THE BEHAVIOR OF CHITOSAN AND CELLULOSE IN DIRECT SOLVENT PROCESS

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ABSTRACT

The objectives of this research is to study the solution behaviors of cellulose and chitosan in a direct solvent process which is a pure physical dissoloving method. Results show N-oxide (NMMO) is a good solvent for cellulose by using freeze-dried chitosan which is 100 times larger surface areas than commercial chitosan and only 1000 volume per particle. If NMMO was adjusted to pH7 or less by a acid, we found chitosan is readily dissolved in this mixed solvent. A porous structure of bead was obtained by regeneration of cellulose/chitosan/NMMO solution in water bath. By using this porous properties and functional groups from chitosan and cellulose, these beads were investigated as deodorizing material. These bead deodorizing ratio against ammonia was found about 32%. If we combined tea leaves or coffee powder into cellulose and chitosan bead, the higher deodorizing ratio70% can be obtained. The effect of water bath temperature on the formation of bead were studied SEM micrographs showed that beads regenerated from 50°Cand 60°C water bathes were nearly spherical.

Keywords : CHITOSAN、CELLULOSE、NMMO、SOLVENT、SOLUTION、TEMPERATURE、BEAD、SEM

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