

## PREVIOUS ISSUES OF CATALYSIS TODAY

### **Vol. 1, Nos. 1–2**

New Developments in Selective Oxidation

Proceedings of the European Workshop meeting, Louvain-la-Neuve, Belgium, March 17–18, 1986

Part A: Research Papers

B. Delmon and P. Ruiz (Editors)

### **Vol. 1, No. 3**

New Developments in Selective Oxidation

Proceedings of the European Workshop meeting, Louvain-la-Neuve, Belgium, March 17–18, 1986

Part B: Invited Lectures and Comments

B. Delmon and P. Ruiz (Editors)

### **Vol. 1, No. 4**

Hydrocracking: Science and Technology

Proceedings of the NFWO-FNRS Catalysis Contact Group Meeting, Ghent, Belgium, December 3, 1986

G.F. Froment and G.B. Marin (Editors)

### **Vol. 1, No. 5**

Selective Catalysis Gas. A Status Report

Copper–Zinc Oxide–Alumina Methanol Catalysis Revisited

J.C.J. Bart and R.P.A. Sneed

Synthesis of Higher Alcohols from Syngas: Recently Patented Catalysts and Tentative ideas on the Mechanism

Xu Xiaoding, E.B.M. Doesburg and J.J.F. Scholten

### **Vol. 2, No. 1**

Alcohols from Synthesis Gas. A Status Report

Copper–Zinc Oxide–Alumina Methanol Catalysts Revisited

J.C.J. Bart and R.P.A. Sneed

Synthesis of Higher Alcohols from Syngas: Recently Patented Catalysts and Tentative ideas on the Mechanism

Xu Xiaoding, E.B.M. Doesburg and J.J.F. Scholten

### **Vol. 2, Nos. 2–3**

Pillared Clays

R. Burch (Editor)

### **Vol. 2, No. 4**

Catalytic Reduction in Nitrogen Oxides. A review on the Fundamentals and Technology

H. Bosch and F. Janssen

### **Vol. 2, No. 5**

New Methods of Catalyst Preparation and Characterization

Proceedings of the Surface Reactivity and Catalysis Meeting, Brunel University, Uxbridge, UK, September 14–16, 1987

G.C. Bond and P.A. Sermon (Editors)

### **Vol. 3, No. 1**

Chemical Interactions in Zeolites

Proceedings of a Joint Discussion Meeting, Bremen, FRG, June 18–19, 1987

G. Schulz-Ekloff (Editors)

**Vol. 3, Nos. 2–3**

Hydrocarbon Oxidation

Proceedings of a Symposium held during the 93rd National ACS Meeting, New Orleans, LA, USA, August 30–September 4, 1987

R.K. Grasselli and J.F. Brazdil (Editors)

**Vol. 3, No. 4**

Recent Advances in Catalysis over Sulphides

M. Zdražil

**Vol. 3, No. 5**

Catalysis on Zeolites

Proceedings of the International XX. Annual Catalysis Meeting of the GDR, Reinhardsbrunn, GDR, May 26–29, 1987

G. Öhlmann (Editor)

**Vol. 4, No. 1**

Catalytic Hydrotreatment on Alumina Supported Ni-W Sulphides

M. Breyse, C. Gachet and L. De Mourges (Editors)

**Vol. 4 No. 2**

Catalytic Chemistry of Nitrogen-Containing Compounds

Proceedings of the 20th Swedish Symposium in Catalysis, Lund, Sweden, October 13–14, 1987

C.U.I. Odenbrand (Editors)

**Vol. 4, Nos. 3–4**

Methane Activation

Proceedings of the European Workshop, Bochum, FRG, May 2–3, 1988

M. Baerns, J.R.H. Ross and K. Van der Wiele (Editors)

**Vol. 5, No. 1**

Acidic Sites on Catalyst Surfaces and Their Determination

J. Kijenski and A. Baiker

**Vol. 5 No. 2**

Proceedings of the IVth Belgium-Hungarian Conference on Catalysis, Herbeumont, Belgium, October 5–9, 1987

A. Crucq and A. Frennet (Editors)

**Vol. 5, No. 3**

Modulation of Enzyme Catalysis in Organized Biological Systems. A Physico-Chemical Approach

J. Ricard

**Vol. 5, No. 4**

Catalysis and the Use of Natural Resources

Selected Papers from the Fourth Brazilian Seminar on Catalysis

A. Da Costa Faro, Jr., Y.L. Lam and E. Falabella Souza Aguiar (Editors)

**Vol. 6, Nos. 1–2**

Use of Metal Complexes in the Preparation of Catalysis

Proceedings of the Post Congress Symposium, Quebec, Canada, July 5–6, 1988

P. McBreen, P.C. Roberge and S. Kaliaguine (Editors)

**Vol. 6, No. 3**

Synfuels

C.J. Hutchings and M.S. Scurrell

**Vol. 6, No. 4**

Methane Activation

Proceedings of the second European Workshop on Methane Activation, Enschede, The Netherlands, May 22–23, 1989

