



УНИВЕРЗИТЕТ У НОВОМ САДУ
UNIVERSITY OF NOVI SAD

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FACULTY OF TECHNOLOGY

Paper in a journal - M21a: Study of vitamin E microencapsulation and controlled release from chitosan/sodium lauryl ether sulfate microcapsules (<https://doi.org/10.1016/j.carbpol.2020.116988>)

Journal Carbohydrate Polymers

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Potential benefit of microencapsulation is its ability to deliver and protect incorporated ingredients such as vitamin E. Microcapsule wall properties can be changed by adding of cross-linking agents that are usually considered toxic for application. The microcapsules were prepared by a spray-drying technique using coacervation method, by depositing the coacervate formed in the mixture of chitosan and sodium lauryl ether sulfate to the oil/water interface. All obtained microcapsules suspensions had slightly lower mean diameter compared to the starting emulsion ($6.85 \pm 0.213 \mu\text{m}$), which shows their good stability during the drying process. The choice and absence of cross-linking agents had influence on kinetics of vitamin E release. Encapsulation efficiency of microcapsules without cross-linking agent was $73.17 \pm 0.64 \%$. This study avoided the use of aldehydes as cross-linking agents and found that chitosan/SLES complex can be used as wall material for the microencapsulation of hydrophobic active molecules in cosmetic industry.

