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Nota di contenuto	Thermal Separation Processes; Contents; 4.1.2 Processes and Examples; Frequently Used Nomenclature; 1 Basic Concepts; 1.1 Principles of Thermal Separation Processes; 1.2 Thermal Separation Process Modes; 1.3 Mass Balance, Energy Balance, Exergy Balance; 1.3.1 Mass, Energy and Heat Balances; 1.3.2 Exergy Balance; 1.3.3 Calculation of Balance Equations; 1.4 Phase Equilibria; 1.4.1 Basic Concepts; 1.4.1.1 General Differential Equation for the Equilibrium Between Two Phases; 1.4.1.2 The Gibbs Phase Rule; 1.4.2 Liquid-Liquid Equilibrium; 1.4.2.1 The Nernst Distribution Law 1.4.2.2 Representation of Liquid-Liquid Phase Equilibrium 1.4.3 Vapor-Liquid Equilibrium; 1.4.3.1 One Component Systems; 1.4.3.2 Two and Multicomponent Systems; 1.4.3.3 Henry's Law, Gas Solubility; 1.4.3.4 Boiling Equilibrium of a Solid Solution, Decrease of Vapor Pressure and Increase of Boiling Point; 1.4.4 Gas-Solid Phase Equilibrium; 1.4.4.1 Gas-Solid Phase Equilibrium, Sublimation; 1.4.4.2 Gas-Solid Phase Equilibrium with Adsorption/Desorption and Convective Solid Drying (Adsorption Equilibrium); 1.4.5 Liquid-Solid Phase Equilibrium; 1.4.5.1 Solubility of Solids in Liquid Solvents

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2.5 Countercurrent Distillation (Rectification)

Sommario/riassunto

This much-needed book presents a clear and very practice-oriented overview of thermal separation processes. An extensive introduction elucidates the physical and physicochemical fundamentals of different unit operations used to separate homogenous mixtures. This is followed by a concise text with numerous explanatory figures and tables referring to process and design, flowsheets, basic engineering and examples of separation process applications. Very helpful guidance in the form of process descriptions, calculation models and operation data is presented in an easy-to-understand manner
