



AIUB DSpace Publication Details

Title	Swelling and Absorption properties of Polyvinyl Alcohol (PVA) and Acrylic Acid Blend Hydrogels: Effect of γ -Irradiation		
Author(s) Name	HassanMR, Chowdhury ABMA, Islam MT, Poddar P, Dafader NC and Chowdhury AMS		
Contact Email(s)	tariquldu@aiub.edu , corresponding: p.pinku@yahoo.com		
Published Journal Name	Chemical Technology: An Indian Journal		
Type of Publication	Journal		
Volume	11	Issue	6
Publisher	Trade Science Inc.		
Publication Date	November 11, 2016		
ISSN	0974-7443		
DOI			
URL	Swelling and Absorption properties of Polyvinyl Alcohol (PVA) and Acrylic Acid Blend Hydrogels: Effect of γ-Irradiation (tsijournals.com)		
Other Related Info.	Page 1-11		





AIUB DSpace Publication Details

Abstract

A series of polyvinyl alcohol and acrylic acid blend hydrogels were prepared in the form of rod by using gamma rays from Co-60 source at room temperature (31°C). The parameters like effect of radiation dose and variation of acrylic acid content in polyvinyl alcohol were studied. The properties like gel fraction, swelling properties (e.g. in water, in NaCl solution of different concentration), water absorption were evaluated. Gel fraction attains a maximum value at the radiation of 25 kGy. After this radiation dose the variation in gel fraction was insignificant. Swelling properties in water decreased with increased radiation dose and increased with increase in the acrylic acid content in the blend gel. Swelling properties also decreased with increased concentration of NaCl in solution. Water absorption attained maximum at 48 h and then the water absorption was insignificant.

