

Subject Index

A

- Acetic acid on chromia. I. Studies on the ketonization of, J. C. KURIAKOSE AND R. SWAMINATHAN, 348
- Acrylonitrile synthesis catalysts. Structure-catalytic efficiency relationships in U-Sb oxide, R. K. GRASSELLI AND J. L. CALLAHAN, 93
- Adsorption of nitric oxide on chromia supported on alumina. K. OTTO AND M. SHELEF, 226
- Alumina and on silica-alumina. Active sites and mechanisms of dehydration of methanol and methylation of methylaniline on, J. M. PARERA AND N. S. FIGOLI, 303
- Ammonia synthesis over molybdenum nitride. Mechanism and isotope effect in, KEN-ICHI AIKA AND ATSUMU OZAKI, 311
- Ammonia synthetic iron catalyst. A Mössbauer study on the, T. YOSHIOKA, J. KOEZUKA, AND I. TOYOSHIMA, 281
- Aromatic alkali metal complexes. Hydrogen exchange on, YOSHIRO MORI, NOBUYUKI WAKAYAMA, AND KIROO INOKUCHI, 1
- Author Index, 397

B

- BET equation. Estimation of monolayer capacity for the, T. L. HENSON AND W. G. HUNTER, 197
- Book Review, "Catalytic Conversion of Hydrocarbons" by J. E. GERMAIN, reviewed by HERVEY H. VOGEL, 284
- 1-Butene on mixed-oxide catalyst. Infrared spectrum of, G. A. BLOMFIELD AND L. H. LITTLE, 213
- n*-Butene isomerization over sodium X zeolite and copper X zeolite. Studies of, CHR. DIMITROV AND H. F. LEACH, 336

C

- Carbon monoxide. Influence of the surface structure of a nickel oxide catalyst on the mechanism; of the room-temperature oxidation of, G. E. SHOBAKY, P. C. GRAVELLE, AND S. J. TEICHNER, 4
- Carbon monoxide oxidation. Catalytic properties of non-stoichiometric uranium-thorium mixed oxides in, BERNARD M. CLAUDEL AND GUY F. BRAU, 322
- Chemisorbed H, N, O, S, F, Cl atoms. Crystal field effects in, REINER KOLLRACK, 332
- Chromia. I. Studies on the ketonization of acetic acid on, J. C. KURIAKOSE AND R. SWAMINATHAN, 348

- Chromia-alumina on its catalytic activity. The influence of the physical characteristics of, J. C. KURIAKOSE AND C. DANIEL, 77
- Chromia supported on alumina. The adsorption of nitric oxide on, K. OTTO AND M. SHELEF, 226
- CO on some Ni catalysts. Methanation of, PETER SCHOUBYE, 238
- Cobalt. Formation of dimeric products during steady state hydrogenation of ethylene over, R. J. KOKES, 83
- Conversion reactor data by the differential method. Error in handling finite, HUGO A. MASSALDI AND JAIME A. MAYMÓ, 61
- Copper foils. Decomposition of hydrogen peroxide on variously treated, D. D. ELEY AND D. M. MACMAHON, 193
- Copper group in the catalytic decomposition of hydrogen peroxide. Surface heterogeneity of metals of the, G. BLIZNAKOV AND D. LAZAROV, 187
- Copper-nickel films. Catalytic activity and electric resistance of evaporated, TOYOSABURO TAKEUCHI, YOSHISATO TEZUKA, AND OSAMU TAKAYASU, 126
- Crystal field effects in chemisorbed H, N, O, S, F, Cl atoms. REINER KOLLRACK, 332
- Cu₃Au. Dehydrogenation of formic acid by, R. F. HOWE AND A. METCALFE, 55
- Cyclization of paraffins over platinum reforming catalysts. Direct evidence for dual-functional, A. J. SILVESTRI, P. A. NARO, AND R. L. SMITH, 386
- Cyclohexane dehydrogenation. Activity of transition metal oxides for, P. C. RICHARDSON AND D. R. ROSSINGTON, 175

