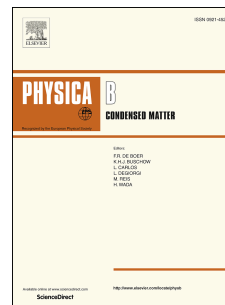


Accepted Manuscript

Studies on sodium nitrate based polyethylene oxide / polyvinyl pyrrolidone polymer blend electrolytes

K. Sundaramahalingam, N. Nallamuthu, A. Manikandan, D. Vanitha, M. Muthuvinayagam



PII: S0921-4526(18)30485-X

DOI: [10.1016/j.physb.2018.08.002](https://doi.org/10.1016/j.physb.2018.08.002)

Reference: PHYSB 310989

To appear in: *Physica B: Physics of Condensed Matter*

Received Date: 8 July 2018

Revised Date: 31 July 2018

Accepted Date: 1 August 2018

Please cite this article as: K. Sundaramahalingam, N. Nallamuthu, A. Manikandan, D. Vanitha, M. Muthuvinayagam, Studies on sodium nitrate based polyethylene oxide / polyvinyl pyrrolidone polymer blend electrolytes, *Physica B: Physics of Condensed Matter* (2018), doi: 10.1016/j.physb.2018.08.002.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Studies on sodium nitrate based polyethylene oxide / polyvinyl pyrrolidone
polymer blend electrolytes**

K. Sundaramahalingam^a, N. Nallamuthu^a, A. Manikandan^b, D. Vanitha^{a,*},
M. Muthuvinayagam^{a,*}

^aMulti-functional Materials Laboratory/ Department of Physics/ International research centre,
Kalasalingam Academy of Research and Education - 626 126, Tamil Nadu, India.

^bDepartment of Chemistry, Bharath Institute of Higher Education and Research (BIHER),
Bharath University, Chennai 600073, Tamil Nadu, India.

***Corresponding Author:** vanibala2003@gmail.com (D. Vanitha);

Phone number: +91 6381456553

mmuthuvinayagam@gmail.com (M. Muthuvinayagam)

Phone number: +91 9942066575

ABSTRACT

Solid polymer electrolytes (SPEs) consisting of polyethylene oxide (PEO) /Polyvinyl pyrrolidone (PVP) complexed with sodium nitrate have been synthesized by solution casting technique. Structural studies were carried out using X-ray diffraction (XRD) measurements. The complex formation between the bonding of polymers and the salt was confirmed by Fourier Transform Infrared (FT-IR) spectral data. The ionic conductivity and dielectric response of the SPE systems were studied within the frequency range of 42Hz - 1 MHz at the temperature range of 303-363 K. The maximum ionic conductivity was found to be

Download English Version:

<https://daneshyari.com/en/article/8160105>

Download Persian Version:

<https://daneshyari.com/article/8160105>

[Daneshyari.com](https://daneshyari.com)