

Contents of *Catalysis Today*, Volume 26

Vol. 26, No. 1

CATALYSIS IN ENVIRONMENTAL APPLICATIONS

Soofin Cheng and Ben-Zu Wan

Preface	1
Zeolite catalysis for a better environment	
P.-S.E. Dai (Port Arthur, TX, USA)	3
Selective catalytic reduction of NO by ethene in excess oxygen over platinum ion-exchanged MFI zeolites	
H.K. Shin, H. Hirabayashi, H. Yahiro (Sapporo, Japan), M. Watanabe (Tokyo, Japan) and M. Iwamoto (Sapporo, Japan)	13
On the vital roles of zeolitic matrix in catalysts for deNO _x reactions under conditions similar to diesel engine exhaust	
T. Inui, S. Iwamoto, K. Matsuba, Y. Tanaka and T. Yoshida (Kyoto, Japan)	23
Lean NO _x reduction CuZSM5 catalysts: evaluation of performance at the spark ignition engine exhaust	
P. Ciambelli (Fisciano SA, Italy), P. Corbo, M. Gambino (Napoli, Italy), G. Minelli, G. Moretti and P. Porta (Roma, Italy)	33
Vehicle exhaust catalysis: I. The relative importance of catalytic oxidation, steam reforming and water-gas shift reactions	
B.I. Whittington, C.J. Jiang and D.L. Trimm (Sydney, Australia)	41
Vehicle exhaust catalysis: II: The effect of traces of sulphur dioxide on the performance of three-way vehicle emission catalysts	
B.I. Whittington, C.J. Jiang and D.L. Trimm (Sydney NSW, Australia)	47
Effects of the addition of lanthana on the thermal stability of alumina-supported palladium	
T.Y. Chou, C.H. Leu and C.T. Yeh (Hsinchu, Taiwan, ROC)	53
Pretreatment effect of gold/iron/zeolite-Y on carbon monoxide oxidation	
Y.-M. Kang and B.-Z. Wan (Taiwan, Taiwan, ROC)	59
Effects of SiO ₂ on the catalytic properties of TiO ₂ for the incineration of chloroform	
T.-C. Liu and T.-I. Cheng (Taipei, Taiwan, ROC)	71
Studies on catalytic and conductive properties of LaNiO ₃ for oxidation of C ₂ H ₅ OH, CH ₃ CHO, and CH ₄	
T.-R. Ling, Z.-B. Chen and M.-D. Lee (Taipei, Taiwan, ROC)	79
Photocatalytic decomposition of phenol over titanium oxide of various structures	
S. Cheng, S.-J. Tsai and Y.-F. Lee (Taipei, Taiwan, ROC)	87

Vol. 26, No.2

SELECTIVE REDUCTION OF NITROGEN OXIDES BY HYDROCARBONS

R. Burch

Foreword	97
Catalytic removal of nitrogen oxides: where are the opportunities?	
J.N. Armor (Allentown, PA, USA)	99
Mechanistic studies of the selective reduction of NO _x over Cu/ZSM-5 and related systems	
A.P. Walker (Reading, UK)	107
Structure-function properties in Cu-ZSM-5 NO decomposition and NO SCR catalysts	
K.C.C. Kharas (Tulsa, OK, USA), D.-J. Liu (Des Plaines, IL, USA) and H.J. Robota (Tulsa, OK, USA)	129
Catalytic reduction of nitrogen oxides with methane in the presence of excess oxygen: a review	
J.N. Armor (Allentown, PA, USA)	147

Formation of undesired by-products in deNO _x catalysis by hydrocarbons F. Radtke, R.A. Köppel and A. Baiker (Zürich, Switzerland)	159
Metal oxide catalysts for lean NO _x reduction K.A. Bethke, M.C. Kung, B. Yang, M. Shah, D. Alt, C. Li and H.H. Kung (Evanston, IL, USA)	169
Steam reforming of methane in a membrane reactor S. Lægsgaard Jørgensen, P.E. Højlund Nielsen and P. Lehmann (Lyngby, Denmark)	185
Control of NO _x emissions in diesel powered light vehicles J.C. Frost (Reading, UK) and G. Smedler (Vastra Frolunda, Sweden)	207