M. Baerns, F.K. Van Der Wiele and J.R.H. Ross (Editors)

**Vol. 7, No. 1**

Application of Transient Techniques: Methanation on Supported Nickel Catalysts

J.A. Schwarz and J.L. Falconer

**Vol. 7, No. 2**

Carbon and Catalysis

Proceedings of the 1989 Meeting on Carbon and Catalysis, Loughborough, UK, September 11–13, 1989

R. Burch (Editor)

**Vol. 7, No. 3**

Temperature Programmed Analysis and its Application in Catalytic Systems

S. Bhatia, J. Beltramini and D.D. Do

**Vol. 7, No. 4**

Hydrometallisation Catalysts

P.C.H. Mitchell (Editors)

**Vol. 8, No. 1**

Catalytic Conversion with Niobium Materials

Proceedings of the Niobium and Catalysts Symposium at the 1989 International Chemical Congress of Pacific Basin Societies

E.I. Ko (Editor)

**Vol. 8, No. 2**

Perovskites

M. Misono and E.A. Lombardo (Editors)

**Vol. 8, No. 3**

C<sub>1</sub> Conversion: New Technology

G.J. Hutchings and M.S. Scurrell (Editors)

**Vol. 8, No. 4**

Proceedings of the Second German Workshop on Zeolite Chemistry, Hamburg, Germany, March 21–22, 1990

H. Förster and H. Lechert (Editors)

**Vol. 9, Nos. 1–2**

In situ Methods in Catalysis

Proceedings of the Surface Reactivity and Catalysis Group Meeting of the Royal Meeting Society of Chemistry, Reading, UK, September 17–19, 1990

R. Burch (Editor)

**Vol. 9, No. 3**

Adipic Acid

A. Castellian, J.C.J. Bart and S. Cavallaro

**Vol. 9, No. 4**

Ferrisilicate Analogs of Zeolites

P. Ratnasami and R. Kumar (Editors)

**Vol. 10, No. 1**

Catalytic Processes for Environmental Protection in Japan

T. Inui, A. Miyamoto and K. Aika (Editors)

**Vol. 10, No. 2**

Computer Assisted Research for Catalyst Design

H. Niiyama, T. Hattori and A. Miyamoto (Editors)

**Vol. 10, No. 3**

Proceedings of the Second Anglo-Dutch Conference on Heterogeneous Catalysis, Hull, UK, April 15–17, 1991

R. Burch (Editor)

**Vol. 10, No. 4**

New Developments in Hydrodenitrogenation

M. Breysse and G. Szabo (Editors)

**Vol. 11, No. 1**

Second International Symposium on Catalyst Performance Testing, Vlaardingen, The Netherlands, November 26–27, 1991

**Vol. 11, No. 2**

Hydrotalcite-Type Anionic Clays: Preparation, Properties and Applications  
F. Cavani, F. Trifirò and A. Vaccari

**Vol. 11, No. 3**

Non-Faradic Electrochemical Modification of Catalytic Activity: A. Status Report  
C.G. Vayenas, S. Bebelis, I.V. Yentekakis and H.-G. Lintz

**Vol. 11, No. 4**

Catalytic Deactivation  
J.J. Spivey (Editor)

**Vol. 12, No. 1**

Ion and Mixed Conducting Oxides as Catalysts  
P.J. Gellings and H.J.M. Bouwmeester

**Vol. 12, Nos. 2-3**

The Nature of Active Centres in Catalysis by Metals  
R. Burch and P. Hollins (Editors)

**Vol. 12, No. 4**

Identification of Intermediate Species in Catalytic Reactions  
C.M. Quinn (Editor)

**Vol. 13, No. 1**

Proceedings of the ACS Symposium on New Industrial Catalytic Processes held in Honour of James F. Roth, New York, NY, USA, August 28-29, 1991  
J.N. Armor (Editor)

**Vol. 13, Nos. 2-3**

Catalytic Methane Conversion  
C. Mirodatos, J.M. Basset, G.A. Martin and J. Saint-Just (Editors)

**Vol. 13, No. 4**

Proceedings of the Workshop Meeting on C<sub>1</sub>-C<sub>3</sub> Hydrocarbon Conversion, Krasnoyarsk, USSR, September 10-13, 1991  
A.G. Anshits and J.R.H. Ross (Editors)

**Vol. 14, No. 1**

Ethylene Dimerization and Oligomerization to Butene-1 and Linear  $\alpha$ -Olefins  
A.M. Al-Jarallah, J.A. Anabtawi, M.A.B. Siddiqui, A.M. Aitani and A.W. Al-Sa'Doun

