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Nota di contenuto	Front Cover; Contents; Preface; 1. Introduction to Surface Chemistry Essentials; 2. Capillarity and Surface Forces in Liquids (Curved Surfaces); Appendix 2A: Effect of Temperature and Pressure on the Surface Tension of Liquids (Corresponding States Theory of Liquids); 3. Surfactant (Soaps and Detergents) Solutions: Essential Surface Properties; Appendix 3B: Solubility of Organic Molecules in Water (A Surface Tension-Cavity Model Theory); 4. Monomolecular Lipid Films on Liquid Surfaces and Langmuir-Blodgett Films; 5. Solid Surfaces: Adsorption and Desorption of Different Substances Appendix 5C: Gas Adsorption on Solid Surfaces-Essential Principle Theory6. Wetting, Adsorption, and Cleaning Processes; 7. Colloidal Dispersion Systems: Physicochemical Essential Properties; 8. Gas Bubbles: Thin Liquid Films and Foams; 9. Emulsions, Microemulsions, and Lyotropic Liquid Crystals; 10. Essential Surface and Colloid Chemistry in Science and Industry; References; Appendix: Common Fundamental Constants
Sommario/riassunto	Surface chemistry plays an important role in everyday life, as the basis for many phenomena as well as technological applications. Common examples range from soap bubbles, foam, and raindrops to cosmetics, paint, adhesives, and pharmaceuticals. Additional areas that rely on

surface chemistry include modern nanotechnology, medical diagnostics, and drug delivery. There is extensive literature on this subject, but most chemistry books only devote one or two chapters to it. Surface Chemistry Essentials fills a need for a reference that brings together the fundamental aspects of surface chemistry with up-to-date references and data from real-world examples. This book enables readers to better understand many natural phenomena and industrial processes. Mathematical treatment is mainly given as references to make the material accessible to individuals with a broader range of scientific backgrounds. The book begins by introducing basic considerations with respect to liquid and solid surfaces and describes forces in curved versus flat liquid surfaces. Chapters cover properties of surface active substances, such as surfactants and soaps; lipid films and Langmuir-Blodgett films; and adsorption and desorption on solid surfaces. The author discusses processes involved in liquidsolid interface phenomena, which are utilized in washing, coatings, lubrication, and more, and colloid chemistry systems and related industrial applications such as wastewater treatment. The author also addresses bubbles, films, and foams and the principles of oilwater emulsion science, used in detergents, paints, and skin creams. The final chapter considers more complex applications, for example, food emulsions, scanning probe miscroscopy, the cement industry, and gas and oil recovery.