



Review article

## Microencapsulation: A potential and promising approach in drug delivery system

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### Abstract

Novel drug delivery system is a method by which drug delivered can have significant effect on its efficacy. There are several advantages of novel drug delivery system over conventional multi dose therapy, which include improved efficacy, reduced toxicity, improved patient compliance and convenience. Many efforts have been made in developing novel drug delivery system, which emphasizes on controlled and sustained release dosage forms to obtain optimum benefits. There are various approaches in delivering a therapeutic substance to the target site in a sustained controlled release fashion. One such approach is using microspheres or microcapsules. Microencapsulation is a process by which solids, liquids or gases can be enclosed in microscopic particles by forming a thin coating of wall material around substances, which protects it from external environment and control the drug release yielding capsules ranging for one micron to several hundred microns in size (1 $\mu$ - 800 $\mu$ ). There are different microencapsulation techniques, which are used to obtain microcapsules for controlled release of drug. The morphology of microcapsules depends on the core material and deposition of coating material. Substances may be microencapsulated for the purpose of confining core material within capsule wall for specific period of time. Core materials are also encapsulated so that the core material can be gradually released (controlled release or diffusion) or when external conditions trigger the capsule walls to rupture, melt, or dissolve. Microencapsulation has found many applications in science and technology.