

Chemical Industry & Chemical Engineering Quarterly 15 (4) 203–210 (2009) CI&CEQ

Faculty of Textile Technology, University of Zagreb, Croatia

Zagreb Institute of Public Health, Zagreb, Croatia

REVIEW PAPER UDC 549.67:615.281:677.21: :677.494.674 DOI: 10.2298/CICEQ0904203G

NANOPARTICLES OF ACTIVATED NATURAL ZEOLITE ON TEXTILES FOR PROTECTION AND THERAPY*

Activated natural zeolite clinoptilolite is microporous hydrated aluminosilicates crystals with well-defined structures containing AlO_4 and SiO_4 tetrahedral linked through the common oxygen atoms. It is to point out that zeolites act as strong adsorbents and ion-exchangers but having many other useful properties. Due to its cation exchange ability, zeolites have catalytic properties and, for that, multiple uses in medicine and industry, agriculture, water purification and detergents. Zeolites are nontoxic substance, excellent for UVR and microbes protection, for proteins and small molecules such as glucose adsorption. In this paper its positive effect on the metabolism of living organisms and its anticancerogenic, antiviral, antimetastatic and antioxidant effect. The activity of natural zeolite as natural immunostimulator was presented as well as its help in healing wounds. Therefore, the present paper is an attempt to modify cotton (by mercerization) and polyester (by alkaline hydrolysis) fabrics for summer clothing with addition of natural zeolite nanoparticles for achieving UV and antibacterial protective textiles.