Accepted Manuscript

Title: Preparation and prediction of physical properties of cellulose acetate and polyamide polymer blend

Author: Dipti Khaparde



 PII:
 S0144-8617(17)30569-6

 DOI:
 http://dx.doi.org/doi:10.1016/j.carbpol.2017.05.052

 Reference:
 CARP 12338

To appear in:

Received date:	18-1-2017
Revised date:	16-5-2017
Accepted date:	18-5-2017

Please cite this article as: & Khaparde, Dipti., Preparation and prediction of physical properties of cellulose acetate and polyamide polymer blend.*Carbohydrate Polymers* http://dx.doi.org/10.1016/j.carbpol.2017.05.052

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.

ACCEPTED MANUSCRIPT

Preparation and prediction of physical properties of cellulose acetate and polyamide polymer blend

Dipti Khaparde¹

¹Department of Chemical Engineering, Sardar Vallabhbhai National Institute of Technology, Surat 395007, Gujarat, India.

*Corresponding author. E-mail: deeptikhaparde@gmail.com, Tel.: +91 712 2631540, 9970744619

ABSTRACT

In this paper the physical properties of the polymer blend of lab synthesized Polyamide (PA) and commercial Cellulose Acetate (CA) was focused. The molecular interactions of CA/PA were investigated thoroughly by means of solubility, viscosity, specific gravity and diffusivity study with different concentrations of the CA/PA combinations and the blend of CA/PA was characterized by optical microscope and differential scanning calorimetry (DSC). Dimethyl formamide (DMF) was selected as solvent for the CA/PA polymer blend at 28°C. The diffusivity result for the polymer blend of CA/PA was suggested slight decrease in diffusivity coefficient with 1:1 blend ratio of CA/PA polymer.

Key words: polymer blends of PA and CA; viscosity; miscibility; diffusivity; specific gravity

INTRODUCTION

The field of polymer blends over the last two decades is offered a key option in solving emerging application requirements. In scientific, technological and commercial development, it is experienced enormous growth in size and sophistication. The expense of research and development is reduced considering the various theoretical and experimental approaches and the structure and thermodynamic properties of polymers and its blend.

Download English Version:

https://daneshyari.com/en/article/5157410

Download Persian Version:

https://daneshyari.com/article/5157410

Daneshyari.com