

Treatment of Children's Garments Natural Fabrics for Protection Against Ultraviolet Radiation

Prof. Dr. Abdel Rehim Ramdan Abdel Ghani

Prof of Fiber Chemistry, Apparel Department, Faculty of Applied Arts, Helwan University, Egypt.

Dr. Wafaa Abdel Radi Qorshi

Lecturer, Apparel Department, Faculty of Applied Arts, Helwan University, Egypt.

Aya Fathy Abdel Hamid Ahmed Romyia

Tutor, Apparel Department, Faculty of Applied Arts, Helwan University, Egypt.

Dr. Eman Rafat Saad El-Sayd

Lecturer, Apparel Department, Faculty of Applied Arts, Helwan University, Egypt.

Abstract:

The objective of the study is to investigate the possibility of protection of children clothing against UV radiation. The synthesis and characterization of nano sized zinc oxide particles and their application on natural fabric have been studied by using nanofinishing technology for the protection against UV radiation. Children are in a dynamic state of growth and therefore more susceptible to harmful effects of UV radiation and cotton is selected as its most proper fabric for children summer clothing. The effectiveness of the treatment is assessed by using standard tests and influences of the finishing by UPF test and some general textile properties tests as well as the durability of the treatment was investigated. It is found that the performance of nano Zinc oxide as UV absorber can be efficiently transferred to fabric materials through the application of ZnO nanoparticles. The UV tests indicate a significant improvement in the UV absorbing activity in the ZnO treated fabrics.

Keywords: Nanotechnology, fabric finishing, Nano textile coating, Nano Zinc oxide, Ultraviolet Protection. References

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