Production of *Carnauba* wax microbeads by melt dispersion / melt solidifaction technique

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Abstract

Melt dispersion / melt solidification technique was used to produce *Carnauba* wax microparticles. The main aim of this work was to prepare wax beads with high particle size uniformity and high sphericity.

In the first stage, experiments were performed without using emulgators. By varying important process variables it was determined experimental conditions, which produce satisfied particle size distribution. Nonaggregated, predominantly spherical shape particles of *Carnauba* wax were obtained. More than 80 % of them had particle size ranged between 120 μm - 363μm, with prevalent fraction in the range 181μm - 363μm (66,26 %).

In the next stage emulgator system was used (Tween 20 / Span 60), to investigate influence on the size distribution, sphericity and morphology. Result of microscopic visualisation and SEM analysis showed that there was not significant affect of wax - emulgator system on surface properties and sphericity. There is an important thing found on the SEM images of the crushed beads, that interior space wax beads is empty. It is seems that beads are rather microcapsule than matrix beads.