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Nota di contenuto	Cover; Contents; Preface; Chapter 1. Refinery Distillation; Process Variables; Process Design of a Crude Distillation Tower; Characterization of Unit Fractionation; General Properties of Petroleum Fractions; Atmospheric Distillation Unit; Vacuum Distillation Unit; Crude Desalting; Chapter 2. Distillate Hydrotreating; Naphtha Hydrodesulfurization Process; Kerosene Hydrotreating; Gas Oil Hydrodesulfurization; Atmospheric Residuum Desulfurization; Chapter 3. Hydrocracking Processes; Hydrocracking Reactions; Process Configuration; Process Flow Scheme; Operating Conditions Catalyst Sulfiding and Unit StartupShutdown Procedure; Catalyst Regeneration; Mild Hydrocracking; Residuum Hydrocracking; Chapter 4. Gasoline Manufacturing Processes; Catalytic Reforming; Fluid Catalytic Cracking; Alkylation; Isomerization of C5/C6 Normal Paraffins; Methyl Tertiary Butyl Ether; Chapter 5. Hydrogen Production and Recovery; Natural Gas Desulfurization; Steam Reforming; Carbon Monoxide Conversion; Carbon Dioxide Removal; Methanation; Pressure Swing Adsorption Route; Partial Oxidation Process; Hydrogen Recovery; Chapter 6. Residuum Processing; Delayed Coking; Visbreaking Solvent DeasphaltingBitumen Blowing; Chapter 7. Treating Processes; General Principles; FCCU Light Gasoline; Jet Fuel (ATK) Sweetening; Chapter 8. Sulfur Recovery and Pollution Control Processes; Sulfur Recovery from Acid Gas; Claus Tail Gas Treatment; Flue Gas

Desulfurization; Amine Treatment; Chapter 9. Refinery Water Systems; Cooling Water System; Sea Water Cooling System; Cooling Towers; Boiler Feedwater System; Utility Water System; Treatment of Oily Water; Wet Slop Oil System; Treatment of Sanitary Sewage; Sour Water Treatment
Chapter 10. Refinery Off-Site Facilities and Utility SystemsRefinery Tankage; Shipping Terminals and Sea Lines; Refinery Tankage Estimation; Product Blending System; Refinery Flare System; Refinery Steam System; Refinery Fuel System; Chapter 11. Product Blending; Gasoline Octane Blending; ASTM Distillation Blending; Viscosity Blending; Pour Point Blending; Flash Point Blending; Reid Vapor Pressure Blending for Gasolines and Naphthas; Aniline Point Blending; Crude Oil Assays; Chapter 12. Refinery Stock Balancing; Data for Model Building; Calculation Procedure
Refinery Material Balance Spreadsheet ProgramChapter 13. Refinery Linear Programming Modeling; Development of the Refinery LP Model; The Structure of a Refinery LP Model; Property Propagation to Other Tables; Blending Specifications; Stream Pooling (Recursion Process); Distributive Recursion; Objective Function; Optimization Step; Solution Convergence; Interpreting the Solution; Report Writer Programs; Delta-Based Modeling; Atmospheric Crude Distillation and VDU Modeling; Single-Product LP Blender; Chapter 14. Pricing Petroleum Products; Netback and Formula Pricing for Crude Oil
Pricing Petroleum Products and Intermediate Stocks

Sommario/riassunto

Besides covering topics like catalytic cracking, hydrocracking, and alkylation, this volume has chapters on waste water treatment and the economics of managing or commissioning the design of a petroleum refinery. Found only in this volume is material on operating a jointly owned and operated refinery. (Over the last decade, the ownership of many refineries has shifted to small companies, from the large, integrated companies. Because of this shift, many refineries are now jointly owned and operated.) Filled with handy process flow diagrams, this volume is the only reference that a chemical en