D

- Dehydration of ethanol over silica-alumina. F. FIGUERAS ROCA, L. DE MOURGUES, AND Y. TRAMBOUZE, 107
- Dehydration of methanol and ethanol catalyzed by polystyrene sulfonate resins. B. C. GATES AND L. N. JOHANSON, 69
- Dehydration of methanol and methylation of methylaniline on alumina and on silica-alumina. Active sites and mechanisms of, J. M. PARERA AND N. S. FIGOLI, 303
- Dehydrogenation. The activity of transition metal oxides for cyclohexane, P. C. RICHARDSON AND D. R. ROSSINGTON, 175
- Dehydrogenation of formic acid by Cu₃Au. R. F. HOWE AND A. METCALFE, 55

- Differential method. Error in handling finite conversion reactor data by the, HUGO A. MASSALDI AND JAIME A. MAYMÓ, 61
- Diffusion effects in the preparation of impregnated catalysts. PETER HARRIOTT, 43
- Diffusion kinetics within supported liquid-phase catalysts. PETER R. RONY, 142
- Diffusion rates in porous materials at different pressure. The prediction of, L. F. BROWN, H. W. HAYNES, AND W. H. MANOGUE, 220
- Dual-functional cyclization of paraffins over platinum reforming catalysts. Direct evidence for, A. J. SILVESTRI, P. A. NARO, AND R. L. SMITH, 386
- ### E
- EPR of adsorbed nitric oxide. Study of surface interactions on gamma-alumina, silica-alumina, and silica-magnesia. JACK H. LUNSFORD, 379
- ESR study of V_2O_5 catalyst on carriers. H. TAKAHASHI, M. SHIOTANI, H. KOBAYASHI, AND J. SOHMA, 134
- Ethanol catalyzed by polystyrene sulfonate resins. The dehydration of methanol and, B. C. GATES AND L. N. JOHANSON, 69
- Ethanol over silica-alumina. Dehydration of ethanol over, F. FIGUERAS ROCA, L. DE MOURGUES, AND Y. TRAMBOUZE, 107
- Ethylene hydrogenation on platinum/silica catalysts. T. A. DORLING, M. J. EASTLAKE, AND R. L. MOSS, 23
- Ethylene over cobalt. Formation of dimeric products during steady state hydrogenation of, R. J. KOKES, 83
- ### F
- Faujasite. Thermal behavior of synthetic, WILLIAM J. AMBS AND WILLIAM H. FLANK, 118
- Formic acid by Cu_4Au . Dehydrogenation of, R. F. HOWE AND A. METCALFE, 55
- Four-center mechanism for olefin reactions. R. L. BANKS AND G. C. BAILEY, 276
- ### G
- Gamma-alumina, silica-alumina, and silica-magnesia using the EPR of adsorbed nitric oxide. A study of surface interactions on, JACK H. LUNSFORD, 379
- Graphite-supported palladium catalysts. The influence of the substrate on the behavior of, I. C. BROWNLIE, J. R. FRYER, AND G. WEBB, 263
- ### H
- Hall effect studies of oxygen chemisorption on zinc oxide. HAKZE CHON AND JESUS PAJARES, 257
- Hydrogen chemisorbed on metal surfaces. On the reactivity of, YASUKATSU TAMAI, YOSHIYUKI NISHIYAMA, AND TAKAO TATEYAMA, 394
- Hydrogen exchange on aromatic alkali metal complexes. YOSHIRO MORI, NOBUYUKI WAKAYAMA, AND HIROO INOKUCHI, 1
- Hydrogen peroxide. Surface heterogeneity of metals of the copper group in the catalytic decomposition of, G. BLIZNAKOV AND D. LAZAROV, 187
- Hydrogen peroxide by metals and alloys of the platinum group. Catalytic decomposition of, D. W. MCKEE, 355
- Hydrogen peroxide on variously treated copper foils. The decomposition of, D. D. ELEY AND D. M. MACMAHON, 193
- Hydrogen reaction mechanism of TiO_2 . J. R. HARRIS AND D. R. ROSSINGTON, 168
- Hydrogenation activity of zinc oxide by x-ray irradiation. Change of, G. W. MACH, G.-M. SCHWAB, AND R. SIZMANN, 261
- Hydrogenation of ethylene 1- C^{13} on silica-supported platinum. A mass spectral study of the, B. A. MORROW, 279
- Hydrogenation of ethylene over cobalt. Formation of dimeric products during steady state, R. J. KOKES, 83
- Hydrogenolysis of propane. Activity and properties of nickel catalysts in the, F. E. SHEPHARD, 148
- ### I
- Impregnated catalysts. Diffusion effects in the preparation of, PETER HARRIOTT, 43
- Impregnated catalysts. On the merits of partially, SARDUL MINHAS AND J. J. CARBERRY, 270
- Infrared spectrum of 1-butene on mixed-oxide catalyst. G. A. BLOMFIELD AND L. H. LITTLE, 213
- Iron catalyst. A Mössbauer study on the ammonia synthetic, T. YOSHIOKA, J. KOEZUKA, AND I. TOYOSHIMA, 281
- Irradiation. Change of hydrogenation activity of zinc oxide by x-ray, G. W. MACH, G.-M. SCHWAB, AND R. SIZMANN, 261
- Isomerization over sodium X zeolite and copper X zeolite. Studies of *n*-butene, CHR. DIMITROV AND H. F. LEACH, 336
- Isotope effect in ammonia synthesis over molybdenum nitride. Mechanism and, KEN-ICHI AIKA AND ATSUMU OZAKI, 311
- ### K
- Ketonization of acetic acid on chromia. I. The adsorbate-catalyst interaction. J. C. KURIACOSE AND R. SWAMINATHAN, 348
- ### L
- Liquid-phase catalysts. Diffusion kinetics within supported, PETER R. RONY, 142

