

MEDNANOLEAT

PRODUCTION OF LEATHER FOR MEDICAL PURPOSES USING HYBRID NANOPARTICLES

The present research proposal concerns the application of hybrid nanoparticles, dimensions of a few nanometers (nm), inorganic substrates-dendritic polymers-metals or other organic and inorganic compounds in leather treatment technology for medical purposes.

More specifically, the synthesis of selected nanoparticles with the method of selective encapsulation of active substances will be attempted, which after their application and integration both in the structure and in the surface coating of the hides (bovine or lambskins) will control one of the following properties of the final leather product: Resistance to microbial attack, anti-allergic protection, water vapor permeability and abrasion resistance. In addition, the synthesis of nanoparticles will be attempted that will control two or all of the above properties of the final leather product. The synthesis of the nanoparticles will be followed by their incorporation into skins and then the evaluation of the desired properties of the skins in terms of effectiveness, the mode of release and action of the active substance as well as its duration. The effective control of the above will also signal the industrial application of the research results in the production of innovative products for the medical leather and leather goods industry.