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Nota di contenuto	Emulsifiers in Food Technology; Contents; Contributors; Preface; 1 Lecithins; 1.1 Introduction to lecithins and phospholipids; 1.1.1 Some history; 1.1.2 Phospholipids; 1.1.3 Occurrence of phospholipids; 1.2 Production of lecithins; 1.2.1 Vegetable lecithins; 1.2.2 Animal lecithins; 1.3 Further processing of lecithins; 1.3.1 Standardisation; 1.3.2 Modifications of lecithins; 1.3.2.1 Enzymatic modification; 1.3.2.2 Chemical modifications; 1.3.3 Solvent extraction; 1.3.3.1 De-oiling with acetone; 1.3.3.2 Fractionation with alcohol; 1.3.4 Compounding; 1.3.4.1 Fluid compounds 1.3.4.2 Integrated powder compounds1.4 Quality aspects of lecithins; 1.4.1 Acetone insoluble matter (AI); 1.4.2 Toluene insoluble (TI); 1.4.3 Acid value (AV); 1.4.4 Peroxide value (PV); 1.4.5 Water content (H2O); 1.5 Physico-chemical aspects of lecithins; 1.5.1 Solubility in organic solvents; 1.5.2 Behaviour in water; 1.5.3 Melting points; 1.5.4 Surface activity; 1.5.5 Lecithins and the HLB system; 1.6 Applications of lecithins in the food industry; 1.6.1 Lecithin in chocolate, coatings and

confectioneries; 1.6.1.1 Chocolate; 1.6.1.2 Coatings; 1.6.1.3 Chocolate products with fat-based emulsions; 1.6.1.4 Soft and hard caramels, chewing gums; 1.6.2 Lecithins in the baking industry; 1.6.2.1 Yeast-leavened bread and the role of phospholipids; 1.6.2.2 Frozen doughs; 1.6.2.3 Other baked goods; 1.6.3 Instant technology; 1.6.3.1 Lecithination process; 1.6.3.2 Choice of 'the right' lecithin; 1.6.4 Emulsions; 1.6.4.1 Oil-in-water emulsions; 1.6.4.2 Water-in-oil emulsions; 1.6.5 Other applications; References; 2 Mono- and diglycerides; 2.1 Introduction; 2.2 The products; 2.2.1 Production of monoglycerides; 2.2.2 Molecular distillation; 2.2.3 Chemical and physical properties; 2.2.4 HLB value; 2.2.5 Addition of antioxidants; 2.2.6 Legal considerations; 2.2.7 Behaviour of monoglycerides in the presence of water; 2.2.8 Nutritional value; 2.3 Applications; 2.3.1 Bread; 2.3.2 Cakes; 2.3.3 Margarines and spreads; 2.3.4 Ice cream; References; 3 Acid esters of mono- and diglycerides; 3.1 E472a (ACETEM); 3.1.1 Chemical properties of ACETEM; 3.1.2 Manufacturing of ACETEM; 3.1.3 Appearance and physical properties; 3.1.4 Solubility; 3.1.5 Phase behaviour; 3.1.6 Surface-active properties; 3.1.7 Special properties of ACETEM; 3.1.7.1 Coating properties; 3.1.7.2 Lubrication properties; 3.1.7.3 Stability and anti-dusting applications; 3.1.7.4 Stabilisation of polymorphic alpha-fat phases; 3.1.8 Safety; 3.1.9 Typical applications in food; 3.1.10 Non-food applications; 3.2 E472b (LACTEM); 3.2.1 Chemical properties of LACTEM; 3.2.2 Manufacturing of LACTEM; 3.2.3 Appearance and physical properties; 3.2.4 Solubility; 3.2.5 Phase behaviour; 3.2.6 Surface activity; 3.2.7 Special properties of LACTEM; 3.2.8 Safety in use; 3.2.9 Typical applications in food; 3.3 E472c (CITREM); 3.3.1 Chemical properties of CITREM; 3.3.2 Manufacturing of CITREM; 3.3.3 Appearance and physical properties; 3.3.4 Solubility

Sommario/riassunto

Emulsifiers are essential components of many industrial food recipes, whether they be added for the purpose of water/oil emulsification in its simplest form, for textural and organoleptic modification, for shelf life enhancement, or as complexing or stabilising agents for other components such as starch or protein. Each chapter in this volume considers one of the main chemical groups of food emulsifiers. Within each group the structures of the emulsifiers are considered, together with their modes of action. This is followed by a discussion of their production / extraction and phys