SUBJECT INDEX

M

- Magnesium oxide for the decomposition of nitrous oxide. Catalytic activity of nickel ions in, A. CIMINO, V. INDOVINA, F. PEPE, AND M. SCHIAVELLO, 49
- Metal oxides for cyclohexane dehydrogenation. The activity of transition, P. C. RICHARDSON AND D. R. ROSSINGTON, 175
- Metal surfaces. On the reactivity of hydrogen chemisorbed on, YASUKATSU TAMAI, YOSHIYUKI NISHIYAMA, AND TAKAO TATEYAMA, 394
- Metals and alloys of the platinum group. Catalytic decomposition of hydrogen peroxide by, D. W. MCKEE, 355
- Metals of the copper group in the catalytic decomposition of hydrogen peroxide. G. BLIZNAKOV AND D. LAZAROV, 187
- Methanation of CO on some Ni catalysts. PETER SCHOUBYE, 238
- Methanol and ethanol catalyzed by polystyrene sulfonate resins. The dehydration of, B. C. GATES AND L. N. JOHANSON, 69
- Methanol and methylation of methylaniline on alumina and on silica-alumina. Active sites and mechanisms of dehydration of, J. M. PARERA AND N. S. FIGOLI, 303
- Methanol over pure MoO₃ catalyst. The oxidation of, N. PERNICONE, F. LAZZERIN, G. LIBERTI, AND G. LANZAVECCHIA, 391
- Methanol oxidation to CH₂O over MoO₃-Fe₂(MoO₄)₃ catalyst. On the mechanism of, N. PERNICONE, F. LAZZERIN, G. LIBERTI, AND G. LANZAVECCHIA, 293
- Methylaniline on alumina and on silica-alumina. Active sites and mechanisms of dehydration of methanol and methylation of, J. M. PARERA AND N. S. FIGOLI, 303
- Molybdena catalyst. The oxidation of methanol over pure, N. PERNICONE, F. LAZZERIN, G. LIBERTI, AND G. LANZAVECCHIA, 391
- Molybdena-Fe₂(MoO₄)₃ catalyst. On the mechanism of CH₃OH oxidation to CH₂O over, N. PERNICONE, F. LAZZERIN, G. LIBERTI, AND G. LANZAVECCHIA, 293
- Molybdenum nitride. Mechanism and isotope effect in ammonia synthesis over, KEN-ICHI AIKA AND ATSUMU OZAKI, 311
- Molybdenum oxide supported on alumina. Transformation of propylene on, MARIAN TANIEWSKI AND MARIAN OTREMBIA, 201
- Monolayer capacity for the BET equation. Estimation of, T. L. HENSON AND W. G. HUNTER, 197
- Mössbauer study on the ammonia synthetic iron catalyst. T. YOSHIOKA, J. KOEZUKA, AND I. TOYOSHIMA, 281
- Multiplet band structure of the $\nu(\text{OH})$ stretching

