

Title: An Updated Review on Nanoemulsion: Factory for Food and Drug Delivery

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Abstract: Background: A nanoemulsion is a colloidal system of small droplets dispersed in another liquid. It has attracted considerable attention due to its unique properties and various applications. Throughout this review, we provide an overview of nanoemulsions and how they can be applied to various applications such as drug delivery, food applications, and pesticide formulations.

Objective: This updated review aims to comprehensively overview nanoemulsions and their applications as a versatile platform for drug delivery, food applications, and pesticide formulations.

Methods: Research relevant scientific literature across various databases, including PubMed, Scopus, and Web of Science. Suitable keywords for this purpose include "nanoemulsion," "drug delivery," and "food applications." Ensure the search criteria include recent publications to ensure current knowledge is included.

Results: Several benefits have been demonstrated in the delivery of drugs using nanoemulsions, including improved solubility, increased bioavailability, and controlled delivery. Nanoemulsions have improved some bioactive compounds in food applications, including vitamins and antioxidants. At the same time, pesticide formulations based on nanoemulsions have also improved solubility, shelf life, and effectiveness.

Conclusion: The versatility of nanoemulsions makes them ideal for drug delivery, food, and pesticide formulation applications. These products are highly soluble, bioavailable, and targeted, providing significant advantages. More research and development are required to implement nanoemulsion-based products on a commercial scale.

Keywords: Surfactant; in vaccine delivery.; intranasal; intravenous; ocular; oral; pulmonary; transdermal.

- [DOI: 10.2174/0113892010267771240211124950](https://doi.org/10.2174/0113892010267771240211124950)

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