an important and fuel cell technology for automotive and other applications. Fundamentals and Applications Polymer electrolytes are electrolytic materials that are widely used in batteries, In this chapter a brief review on solid polymeric electrolytes is given, followed by the . and using polymer electrolytes in such areas as battery and fuel cell technology for automotive and other applications. Get this from a library! Solid polymer electrolytes: fundamentals and technological applications. [Fiona M Gray]. solid polymer electrolytes fundamentals and technological applications is free for downloading from our digital library. Thanks to the electronic catalog you have. they combine ionic conductivity in the solid state with mechanical flex-. ibility conduct-. ing polymer electrolytes, because of their potential applications, salts of . Fundamentals and Technological Applications, VCH, New York, Weinheim. Solid polymer electrolytes: fundamentals and technological applications. Responsibility: Fiona M. Gray. Imprint: New York, NY: VCH, c Physical. In order to develop all solid lithium ion battery, study on the structure and polymer electrolytes-fundamentals and technological applications. Since the introduction of the solid polymer electrolyte (SPE) concept in [1] While other technological applications have been proposed, the principal .. F. M. Gray (Ed.), Solid Polymer Electrolytes: Fundamentals and Technological. Chitosan and Ionic Liquid Based Solid Polymer Electrolytes: The Anion Polymer Electrolytes: Fundamentals and Technological Applications. School of Fundamental Science, Universiti Malaysia Terengganu., Kuala Keywords: Solid polymer electrolyte, carboxymethyl cellulose, ammonium technological applications in rechargeable batteries, super capacitors, fuel cells. Fundamentals and Applications Cesar Sequeira, Diogo Santos Solid Polymer

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