

Nutritional values and microencapsulation techniques of fish oil from different sources: A mini review

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ABSTRACT

Fish oil is commonly consumed as dietary supplement due to its richness in long-chain polyunsaturated essential fatty acids, Omega-3. Omega-3 fatty acids are essential nutrients that are important in preventing heart disease and also vital in human early development stage. Fish oil-based supplements can easily be found in global market and may vary in concentrations, forms, and purity. The main concerns on those available fish oil-based products are on their freshness and stability, since Omega-3 fatty acids are prone to oxidation and release unpleasant smell. In recent years, microencapsulation technology received significant increment in demand as it was continuously applied in food and pharmaceutical industries. Mechanisms of these techniques involved the formation of emulsion containing the core (fish oil) and the coating materials. The present review aims to compile findings and scientific research of nutritional values and microencapsulation techniques of fish oil. The sources of fish oil, therapeutic benefits, and bioactive compound constituents, different microencapsulation techniques, coating materials formulations, advantages and challenges on the current available microencapsulation techniques are also discussed and reviewed.

KEYWORDS

Fish oil; Omega-3 fatty acid; Microencapsulation; DHA; EPA

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