

“Nanostructured particles for controlled inhalation therapy”

Leon Gradoń

Faculty of Chemical & Process Engineering, Warsaw University of Technology

ABSTRACT

Local and regional deposition and clearance mechanisms in the human respiratory system will be presented. The efficiency of deposition strongly depends on the particle aerodynamic particle diameter. Taking into account the effectiveness of particles re-entrainment from the powder structure and their deposition rate, the porous particle of defined porosity is proposed for respiratory and systemic treatments. The spray drying process was used for production of nanostructured mesoporous particles. The kinetics of self-organization of nanoparticles with formation of such structures will be presented. The interaction of deposited particles with the lung surfaces causing immobilization of deposits will be discussed.