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NANOCELLULOSE – MATERIAL OF THE FUTURE

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Cellulose is the most widespread natural polymer. If the cellulose structure is reduced to nanometer dimensions and adjusted accordingly in a certain way, its characteristics are remarkably changed. This creates nanocellulose, the most solid material known to humanity. This paper presents the theoretical basis for the production of nanocellulose, its properties and its applicability in several different areas. Nanocellulose is created by means of materials that were practically so far untapped. Nanocellulose is divided into: nanocrystalline cellulose, nanofibrilated cellulose, bacterial cellulose and cellulose-based bionanocomposites. It has exceptional mechanical properties, which mostly indicate the fact that the nanocellulose is five times lighter and five times stronger than steel. It provides a wide applicability in pharmacy, medicine, veterinary medicine, paper, automotive, wood, building, military and other industries. The importance of the use of nanocellulose is also recognized in Slovenia; therefore, six groups have been appointed to deal with this type of problem. Mostly known is group that lead prof. dr. Kunaver, who was more than helpful as co-author.

It is expected that nanocellulose will be used more and more in the future, and we can rightly claim that this is a material of the future.

Biography

Ninoslav Ninić is a Chemical Technology Engineer, currently pursuing his Master's Degree at the Faculty of Polymer Technology in Slovenj Gradec, Slovenia. He graduated from the University of Banja Luka. He has worked for approximately 10 years at BiH in different areas connected with Organic Chemistry Technology. In 2015, he started to work in Paloma, a company with more than 140-year tradition in the manufacturing and marketing of hygienic paper products.

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