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information and advice; 3.6 References; 4 Stabilization of omega-3 oils and enriched foods using antioxidants; 4.1 Introduction; 4.2 Lipid oxidation and antioxidant reactions; 4.3 Antioxidant protection of oils and oil-based products; 4.4 Antioxidant protection of other food products; 4.5 Future trends; 4.6 Conclusion; 4.7 References; 5 Stabilization of omega-3 oils and enriched foods using emulsifiers; 5.1 Introduction; 5.2 Reasons for using emulsifiers 5.3 Emulsifiers for omega-3 polyunsaturated fatty acid (PUFA) delivery systems and emulsified foods 5.4 Emulsifiers and lipid oxidation; 5.5 The impact of emulsifiers and emulsification on flavour and texture perception; 5.6 Applications of emulsifiers to stabilize delivery systems and foods enriched with omega-3 PUFA; 5.7 Future trends; 5.8 Sources of further information; 5.9 Acknowledgements; 5.10 References; 6 Spray drying and encapsulation of omega-3 oils; 6.1 Introduction; 6.2 Microencapsulation methods for stabilizing omega-3 oils in food; 6.3 Emulsion assemblies for omega-3 oils 6.4 Microencapsulation techniques for stabilizing omega-3 oils 6.5 Characteristics and analysis of microencapsulated omega-3 oil products; 6.6 Conclusion and future trends; 6.7 References; 7 Analysis of omega-3 fatty acids in foods and supplements; 7.1 Introduction; 7.2 The analysis of omega-3 oils by gas-liquid chromatography / flame ionization detector (GC/FID); 7.3 The measurement of omega-3 levels in foods; 7.4 Methyl esters and other fatty acid derivatives; 7.5 'One-step' methods combining extraction, digestion and derivatization 7.6 Examples in literature of the analysis of omega-3 containing foods

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## Sommario/riassunto

Omega-3 fatty acids provide many health benefits, from reducing cardiovascular disease to improving mental health, and consumer interest in foods enriched with omega-3 fatty acids is increasing. Formulating a product enriched with these fatty acids that is stable and has an acceptable flavour is challenging. Food enrichment with omega-3 fatty acids provides an overview of key topics in this area. Part one, an introductory section, reviews sources of omega-3 fatty acids and their health benefits. Chapters in part two explore the stabilisation of both fish oil itself and foods enriched wi

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