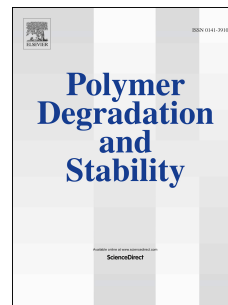


Accepted Manuscript

The synergistic effect of zinc urate with calcium stearate and commercial assistant stabilizers for stabilizing poly(vinyl chloride)

Feng Ye, Xiaojie Guo, Haihua Zhan, Jiaxian Lin, Weichong Lou, Xiaotao Ma, Xu Wang



PII: S0141-3910(18)30274-X

DOI: [10.1016/j.polymdegradstab.2018.08.012](https://doi.org/10.1016/j.polymdegradstab.2018.08.012)

Reference: PDST 8625

To appear in: *Polymer Degradation and Stability*

Received Date: 23 June 2018

Revised Date: 15 August 2018

Accepted Date: 21 August 2018

Please cite this article as: Ye F, Guo X, Zhan H, Lin J, Lou W, Ma X, Wang X, The synergistic effect of zinc urate with calcium stearate and commercial assistant stabilizers for stabilizing poly(vinyl chloride), *Polymer Degradation and Stability* (2018), doi: 10.1016/j.polymdegradstab.2018.08.012.

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.

The synergistic effect of zinc urate with calcium stearate and commercial assistant stabilizers for stabilizing poly(vinyl chloride)

Feng Ye^{1*}, Xiaojie Guo³, Haihua Zhan¹, Jiaxian Lin¹, Weichong Lou¹, Xiaotao Ma¹, Xu Wang²

1. College of Textile and Garment, Shaoxing University, Shaoxing 312000, PR China

2. College of Chemical Engineering and Materials, Zhejiang University of Technology, Hangzhou 310014, PR China

3. College of Materials and Environmental Engineering, Hangzhou Dianzi University, Hangzhou 310018, PR China

*Corresponding authors: Feng Ye

1. College of Textile and Garment, Shaoxing University, Zhejiang 312000, PR China

Email: yefeng061@126.com

ABSTRACT

Zinc urate (Zn_3Ur_2) is synthesized by the reaction of uric acid and zinc acetate, and the structure of the complex is confirmed by Elemental analysis (EA), Thermogravimetric analysis (TGA) and Infrared spectroscopy (FTIR). The thermal stability effect of Zn_3Ur_2 with its assistant thermal stabilizers about calcium stearate, β -diketones and polyols on Poly(vinyl chloride)(PVC) is investigated by TG, Congo red test and Discoloration test. The results show that the thermal stability of PVC is increased significantly after Zn_3Ur_2 is added. Compared with traditional commercial thermal stabilizer such as $ZnSt_2$, Zn_3Ur_2 can observably delay the “Zinc burning” of PVC and the complete discoloration time is improved to 150 min. This is mainly attributed to the anions in the structure of Zn_3Ur_2 , which could efficiently absorb the HCl released by PVC and have ability to replace unstable chlorine atoms on structure

Download English Version:

<https://daneshyari.com/en/article/9953421>

Download Persian Version:

<https://daneshyari.com/article/9953421>

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