frequencies of silica and alumina surfaces. The interpretation of, H. E. HALLAM, 104

N

- Ni catalyst. Methanation of CO on some, PETER SCHOUBYE, 238
- Nickel catalysts in the hydrogenolysis of propane. F. E. SHEPHARD, 148
- Nickel oxide catalyst on the mechanism of carbon monoxide oxidation. Influence of the surface structure of, G. EL SHOBAKY, P. C. GRAVELLE, AND S. J. TEICHNER, 4
- Nickel ions in magnesium oxide for the decomposition of nitrous oxide. Catalytic activity of, A. CIMINO, V. INDOVINA, F. PEPE, AND M. SCHIAVELLO, 49
- Nitric oxide. Study of surface interactions on gamma-alumina, silica-alumina, and silica-magnesia. JACK H. LUNSFORD, 379
- Nitric oxide on chromia supported on alumina. The adsorption of, K. OTTO AND M. SHELEF, 226
- Nitrous oxide. Catalytic activity of nickel ions in magnesium oxide for the decomposition of, A. CIMINO, V. INDOVINA, F. PEPE, AND M., SCHIAVELLO, 49

O

- Olefin disproportionation. Tracer studies of, F. L. WOODY, M. J. LEWIS, AND G. B. WILLS, 389
- Olefin reactions. Four-center mechanism for, R. L. BANKS AND G. C. BAILEY, 276
- Organic semiconductors. Catalytic behavior of, YOSHIRO MORI, NOBUYUKI WAKAYAMA, AND KIROO INOKUCHI, 1
- Oxidation by silver chelates. Propylene oxidation. J. ROUCHAUD AND M. DE PAUW, 114
- Oxidation of methanol over pure MoO₃ catalyst. N. PERNICONE, F. LAZZERIN, G. LIBERTI, AND G. LANZAVECCHIA, 391
- Oxygen chemisorption on zinc oxide. Hall effect studies of, HAKZE CHON AND JESUS PAJARES, 257

P

- Paraffins over platinum reforming catalyst. Direct evidence for dual-functional cyclization of, A. J. SILVESTRI, P. A. NARO, AND R. L. SMITH, 386
- Palladium catalysts. The influence of the substrate on the behavior of graphite-supported, I. C. BROWNLEE, J. R. FRYER, AND G. WEBB, 263
- Phenylpicrylhydrazine on titanium dioxide. Dehydration of, DWARIKA N. MISRA, 34
- Platinum. A mass spectral study of the hydrogenation of ethylene 1-C¹³ on silica-supported, B. A. MORROW, 279
- Platinum group. Catalytic decomposition of hydro-

