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| 1. Record Nr. | UNINA9910830617103321 |
| Autore | Stichlmair Johann G |
| Titolo | Distillation : Principles and Practice |
| Pubbl/distr/stampa | Newark : , : American Institute of Chemical Engineers, , 2021 ©2021 |
| ISBN | 1-5231-4336-3 1-119-41468-7 1-119-41469-5 1-119-41467-9 |
| Edizione | [2nd ed.] |
| Descrizione fisica | 1 online resource (685 pages) |
| Altri autori (Persone) | KleinHarald RehfeldtSebastian |
| Disciplina | 660/28425 |
| Soggetti | Molecular stills |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index. |
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Sommario/riassunto

"Distillation Principles and Practice Second Edition covers all the main aspects of distillation including the thermodynamics of vapor/liquid equilibrium, the principles of distillation, the synthesis of distillation processes, the design of the equipment, and the control of process operation. Most textbooks deal in detail with the principles and laws of distilling binary mixtures. When it comes to multi-component mixtures, they refer to computer software nowadays available. One of the special features of the second edition is a clear and easy understandable presentation of the principles and laws of ternary distillation. The right understanding of ternary distillation is the link to a better understanding of multi-component distillation. Ternary distillation is the basis for a conceptual process design, for separating azeotropic mixtures by using an entrainer, and for reactive distillation, which is a rapidly developing field of distillation. Another special feature of the book is the design of distillation equipment, i.e. tray columns and packed columns. In practice, empirical know-how is preferably used in many companies, often in form of empirical equations, which are not even dimensionally correct. The objective of the proposed book is the derivation of the relevant equations for column design based on first principles. The field of column design is permanently developing with respect to the type of equipment used and the know-how of two-phase flow and interfacial mass transfer."--