**Vol. 14, No. 2**

Catalyst Supports: Chemistry, Forming and Characterization  
S.A. Bradley (Editor)

**Vol. 14, Nos. 3-4**

Oxidative Coupling of Hydrocarbons  
V.D. Sokolovskii and E.A. Mamedov

**Vol. 15, No. 1**

Fuel Extenders and Additives  
G.J. Hutchings and M.S. Scurrall (Editors)

**Vol. 15 No. 2**

High Surface Area Nitrides and Carbides  
P.W. Lednor (Editor)

**Vol. 15, Nos. 3-4**

Progress in Catalyst Preparation  
D.E. Resasco and R. Miranda (Editors)

**Vol. 16, No. 1**

Vanadyl Pyrophosphate Catalysts  
G. Centi (Editor)

**Vol. 16, No. 2**

Catalysts in Environmental Technology

F. Janssen (Editor)

**Vol 16, Nos. 3–4**

Preparation, Physico-Chemical Properties and Catalytic Activities of Niobium Materials

K. Tanabe (Editor)

**Vol. 17, Nos. 1–2**

Environmental Industrial Catalysis

P. Ruiz, F. Thyron and B. Delmon (Editors)

**Vol. 17, No. 3**

Heterogeneous Catalysis: Retrospect and Prospects

P.A. Sermon (Editor)

**Vol. 17, No. 4**

Regeneration of Hydroprocessing Catalysts

E. Furimsky and F.E. Massoth

**Vol. 18, No. 1**

Multi-Nuclear Metal Complexes as Novel Catalysts

M.G. White (Editor)

**Vol 18, No. 2**

Catalysis 2000: Strategy and Expectations

L. Guczi and Z. Schay (Editors)

**Vol. 18, No. 3**

Catalytic Reactions of Partial Methane Oxidation

O.V. Krylov

**Vol. 18, No. 4**

Fuels and Feedstocks:

The Next Generation of Catalysts and Processes

G.J. Hutchings and M.S. Scurrall (Editors)

**Vol. 19, No. 1**

Large Pore Molecular Sieves

M.E. Davis (Editor)

**Vol. 19, No. 2**

Heterogeneously Catalyzed Selective Oxidations in the Liquid Phase

A. Baiker and T. Mallat (Editors)

**Vol. 19, No.3**

Coal Liquefaction

D.B. Dadyburjor and J.W. Zondlo (Editors)

**Vol. 20, No. 1**

Eurocat Oxide

J.C. Védrine (Editor)

**Vol. 20, No. 2**

Zirconium in Catalysis

P.J. Moles (Editor)

**Vol. 20, No. 3**

Dynamics of Catalytic Systems

K. Klusáček (Editor)

**Vol. 21, No. 1**

Chemistry and Characterization of Metal-Like Catalysts

S.A. Bradley and R.J. Bertolacini (Editors)

**Vol. 21, Nos. 2-3**

Methane Activation

G.B. Marin, M. Baerns, M. Frias and J.R.H. Ross (Editors)

**Vol. 22, No. 1**

Recent Progress in Novel Catalytic Removal of Nitrogen Monoxide

M. Iwamoto (Editor)

**Vol. 22, No. 2**

Advanced Heterogeneous Catalysts for Energy Applications. A Key to clean, Efficient Energy

G.A. Mills (Editor)

**Vol. 22, No. 3**

Biocatalysis

G.A. Veldink and J.F.G. Vliegthart (Editors)

**Vol. 23, No. 1**

Recent Advances in  $C_1$  Chemistry

G.J. Hutchings and M.S. Scurrall (Editors)

**Vol. 23, No. 2**

Methodology and Scope of Metal/Bromide Autoxidation of Hydrocarbons

W. Partenheimer

**Vol. 23, No. 3**

HRTEM for Catalysis

M.J. Ledoux (Editor)

**Vol. 23, No. 4**

The Impact of Computers on Catalyst Research and Development

A. Miyamoto, T. Hattori and M. Misono (Editors)

**Vol. 24, Nos. 1-2**

Catalysis in Multiphase Reactors

P. Fouilloux (Editor), C. de Bellefon, P. Grenouillet, C. Joly-Vuillemin (Co-editors)

**Vol. 24, No. 3**

Proceedings of the Second Workshop on  $C_1$ - $C_3$  Hydrocarbon Conversion, held in Krasnoyarsk, Russia, 27-30 June, 1994

A.G. Anshits and E.N. Voskresenskaya (Editors)

**Vol. 24, No. 4**

Catalytic and Adsorptive Desulphurization of Gases

J. Winkowska

**Vol. 25, No. 1**

In Situ IR Spectroscopy of Intermediates in Heterogeneous Oxidative Catalysis

V.A. Matyshak and O.V. Krylov

**Vol. 25, No. 2**

Periodic Operation of Catalytic Reactors

P.L. Silveston, R.R. Huggins and A. Renken (Editors)