- gen peroxide by metals and alloys of the, D. W. McKEE, 355
- Platinum reforming catalysts. Direct evidence for dual-functional cyclization of paraffins over, A. J. SILVESTRI, P. A. NARO, AND R. L. SMITH, 386
- Platinum/silica catalysts. Ethylene hydrogenation on, T. A. DORLING, M. J. EASTLAKE, AND R. L. MOSS, 23
- Polystyrene sulfonate resins. The dehydration of methanol and ethanol catalyzed by, B. C. GATES AND L. N. JOHANSON, 69
- Pore structure. The structure of Raney nickel I. J. FREEL, W. J. M. PIETERS, AND R. B. ANDERSON, 247
- Propane. Activity and properties of nickel catalysts in the hydrogenolysis of, F. E. SHEPHARD, 148
- Propylene on molybdenum oxide supported on alumina. Transformation of, MARIAN TANIEWSKI AND MARIAN OTREMBA, 201
- Propylene oxidation by silver chelates. J. ROUCHAUD AND M. DE PAUW, 114
- R**
- Raney nickel. The structure of, J. FREEL, W. J. M. PIETERS, AND R. B. ANDERSON, 247
- Reaction rate modeling near chemical equilibria. JOHN HAPPEL AND REIJI MEZAKI, 273
- Reforming catalysts. Direct evidence for dual-functional cyclization of paraffins over platinum, A. J. SILVESTRI, P. A. NARO, AND R. L. SMITH, 386
- Rhenium. Dispersion and catalytic properties of supported, D. J. C. YATES AND J. H. SINFELT, 182
- S**
- Semiconductors. Catalytic behavior of organic, YOSHIRO MORI, NOBUYUKI WAKAYAMA, AND HIROO INOKUCHI, 1
- Silica-alumina. Dehydration of ethanol over, F. FIGUERAS ROCA, L. DE MOURGUES, AND Y. TRAMBOUZE, 107
- Silica-alumina, gamma-alumina, and silica-magnesia using the EPR of adsorbed nitric oxide. Study of surface interactions on, JACK H. LUNSFORD, 379
- Silica and alumina surfaces. The interpretation of the multiplet band structure of the $\nu(\text{OH})$ stretching frequencies of, H. E. HALLAM, 104
- Silver chelates. Propylene oxidation by, J. ROUCHAUD AND M. DE PAUW, 114
- Sulfur dioxide oxidation on vanadium catalysts. The reduction-oxidation mechanism of, A. ŠIMEČEK, B. KADLEC, AND J. MICHÁLEK, 287
- T**
- TiO₂. Hydrogen reaction mechanism on, J. R. HARRIS AND D. R. ROSSINGTON, 168
- Titanium dioxide. Dehydration of phenylpicrylhydrazine on, DWARIKA N. MISRA, 34
- Transition metal oxides for cyclohexane dehydrogenation. P. C. RICHARDSON AND D. R. ROSSINGTON, 175
- U**
- Uranium-thorium mixed oxides in carbon monoxide oxidation. Catalytic properties of non-stoichiometric, BERNARD M. CLAUDEL AND GUY F. BRAU, 322
- U-Sb oxide acrylonitrile synthesis catalysts. Structure-catalytic efficiency relationships in, R. K. GRASELLI AND J. L. CALLAHAN, 93
- V**
- V₂O₅ catalyst on carriers. ESR study of, H. TAKAHASHI, M. SHIOTANI, H. KOBAYASHI, AND J. SOHMA, 134
- Vanadium catalysts. The reduction-oxidation mechanism of sulfur dioxide oxidation on, A. ŠIMEČEK, B. KADLEC, AND J. MICHÁLEK, 287
- Z**
- Zeolite. Sodium X and copper X studies of *n*-butene isomerization over, CRH. DIMITROV AND H. F. LEACH, 336
- Zeolites. X. The nature of active sites on, JOHN W. WARD, 365
- Zinc oxide. Hall effect studies of oxygen chemisorption on, HAKZE CHON AND JESUS PAJARES, 257
- Zinc oxide by x-ray irradiation. Change of hydrogenation activity of, G. W. MACH, G.-M. SCHWAB, AND R. SIZMANN, 261