1. Record Nr. UNISA996205342703316

Titolo	Chemistry and technology of surfactants [[electronic resource] /] / edited by Richard J. Farn
Pubbl/distr/stampa	Oxford ; ; Ames, Iowa, : Blackwell Pub., 2006
ISBN	1-280-74827-3 9786610748273 0-470-98859-2 1-4051-7179-0
Descrizione fisica	1 online resource (338 p.)
Altri autori (Persone)	FarnRichard J
Disciplina	541.33 541/.33 668.1
Soggetti	Surface chemistry Surface active agents
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chemistry and Technology of Surfactants; Contents; Contributors; Preface; Glossary; 1 What Are Surfactants?; 1.1 History and applications of surfactants; 1.1.1 Introduction; 1.1.2 Properties and other criteria influencing surfactant choice; 1.1.3 Surfactant applications; 1.1.4 Conclusion; Appendix: Application guide; 1.2 Surfactant market overview: importance in different industries; 1.2.1 Introduction; 1.2.2 Consumer; 1.2.3 Industrial; 2 The Basic Theory; 2.1 Molecular structure of surfactants; 2.2 Surface activity; 2.2.1 Surface tension; 2.2.2 Interfacial tension 2.2.3 Surface and interfacial tension reduction2.2.4 Test methods for surface and interfacial tension measurements; 2.3 Self-assembled surfactant aggregates; 2.3.1 Micelles and critical micelle concentration; 2.3.2 Aggregate structures and shapes; 2.4 Adsorption of surfactants at surfaces; 2.4.1 Adsorption at liquid-gas and liquid-liquid interfaces; 2.4.2 Adsorption at liquid-solid interface; Acknowledgement; References; 3 Applied Theory of Surfactants; 3.1 Introduction; 3.2 Detergency; 3.2.1 Fundamental processes; 3.2.2 Basic formulae of

detergents and cleansers

3.2.3 Adsorption at the solid-liquid interface3.2.4 Surface tension and wetting; 3.2.5 Interplay of surfactants with other detergent ingredients; 3.3 Phase behaviour of surfactants; 3.3.1 Introduction; 3.3.2 Surfactant phases; 3.3.3 Impact of the phase behaviour on detergency; 3.4 Emulsions; 3.4.1 Introduction; 3.4.2 Emulsion types; 3.4.3 Breakdown of emulsions; 3.5 Foaming and defoaming; 3.5.1 Introduction; 3.5.2 Stabilising effects in foams; 3.5.3 Correlation of foamability with interfacial parameters; 3.5.4 Foam control; 3.6 Rheology of surfactant solutions; 3.6.1 Introduction

3.6.2 Rheological terms3.6.3 Rheological behaviour of monomeric solutions and non-interacting micelles; 3.6.4 Entanglement networks of rod-like micelles; 3.6.5 The rheological behaviour of bilayer phases; References; 4 Anionic Surfactants; 4.1 Sulphonates; 4.1.1 Alkylbenzene sulphonates; 4.1.2 a-Olefin sulphonates; 4.1.3 Paraffin sulphonates; 4.1.4 Sulphonated methyl esters; 4.1.5 Sulphonated fatty acids; 4.1.6 Sulphosuccinates; 4.2 Sulphates; 4.2.1 Alkyl sulphates; 4.2.2 Alkyl ether sulphates; 4.3 Phosphate esters; 4.4 Carboxylates; 4.4.1 Soap; 4.4.2 Ether carboxylates

4.4.3 Acyl sarcosinates4.4.4 Alkyl phthalamates; 4.4.5 Isethionates; 4.4.6 Taurates; References; 5 Non-ionic Surfactants; 5.1 Introduction; 5.2 General alkoxylation reactions; 5.3 Alkyl phenol ethoxylates; 5.4 Fatty alcohol ethoxylates; 5.5 Polyoxethylene esters of fatty acids; 5.6 Methyl ester ethoxylates; 5.7 Polyalkylene oxide block co-polymers; 5.8 Amine ethoxylates; 5.9 Fatty alkanolamides; 5.10 Amine oxides; 5.11 Esters of polyhydric alcohols and fatty acids; 5.12 Glycol esters; 5.13 Glycerol esters; 5.14 Polyglycerol esters; 5.15 Anhydrohexitol esters 5.16 Polyoxyalkylene polyol esters

Sommario/riassunto

Surfactants are used throughout industry as components in a huge range of formulated products or as effect chemicals in the production or processing of other materials. A detailed understanding of the basis of their activity is required by all those who use surfactants, yet the new graduate or postgraduate chemist or chemical engineer will generally have little or no experience of how and why surfactants work. Chemistry & Technology of Surfactants is aimed at new graduate or postgraduate level chemists and chemical engineers at the beginning their industrial careers and those in l