

Fluid Catalytic Cracking Handbook

SECOND EDITION

Design, Operation
and Troubleshooting
of FCC Facilities



Reza Sadeghbeigi

BALYAN

Fluid Catalytic Cracking Handbook Design Operation And Troubleshooting

**K. K. Pant, Sanjay Kumar Gupta, Ejaz
Ahmad**



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Fluid Catalytic Cracking Handbook Reza Sadeghbeigi, 2020-04-17 *Fluid Catalytic Cracking Handbook* An Expert Guide to the Practical Operation Design and Optimization of FCC Units Fourth Edition enables readers to maximize the profitability and reliability of fluid catalytic cracking operations by covering all stages of FCC including their design operation troubleshooting and optimization It includes valuable chapters on FCC Main Fractionator and Gas Plant and Process Engineering Tools that provide engineers with the relevant tools they need to fully optimize processes and operations This book presents technologies and processes that will improve the profitability and reliability of FCC units along with lessons from Mr Sadeghbeigi's 30 years of field experience The book provides a valuable reference for experienced engineers but is also an ideal reference for those who are developing their skills and knowledge base Presents relevant real world examples that enable petrochemical engineers to achieve real term savings Contains dedicated chapters on lessons learned from troubleshooting cases carried out by the author Includes sections on FCC Main Fractionator and Gas Plant Covers both SI and Imperial Units throughout

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Advances in Fluid Catalytic Cracking Mario L. Occelli, 2010-11-30 Refiners efforts to conform to increasingly stringent laws and a preference for fuels derived from renewable sources have mandated changes in fluid cracking catalyst technology *Advances in Fluid Catalytic Cracking* Testing Characterization and Environmental Regulations explores recent advances and innovations in this important component of petr

Petroleum Refining Design and Applications Handbook, Volume 1 A. Kayode Coker, 2018-09-05 There is a renaissance that is occurring in chemical and process engineering and it is crucial for today's scientists engineers technicians and operators to stay current With so many changes over the last few decades in equipment and processes petroleum refining is almost a living document constantly needing updating With no new refineries being built companies are spending their capital re tooling and adding on to existing plants Refineries are like small cities today as they grow bigger and bigger and more and more complex A huge percentage of a refinery can be changed literally from year to year to account

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distillation and coking units Provides all the factors crude types and refining blends that cause fouling especially the unconventional feedstocks and high acid crudes used today Helps users develop an analysis based treatment and control strategy that empowers them to operate refinery equipment at a level that prevents fouling from occurring *Handbook of Refinery Desulfurization* Nour Shafik El-Gendy, James G. Speight, 2015-09-18 *Handbook of Refinery Desulfurization* describes the operation of the various desulfurization process units in a petroleum refinery It also explains the processes that produce raw materials for the petrochemical industry It illustrates all the possible processes to lower the sulfur contents in petroleum and its fractions to decrease emissions of sulfur Petroleum Processing Handbook John J. McKetta Jr, 1992-04-30 A reference that details the pertinent chemical reactions and emphasizes the plant design and operations of petroleum processing procedures The handbook is divided into four sections products refining manufacturing processes and treating processes Wherever possible shortcut methods of calculation **Catalysis for Clean Energy and Environmental Sustainability** K. K. Pant, Sanjay Kumar Gupta, Ejaz Ahmad, 2021-04-01 This book is part of a two volume work that offers a unique blend of information on realistic evaluations of catalyst based synthesis processes using green chemistry principles and the environmental sustainability applications of such processes for biomass conversion refining and petrochemical production The volumes provide a comprehensive resource of state of the art technologies and green chemistry methodologies from researchers academics and chemical and manufacturing industrial scientists The work will be of interest to professors researchers and practitioners in clean energy catalysis green chemistry chemical engineering and manufacturing and environmental sustainability This volume focuses on catalyst synthesis and green chemistry applications for petrochemical and refining processes While most books on the subject focus on catalyst use for conventional crude fuel oriented refineries this book emphasizes recent transitions to petrochemical refineries with the goal of evaluating how green chemistry applications can produce clean energy through petrochemical industrial means The majority of the chapters are contributed by industrial researchers and technicians and address various petrochemical processes including hydrotreating hydrocracking flue gas treatment and isomerization catalysts **Handbook of Petroleum Refining** James G. Speight, 2016-10-26 Petroleum refining involves refining crude petroleum as well as producing raw materials for the petrochemical industry This book covers current refinery processes and process types that are likely to come on stream during the next three to five decades The book includes 1 comparisons of conventional feedstocks with heavy oil tar sand bitumen and bio feedstocks 2 properties and refinability of the various feedstocks 3 thermal processes versus hydroprocesses and 4 the influence of refining on the environment Encyclopedia of Renewable Energy, Sustainability and the Environment, 2024-08-09 *Encyclopedia of Renewable Energy Sustainability and the Environment* Four Volume Set comprehensively covers all renewable energy resources including wind solar hydro biomass geothermal energy and nuclear power to name a few In addition to covering the breadth of renewable energy resources at a fundamental level this

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workflows for atmospheric CDU and vacuum VDU distillation units Discusses modeling FCC catalytic reforming and hydroprocessing units Written for chemical engineers process engineers and engineers for measurement and control this resource explores the advanced simulation tools and techniques that are available to support experienced and aid new operators and engineers **Thermal and Catalytic Processing in Petroleum Refining Operations** James G.

Speight,2023-04-11 This book presents the thermal and catalytic processes in refining The differences between each type of process and the types of feedstock that can be used for the processes are presented Relevant process data is provided and process operations are fully described This accessible guide is written for managers professionals and technicians as well as graduate students transitioning into the refining industry Key Features Describes feedstock evaluation and the effects of elemental chemical and fractional composition Details reactor types and bed types Explores the process options and parameters involved Assesses coke formation and additives Considers next generation processes and developments *The*

Chemistry and Technology of Petroleum James G. Speight,2006-10-31 Refineries must not only adapt to evolving environmental regulations for cleaner product specifications and processing but also find ways to meet the increasing demand for petroleum products particularly for liquid fuels and petrochemical feedstocks *The Chemistry and Technology of Petroleum* Fourth Edition offers a 21st century perspective Springer Handbook of Petroleum Technology Chang Samuel

Hsu,Paul R. Robinson,2017-12-20 This handbook provides a comprehensive but concise reference resource for the vast field of petroleum technology Built on the successful book *Practical Advances in Petroleum Processing* published in 2006 it has been extensively revised and expanded to include upstream technologies The book is divided into four parts The first part on petroleum characterization offers an in depth review of the chemical composition and physical properties of petroleum which determine the possible uses and the quality of the products The second part provides a brief overview of petroleum geology and upstream practices The third part exhaustively discusses established and emerging refining technologies from a practical perspective while the final part describes the production of various refining products including fuels and lubricants as well as petrochemicals such as olefins and polymers It also covers process automation and real time refinery wide process optimization Two key chapters provide an integrated view of petroleum technology including environmental and safety issues Written by international experts from academia industry and research institutions including integrated oil companies catalyst suppliers licensors and consultants it is an invaluable resource for researchers and graduate students as well as practitioners and professionals

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