Vol. 26, Nos. 3–4

CATALYTIC COMBUSTION

H. Arai and H. Fukuzawa

Preface	215
---------------	-----

Basic Studies and Materials

Research and development on high temperature catalytic combustion H. Arai (Fukuoka, Japan) and H. Fukuzawa (Kanazawa, Japan)	217
High temperature stable magnesium oxide catalyst for catalytic combustion of methane: A comparison with manganese-substituted barium hexaaluminate M. Berg (Nyköpin, Sweden) and S. Järås (Stockholm, Sweden)	223
Materials selection and design of high temperature catalytic combustion units D.L. Trimm (Sydney, NSW, Australia)	231
Catalytic properties and surface modification of hexaaluminate microcrystals for combustion catalyst M. Machida, A. Sato, T. Kijima (Miyazaki, Japan), H. Inoue, K. Eguchi and H. Arai (Fukuoka, Japan)	239
Development of stable supports consisting of SiC–Si composite for high temperature combustion catalysts T. Okutani, Y. Nakata, M. Suzuki and H. Nagai (Sapporo, Japan)	247

Modelling

Heterogeneous/homogeneous reactions and transport coupling for catalytic combustion systems: a review of model alternatives L.D. Pfefferle (New Haven, CT, USA)	255
Numerical simulation of the two-dimensional flow in high pressure catalytic combustor for gas turbine Y. Tsujikawa, S. Fujii (Sakai, Japan), H. Sadamori, S. Ito and S. Katsura (Osaka, Japan)	267
Modelling channel interactions in a non-adiabatic multichannel catalytic combustion reactor S.T. Kolaczowski and D.J. Worth (Bath, UK)	275
Kinetics of PdO combustion catalysis J.G. McCarty (Menlo Park, CA, USA)	283
Catalytic combustion of natural gas as the role of on-site heat supply in rapid catalytic CO ₂ –H ₂ O reforming of methane T. Inui, K. Saigo, Y. Fujii and K. Fujioka (Kyoto, Japan)	295

Applications

Catalytic combustion reactor design and test results L.M. Quick (Iselin, NJ, USA) and S. Kamitomi (Tokyo, Japan)	303
Multistage catalytic combustion systems and high temperature combustion systems using SiC S. Maruko, T. Naoi and M. Onodera (Tokyo, Japan)	309
High-pressure reaction and emissions characteristics of catalytic reactors for gas turbine combustors S. Hayashi, H. Yamada and K. Shimodaira (Tokyo, Japan)	319
Catalytic combustion technology to achieve ultra low NO _x emissions: Catalyst design and performance characteristics R.A. Dalla Betta, J.C. Schlatter, D.K. Yee, D.G. Loffler (Mountain View, CA, USA) and T. Shoji (Hiratsuka-City, Kanagawa, Japan)	329
Development of a high-temperature combustion catalyst system and prototype catalytic combustor turbine test results H. Sadamori (Osaka, Japan), T. Tanioka (Hyogo, Japan) and T. Matsuhisa (Yamaguchi, Japan)	337

Development of a hybrid catalytic combustor for a 1300°C class gas turbine T. Furuya, K. Sasaki, Y. Hanakata, T. Ohhashi (Kawasaki, Japan), M. Yamada, T. Tsuchiya and Y. Furuse (Yokohama, Japan)	345
Development of a low NO _x catalytic combustor for a gas turbine Y. Ozawa, T. Fujii, S. Kikumoto, M. Sato, H. Fukuzawa (Kanagawa, Japan), M. Saiga and S. Watanabe (Hyogo, Japan)	351
Study on catalytically ignited premixed combustion S. Mandai and T. Gora (Takasago, Hyogo Pref., Japan)	359
Author index to volume 26	365
Contents to volume 26	369
Previous issues of Catalysis Today	A1