**Vol. 25, Nos. 3-4**

Catalysis in Membrane Reactors

J.A. Dalmon, A. Giroir-Fendler, C. Mirodatos and H. Mozzanega (Editors)

**Vol. 26, No. 1**

Catalysis in Environmental Applications

S. Cheng and B.-Z. Wan (Editors)

**Vol. 26, No. 2**

Selective Reduction of Nitrogen Oxides by Hydrocarbons

R. Burch (Editor)

**Vol. 26, Nos. 3-4**

International Workshop on Catalytic Combustion, held in Tokyo, 18-20 April, 1994

H. Arai and H. Fukuzawa (Editors)

**Vol. 27, Nos. 1–2**

World Conference on Environmental Catalysis, held in Pisa, 1–5 May 1994  
G. Centi and P. Forzatti (Editors)

**Vol. 27, Nos. 3–4**

Vibrational Spectroscopy of Adsorbed Molecules and Surface Species on Metal Oxides  
G. Busca (Editor)

**Vol. 28, Nos. 1–2**

Catalytic Properties of niobium materials and related subjects  
K. Tanabe (Editor)

**Vol. 28, No. 3**

Scientific Aspects of Practical Metallic Catalysts  
M. Masai, S. Tsuruya and H. Arakawa (Editors)

**Vol. 28, No. 4**

Fundamentals of Oxide Catalysts  
M.D. Amiridis and R.F. Davis (Editors)

**Vol. 29, Nos. 1–4**

JECAT'95, Second Japan-EC Joint Workshop on the Frontiers of Catalytic Science & Technology for Energy, Environment and Risks Prevention  
M. Breyse, M. Frias, Ch. Geantet, N. Guilhaume, A. Nishijima and M. Primet (Editors)

**Vol. 30, Nos. 1–3**

1st Global Conference of Young Chinese Scientists on Catalysis Science and Technology  
Y. Li (Editor)

**Vol. 30, No. 4**

Spent Refinery Catalysts: Environment, Safety on Utilization  
E. Furimsky

**Vol. 31, No. 1–2**

Catalytic Conversion of Polycyclic Aromatic Hydrocarbons  
C. Song, M. Klein and J. Reynolds (Editors)

**Vol. 31, Nos. 3–4**

Gallium-loaded Zeolites and Related Systems  
K.M. Dooley and G.L. Price (Editors)

**Vol. 32, Nos. 1–4**

Proceedings of the 5th European Workshop Meeting on Selective Oxidation by Heterogeneous Catalysis  
M. Baerns and R. Schlögl (Editors)

**Vol. 33, Nos. 1–3**

Catalysis and Photocatalysis on Metal Oxides: Recent Developments  
U.S. Ozkan and H.H. Kung (Editors)

**Vol. 33, No. 4**

Hydration/hydrolysis by solid acids  
Y. Izumi

**Vol. 34, Nos. 1–2**

Directory of Catalysis

**Vol. 34, Nos. 3–4**

The catalytic process from the laboratory to the industrial plant. Papers presented at the 3rd Seminar of Catalysis held in Rimini, Italy, June 19–24, 1994  
D. Sanfilippo (Editor)

**Vol. 35, Nos. 1–2**

Proceedings of the International Forum on Environmental Catalysis '95 (IFEC '95)  
E. Kikuchi, M. Misono and K. Sagawa (Editors)

**Vol. 35, No. 3**

Sol-gel preparation of catalytic materials

E.I. Ko (Editor)

**Vol. 35, No. 4**

Proceedings of the Symposium on Heterogenous Catalysis and Reaction Engineering

S.S.C. Huang and K.L. Fullerton (Editors)

**Vol. 36, No. 1**

Copper, Silver and Gold in Catalysis

M. Haruta and Y. Souma (Editors)

**Vol. 36, No. 2**

Temperature Programmed Reactors

B.W. Wojciechowski (Editor)

**Vol. 36, No. 3**

Syngas Conversion to High Value Chemicals

J.J. Spivey and M.R. Gogate (Editors)

**Vol. 36, No. 4**

Interaction of Industrial and Fundamental Research in Catalysis

Papers presented at the International Symposium on Interaction of Industrial and Fundamental Research in Catalysis, Beer-Sheva, 30–31 October 1995

M. Herskowitz and M.V. Landau (Editors)

**Vol. 37, No. 1**

Selective Oxidation

(Proceedings of the Selective Oxidation Session at the 14th Meeting of the North American Catalysis Society, Snowbird, UT, June 1995)

J.B. Moffat (Editor)

**Vol. 37, No. 2**

Catalytic Amination Reactions

T. Mallat and A. Baiker (Editors)