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Nota di contenuto	Colloids in Agrochemicals; Dedication; Contents; Preface; 1 General Introduction; Further Reading; 2 General Classification of Surface-active Agents Used in Agrochemical Formulations; 2.1 Anionic Surfactants; 2.1.1 Carboxylates; 2.1.2 Sulfates; 2.1.3 Sulfonates; 2.1.4 Phosphate-containing Anionic Surfactants; 2.2 Cationic Surfactants; 2.3 Amphoteric (Zwitterionic) Surfactants; 2.4 Nonionic Surfactants; 2.4.1 Alcohol Ethoxylates; 2.4.2 Alkylphenol Ethoxylates; 2.4.3 Fatty Acid Ethoxylates; 2.4.4 Sorbitan Esters and Their Ethoxylated Derivatives (Spans and Tweens) 2.4.5 Ethoxylated Fats and Oils 2.4.6 Amine Ethoxylates; 2.4.7 Surfactants Derived from Mono- and Polysaccharides; 2.5 Speciality Surfactants - Fluorocarbon and Silicone Surfactants; 2.6 Polymeric Surfactants; 2.6.1 Ethylene Oxide-Propylene Oxide Copolymers (EO/PO); References; 3 Physical Chemistry of Surfactant Solutions; 3.1 Properties of Solutions of Surfactants; 3.2 Solubility-Temperature Relationship for Surfactants; 3.3 Thermodynamics of Micellization; 3.3.1 Kinetic Aspects; 3.3.2 Equilibrium Aspects: Thermodynamics of Micellization; 3.3.3 Phase Separation Model; 3.3.4 Mass Action Model 3.3.5 Enthalpy and Entropy of Micellization 3.3.6 Driving Force for

Micelle Formation; 3.4 Micellization in Surfactant Mixtures (Mixed Micelles); 3.4.1 Surfactant Mixtures with No Net Interaction; 3.4.2 Surfactant Mixtures with a Net Interaction; 3.5 Surfactant-Polymer Interaction; 3.5.1 Factors Influencing the Association Between Surfactant and Polymer; 3.5.2 Driving Force for Surfactant-Polymer Interaction; 3.5.3 Structure of Surfactant-Polymer Complexes; 3.5.4 Surfactant-Hydrophobically Modified Polymer Interaction; References; 4 Interfacial Aspects of Agrochemical Formulations
4.1 Introduction
4.2 Equilibrium Adsorption of Surfactants at the Air/Liquid and Liquid/Liquid Interfaces; 4.3 The Gibbs Adsorption Isotherm; 4.4 Dynamic Processes of Adsorption; 4.4.1 General Theory of Adsorption Kinetics; 4.4.2 Adsorption Kinetics from Micellar Solutions; 4.4.3 Experimental Techniques for Studying Adsorption Kinetics; 4.4.3.1 The Drop Volume Technique; 4.4.3.2 Maximum Bubble Pressure Technique; 4.5 Adsorption of Surfactants and Polymeric Surfactants at the Solid/Liquid Interface; 4.6 Surfactant Adsorption; 4.6.1 Adsorption of Ionic Surfactants on Hydrophobic Surfaces
4.6.2 Adsorption of Ionic Surfactants on Polar Surfaces
4.6.3 Adsorption of Nonionic Surfactants; 4.7 Adsorption of Polymeric Surfactants at the Solid/Liquid Interface; 4.8 Experimental Methods for Measurement of Adsorption Parameters for Polymeric Surfactants; 4.8.1 Amount of Polymer Adsorbed, - The Adsorption Isotherms; 4.8.2 Polymer-bound Fraction p ; 4.8.3 Adsorbed Layer Thickness and Segment Density Distribution $p(z)$; 4.8.4 Hydrodynamic Thickness Determination; References
5 Interaction Forces Between Particles or Droplets in Agrochemical Dispersions (Suspension Concentrates or Emulsions, EWs) and Their Role in Colloid Stability

Sommario/riassunto

The first modern approach to relate fundamental research to the applied science of colloids, this series bridges academic research and industrial applications, thus providing the information vital to both. Written by the very best scientists in their respective disciplines, the five volumes are edited by an internationally recognized expert on this topic. This volume describes the role of colloids in agrochemicals, highlighting the importance of fundamental research in practical applications. Of interest to electrochemists, physical and surface chemists, materials scientists, and physicists
