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Conclusion; References

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5 Food-grade Microemulsions As Nano-scale Controlled Delivery Vehicles5.1 Introduction; 5.2 Winsor classification/phase behavior; 5.3 Theories of microemulsion formation; 5.3.1 Mixed film theory; 5.3.2 Solubilization theory; 5.3.3 Thermodynamic theory; 5.4 What makes microemulsions thermodynamically stable?; 5.5 Methods of microemulsion formation; 5.6 Polydispersity; 5.7 Composition; 5.7.1 Organic phase; 5.7.2 Aqueous phase; 5.7.3 Surfactants; 5.7.4 Co-surfactants; 5.8 Factors affecting phase behavior; 5.9 Parameters that modify microemulsion structure; 5.9.1 Critical micelle concentration 5.9.2 Critical packing parameter5.9.3 Hydrophile-lipophile balance; 5.9.4 Ingredient compatibility; 5.10 Characterization techniques; 5.10.1 Ternary phase diagrams; 5.10.2 Small angle scattering techniques; 5.10.3 Cryo-transmission electron microscopy; 5.10.4 Dynamic light scattering; 5.10.5 Nuclear magnetic resonance; 5.11 Applications; 5.11.1 Solubilization of poorly-soluble drugs; 5.11.2 Emulsified microemulsions; 5.11.3 Protection against oxidation/light; 5.11.4 Controlled release delivery systems; 5.11.5 Microemulsions as nano-reactors; 5.12 Conclusions; References

6 Emulsions, Nanoemulsions and Solid Lipid Nanoparticles as Delivery Systems in Foods

Sommario/riassunto

Food and Industrial Bioproducts and Bioprocessing describes the engineering aspects of bioprocessing, including advanced food processing techniques and bioproduct development. The main focus of the book is on food applications, while numerous industrial applications are highlighted as well. The editors and authors, all experts in various bioprocessing fields, cover the latest developments in the industry and provide perspective on new and potential products and processes. Challenges and opportunities facing the bioproduct manufacturing industry are also discussed. Coverage is far-reachi