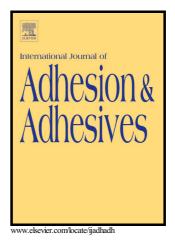
Author's Accepted Manuscript

2-Methylbenzothiazolium derivatives as cationic photoreactive crosslinker for acrylic pressuresensitive adhesives containing oxirane groups from glycidyl methacrylate

Z. Czech, J. Kabatc, P. Ragańska, K. Jurek



 PII:
 S0143-7496(17)30190-2

 DOI:
 https://doi.org/10.1016/j.ijadhadh.2017.10.006

 Reference:
 JAAD2072

To appear in: International Journal of Adhesion and Adhesives

Received date: 17 January 2015 Accepted date: 17 October 2017

Cite this article as: Z. Czech, J. Kabatc, P. Ragańska and K. Jurek, 2-Methylbenzothiazolium derivatives as cationic photoreactive crosslinker for acrylic pressure-sensitive adhesives containing oxirane groups from glycidyl methacrylate, *International Journal of Adhesion and Adhesives*, https://doi.org/10.1016/j.ijadhadh.2017.10.006

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 galley proof before it is published in its final citable 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

2-METHYLBENZOTHIAZOLIUM DERIVATIVES AS CATIONIC PHOTOREACTIVE CROSSLINKER FOR ACRYLIC PRESSURE-SENSITIVE ADHESIVES CONTAINING OXIRANE GROUPS FROM GLYCIDYL METHACRYLATE

Z. Czech¹, J. Kabatc^{2*}, P. Ragańska¹, K. Jurek²

¹Institute of Chemical Organic Technology, West Pomeranian University of Technology, Pulaskiego 10, 70-322 Szczecin, Poland ² UTP University of Science and Technology, Faculty of Chemical Technology and Engineering, Seminaryjna 3, 85-326 Bydgoszcz, Poland

ABSTRACT

UV crosslinking technology is well established in the market and allows the production of a wide range of UV-crosslinkable pressure-sensitive adhesives (PSA) based on acrylics with interesting performance. The balance between adhesive and cohesive strengths after the crosslinking process is very important and critical for the properties of acrylic PSAs in the form of self-adhesive layers. The cationic UV-crosslinking of an acrylic PSA containing oxirane groups in the structure and additionally with the cationic photoinitiator 1,10-bis[N,N'-(2-methylbenzothiazolium)]decane diiodide, designed to promote properties such as tack, peel adhesion and shear strength of self-adhesive polymer layers, has been investigated using a UV-lamp as an ultraviolet source. An acrylic PSA synthesized from 55 wt.% of butyl acrylate, 30 wt.% of 2-ethylhexyl acrylate and 15 wt.% of glycidyl methacrylate was studied. The application of 1,10-bis[N,N'-(2-methylbenzothiazolium)]decane diiodide as a photoreactive crosslinker allows the manufacture of high quality PSA products with interesting properties, such as high tack, high peel adhesion, and excellent shear strength.

Keywords: cationic photoinitiator 1,10-bis[N,N'-(2-methylbenzothiazolium)]decane diiodide, photoreactive crosslinker, UV-crosslinkable acrylic PSA, tack, peel adhesion, shear strength

* Corresponding author

E-mail address: nina@utp.edu.pl (J. Kabatc); tel.: +48 52 374 9112; fax: +48 52 374 9005

Download English Version:

https://daneshyari.com/en/article/7171018

Download Persian Version:

https://daneshyari.com/article/7171018

Daneshyari.com