

1. Record Nr.	UNINA9910830410103321
Autore	Luyben William L
Titolo	Design and control of distillation systems for separating azeotropes [[electronic resource] /] / William L Luyben, I-Lung Chien
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, : AIChE, c2010
ISBN	1-118-20983-4 1-282-68445-0 9786612684456 0-470-57580-8 0-470-57579-4
Descrizione fisica	1 online resource (473 p.)
Altri autori (Persone)	ChienI-Lung <1955->
Disciplina	660.2842 660/.2842
Soggetti	Azeotropic distillation - Design Azeotropes
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	DESIGN AND CONTROL OF DISTILLATION SYSTEMS FOR SEPARATING AZEOTROPES; CONTENTS; PREFACE; ACKNOWLEDGEMENTS; PART 1 FUNDAMENTALS AND TOOLS; 1 INTRODUCTION; 2 PHASE EQUILIBRIUM; 3 STEADY-STATE DESIGN IN ASPEN PLUS; 4 DYNAMICS AND CONTROL IN ASPEN DYNAMICS; PART 2 SEPARATIONS WITHOUT ADDING OTHER COMPONENTS; 5 PRESSURE-SWING AZEOTROPIC DISTILLATION; 6 PRESSURE SWING WITH HEAT INTEGRATION; 7 HETEROGENEOUS BINARY AZEOTROPES; PART 3 SEPARATIONS USING A LIGHT ENTRAINER (HETEROGENEOUS AZEOTROPIC DISTILLATION); 8 ISOPROPANOL-WATER (CYCLOHEXANE AS THE ENTRAINER) 9 ACETIC ACID-WATER (ISOBUTYL ACETATE AS THE ENTRAINER)PART 4 SEPARATIONS USING HEAVY ENTRAINER (EXTRACTIVE DISTILLATION); 10 ISOPROPANOL-WATER (DIMETHYL SULFOXIDE AS THE ENTRAINER); 11 EXTRACTIVE DISTILLATION OF THE ACETONE-METHANOL SYSTEM; 12 MAXIMUM-BOILING AZEOTROPES; PART 5 OTHER WAYS FOR SEPARATING AZEOTROPES; 13 BATCH DISTILLATION OF AZEOTROPES; 14 HYBRID DISTILLATION-PERVAPORATION SYSTEMS; INDEX

Sommario/riassunto

An azeotrope is a mixture of two or more compounds that cannot be separated or changed by simple distillation. This book addresses an important issue in the energy crisis: the distillation of azeotropes to improve the processing of biofuels. It describes azeotropic systems in a comprehensive, readable form, with updates on recent developments in vapor-liquid and liquid-liquid-vapor equilibrium, simulation tools, and specific examples covering the major processing options available. The text also presents methods for achieving optimum economic design and control structures, and demonstrates tra
