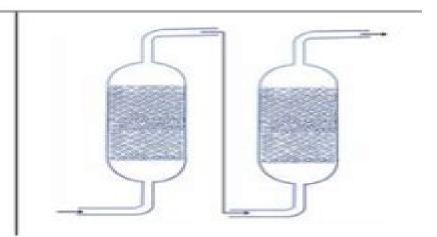


WATER GAS SHIFT REACTION

RESEARCH, DEVELOPMENTS AND APPLICATIONS

$$CO + H_2O \Leftrightarrow H_2 + CO_2$$
 $\Delta H = -41.2 \text{ KJ/mole}$

GUNUGUNURI K. REDDY PANAGIOTIS G. SMIRNIOTIS



Water Gas Shift Reaction Research Developments And Applications

Chen, Lin, Iwamoto, Yuhiro

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Water Gas Shift Reaction Panagiotis Smirniotis, Krishna Gunugunuri, 2015-06-11 Water Gas Shift Reaction Research Developments and Applications outlines the importance of hydrogen as a future fuel along with the various hydrogen production methods. The book explains the development of catalysts for Water Gas Shift WGS reaction at different temperatures and steam CO ratios and also discussing the effect of different dopants on the WGS activity of iron oxide and the promotion and inhibition roles of the dopants on the WGS activity of iron oxide are explained. In addition the book describes extensive characterization of modified ferrite catalysts especially with Mossbauer spectroscopy and its advantage in understanding properties of metal doped ferrite catalysts the exact dopant location and its effect on electron hopping capability and WGS activity of Fe redox couple Outlines the importance of the Water Gas Shift Reaction and its application for hydrogen production Provides detailed information on potential catalysts their development and their pros and cons giving the reader insights on how modified ferrite catalysts work at different temperatures and different steam to CO ratios Reviews hydrogen technology its current importance and production methods Presents a clear presentation of the topics with many graphics and tables Offers basic and advanced knowledge of catalysts characterization instrumental techniques

New Developments and Application in Chemical Reaction Engineering Hyun-Ku Rhee,In-Sik Nam,Jong Moon Park,2006-05-10 This Proceedings of APCRE 05 contains the articles that were presented at the 4th Asia Pacific Chemical Reaction Engineering Symposium APCRE 05 held at Gyeongju Korea between June 12 and June 15 2005 with a theme of New Opportunities of Chemical Reaction Engineering in Asia Pacific Region Following the tradition of APCRE Symposia and ISCRE the scientific program encompassed a wide spectrum of topics including not only the traditional areas but also the emerging fields of chemical reaction engineering into which the chemical reaction engineers have successfully spearheaded and made significant contributions in recent years In addition to the 190 papers being accepted six plenary lectures and 11 invited lectures are placed in two separate chapters in the front Provides an overview of new developments and application in chemical reaction engineering Topics include traditional and emerging fields Papers reviewed by experts in the field

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