

1. Record Nr.	UNINA9910831093903321
Autore	Goodwin Jim
Titolo	Colloids and interfaces with surfactants and polymers [[electronic resource] ] : an introduction
Pubbl/distr/stampa	Chichester, : Wiley, 2004
ISBN	1-280-54159-8 0-470-09391-9 0-470-09389-7
Descrizione fisica	1 online resource (297 p.)
Disciplina	541.345 541/.345
Soggetti	Colloids Polymers Surface active agents Surface chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Colloids and Interfaces with Surfactants and Polymers - An Introduction; Contents; Preface; Chapter 1 The Nature of Colloids; 1 INTRODUCTION; 2 COLLOIDS IN ACTION; 3 CONCENTRATED COLLOIDAL DISPERSIONS; 4 INTERFACES; 5 SURFACTANTS; 6 SOLUTION POLYMERS; 7 SUMMARY; REFERENCES; Chapter 2 Macromolecules and Surfactants; 1 INTRODUCTION; 2 MACROMOLECULAR DEFINITIONS; 3 CONFORMATIONS IN DILUTE SOLUTIONS; 4 THE FLORY-HUGGINS THEORY OF POLYMER SOLUTIONS; 5 POLYMER SOLUTION PHASE BEHAVIOUR; 6 POLYMERS AT SURFACES; 7 POLYMER CHARACTERIZATION; 8 SURFACTANTS IN SOLUTION; REFERENCES Chapter 3 Interactions between Colloidal Particles1 INTRODUCTION; 2 INTERMOLECULAR ATTRACTION; 3 COMPLEX NUMBER MANIPULATION; 4 DISPERSION FORCES BETWEEN PARTICLES; 5 RETARDED DISPERSION FORCES; 6 THE GENERAL OR LIFSHITZ THEORY OF DISPERSION FORCES BETWEEN PARTICLES; 7 SUMMARY AND CALCULATION GUIDE; 8 CALCULATION STRATEGY; 9 THE DEPLETION INTERACTION; REFERENCES; Chapter 4 Forces of Repulsion; 1 INTRODUCTION; 2

ELECTROSTATIC INTERACTIONS; 3 THE ORIGINS OF SURFACE CHARGE; 4 THE INTERACTION BETWEEN DIFFUSE DOUBLE LAYERS; 5 THE INTERACTION BETWEEN TWO SPHERES  
6 THE EFFECT OF PARTICLE CONCENTRATION 7 STERIC INTERACTIONS; 8 CALCULATION STRATEGY; REFERENCES; Chapter 5 The Stability of Dispersions; 1 INTRODUCTION; 2 THE STABILITY OF CHARGE-STABILIZED COLLOIDS - THE DVLO THEORY; 3 MECHANISMS OF AGGREGATION; 4 HETERO-COAGULATION AND HETERO-FLOCCULATION; 5 THE RATE OF COAGULATION; 6 AGGREGATION IN FLOWING DISPERSIONS; REFERENCES; Chapter 6 The Wetting of Surfaces by Liquids; 1 INTRODUCTION; 2 THE CONTACT ANGLE; 3 METHODS FOR THE MEASUREMENT OF CONTACT ANGLE; 4 CONTACT ANGLE HYSTERESIS; 5 SPREADING; 6 CURVED SURFACES; 7 CAPILLARITY; 8 TEMPERATURE EFFECTS  
REFERENCES Chapter 7 Emulsions and Microemulsions; 1 INTRODUCTION; 2 EMULSIFICATION; 3 STABILITY OF EMULSIONS; 4 MICROEMULSIONS; REFERENCES; Chapter 8 Characterization of Colloidal Particles; 1 INTRODUCTION; 2 PARTICLE SIZE; 3 MICROSCOPY; 4 ZONAL METHODS; 5 SCATTERING METHODS; 6 ANALYSIS OF SCATTERED RADIATION; 7 NEUTRON REFLECTION; 8 DYNAMIC LIGHT SCATTERING; 9 CHARACTERIZATION OF THE ELECTRICAL PROPERTIES OF PARTICLES; 10 VISCOSITIES OF DISPERSIONS; REFERENCES; Chapter 9 Concentrated Dispersions; 1 INTRODUCTION; 2 THE STRUCTURE OF CONCENTRATED DISPERSIONS; 3 RHEOLOGY  
4 LINEAR VISCOELASTICITY OF COLLOIDAL DISPERSIONS 5 PHENOMENOLOGY; REFERENCES; Index

---

Sommario/riassunto

This text is both an introduction to the field and a bridge to the more specialist texts that are available, and includes recent ideas that have been developed on the interactions between particles and the concentrated state. It covers the fundamentals of colloid and interface science, placing emphasis on concentrated systems and the ideas associated with them. Takes a user-friendly, non-mathematical approach Includes the widely used techniques such as rheology in greater depth than other introductory texts Gives many practical examples of colloid and interface scienc

---