

SYNTHESIS AND CHARACTERIZATION OF SILICA MICROCAPSULES CONTAINING ORGANIC COMPOUNDS OF DIFFERENT VISCOSITY

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Because of its importance in different areas of industry such as agriculture, pharmaceuticals medicine and cosmetics there is an extensive research going on the field of encapsulation¹ where organic as well as inorganic capsules of different sizes have been prepared and investigated.^{1,2} Inorganic capsules offer some advantages comparing to the organic shells. They have very good stability at high temperatures as well as against chemicals, they show higher mechanical strength and not swelling in organic solvents compared to most organic and polymeric shells.^{2,3}

In the current study silica microcapsules with diameters in 0.1~100µm range containing organic compounds of different viscosities were synthesized following a core/shell based *in situ* microencapsulation method via a sol-gel route¹. The viscosity of the organic compounds encapsulated in the current study ranged between 3 cP to 6000 cP and in all cases, even in the highest viscosity one, microcapsules containing the organic material have been obtained. It has been observed that the viscosity of the compound encapsulated has an effect in the type of shell obtained.

References:

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