

Subject Index

A

- Acid-base properties and catalytic activity of solid surfaces. KEN-ICHI TANAKA AND ATSUMU OZAKI, 1
- Acidic catalysts. Heats of adsorption of ammonia, on, F. S. STONE AND L. WHALLEY, 173
- Acidity of the crystalline zeolites, mordenite and Y faujasite. Relationship between catalytic activity and nature of, H. A. BENESI, 368
- Acrolein. Reaction of phosphomolybdic acid with, HITOSHI NAKAJIMA AND NAOYA KOMINAMI, 197
- Active centers in cyclohexene disproportionation on supported palladium. S. CARRA, V. RAGAINI, AND F. GUELLA, 261
- Active sites on fluorided alumina. The nature of catalytically, V. C. F. HOLM AND ALFRED CLARK, 286
- Adsorbed carbon monoxide and metal electron population. A relationship between infrared frequencies of, J. K. A. CLARKE, 200
- Adsorption by an abbreviated method. Pore-size distributions from nitrogen, GEORGE R. LESTER, 283
- Adsorption of ammonia on acidic catalysts. Heats of, F. S. STONE AND L. WHALLEY, 173
- Adsorption of hydrogen. Gas Chromatographic determination of reversible, ATSUMU OZAKI, YOSHIKO SHIGEHARA, AND SADA OOGASAWARA, 22
- Adsorption of hydrogen on near-faujasites. Reversible, JOHN E. BENSON AND MICHEL BOUDART, 93
- Alcohols over zeolite catalyst. Dehydration of, D. E. BRYANT AND W. L. KRANICH, 8
- Al₂O₃ catalysts. Selective poisoning of, JOE W. HIGHTOWER, 298
- Al₂O₃ catalysts. Selective poisoning of, (An answer to the remark of J. W. Hightower), J. MEDEMA AND J. P. W. HOUTMAN, 301
- Alumina. The nature of catalytically active sites on fluorided. V. C. F. HOLM AND ALFRED CLARK, 286
- γ -Alumina on the catalytic, vapor-phase dehydration of ethyl alcohol. Effect of sodium ion impurities in, D. E. R. BENNETT AND R. A. ROSS, 289
- Ammonia and the conversion of carbon monoxide. The synthesis of, G. PARRAVANO, 29
- Ammonia on acidic catalysts. Heats of adsorption of, F. S. STONE AND L. WHALLEY, 173
- Ammonia synthesis catalyzed by uranium nitride. I. N. SEGAL AND F. SEBBA, 105, 113
- Announcement, 104
- Anthracene and anthracene-TNB complex. Hydro-

- gen conversion with organic vapor under illumination. H. INOKUCHI, M. TSUDA, AND T. KONDOW, 91
- Author index, 399

B

- Benzene on nickel and platinum. Investigations on the chemisorption of, PAL TETENYI AND LAJOS BABERNICS, 215
- Benzene over lead monoxide. Catalytic oxidation of propylene, isobutene, and, J. R. ANDERSON AND A. B. SWANSON, 41
- Book reviews, 397
- tert*-Butyl chloride on pure and doped silver chloride. On the dehydrochlorination of, K. HAUFFE AND F. SITABKHAN, 340

C

- Carbon monoxide. The synthesis of ammonia and the conversion of, G. PARRAVANO, 29
- Carbon monoxide and metal electron population. A relationship between infrared frequencies of adsorbed, J. K. A. CLARKE, 200
- Carbon monoxide on platinum group metals. Interaction of hydrogen and, D. W. MCKEE, 240
- Carbon monoxide oxidation over a manganese oxide. The kinetics of hydrogen and, C. S. BROOKS, 272
- Charge-transfer complexes. Effect of chemisorption of hydrogen and electrical conductivity of perylene-cesium, H. INOKUCHI, N. WAKAYAMA, AND T. HIROOKA, 383
- Charge-transfer complexes. Hydrogen exchange between deuterium and, H. INOKUCHI, Y. MORI, AND N. WAKAYAMA, 288
- Chemisorbed hydrocarbon species. Hybridization of the carbon atom in, J. ERKELENS AND L. P. VAN'T HOF, 103
- Chemisorption of benzene on nickel and platinum. Investigations on the, PAL TETENYI AND LAJOS BABERNICS, 215
- Chemisorption of hydrogen and electrical conductivity of perylenecesium charge-transfer complexes. Effect of, H. INOKUCHI, N. WAKAYAMA, AND T. HIROOKA, 383
- trans*-Chlorocarbonylbis(triphenylphosphine) iridium(I). Homogeneous catalysis with, G. G. EBERHARDT AND L. VASKA, 183
- Chromia for nickel catalysts. The promoting action of the, PETRE MĂRGINEANU AND ALEXANDRU OLARIU, 359
- Chromia-silica catalysts. Kinetics and ESR studies

- of ethylene polymerization on, V. B. KAZANSKI AND J. TURKEVICH, 231
- Chromic Oxide. Decomposition of Nitrous Oxide on, KEN-ICHI TANAKA AND ATSUMU OZAKI, 307
- Chromium Oxide catalysts for propene polymerization. I. H. CHARCOSSET, A. REVILLON, AND A. GUYOT, 326
- π -Complex mechanism for the catalytic deuteration of cyclohexene. J. ERKELENS, 212
- o-, m-, and p-Cresols with a rhodium catalyst. The hydrogenation of, YUZURU TAKAGI, SHIGEO NISHIMURA, KAZUO TAYA, AND KOZO HIROTA, 100
- Cyclohexene. A π -complex mechanism for the catalytic deuteration of, J. ERKELENS, 212
- Cyclohexene disproportionation on supported palladium. Active centers in, S. CARRA, V. RAGAINI, AND F. GUELLA, 261
- Cyclopropane and methylcyclopropane over evaporated metal films. The reaction of deuterium with, J. R. ANDERSON AND N. R. AVERY, 48
- D**
- Dealkylation of alkylbenzenes on the cracking catalysts. Temperature effects in, ISAO MOCHIDA AND YUKIO YONEDA, 223
- Dehydration of alcohols over zeolite catalysts. D. E. BRYANT AND W. L. KRANICH, 8
- Dehydration of ethyl alcohol. Effect of sodium ion impurities in γ -alumina on the catalytic, vapor-phase, D. E. R. BENNETT AND R. A. ROSS, 289
- Dehydrochlorination of tert-butyl chloride on pure and doped silver chloride. On the, K. HAUFFE AND F. SITABKHAN, 340
- Deuteration of cyclohexene. A π -complex mechanism for the catalytic, J. ERKELENS, 212
- Deuterium and charge-transfer complexes. Hydrogen exchange between, H. INOKUCHI, Y. MORI, AND N. WAKAYAMA, 288
- Deuterium with cyclopropane and methylcyclopropane over evaporated metal films. The reaction of, J. A. ANDERSON AND N. R. AVERY, 48
- Dispersion. The catalytic activity of rhodium in relation to its state of, D. J. C. YATES AND J. H. SINFELT, 348
- E**
- Electrical conductivity of perylene-cesium charge-transfer complexes. Effect of chemisorption of hydrogen and, H. INOKUCHI, N. WAKAYAMA, AND T. HIROOKA, 383
- Electronic transitions in catalyst systems. Olefin polymerization by titanium trichloride-aluminum alkyl. J. W. BEGLEY AND F. PENNELLA, 203
- ESR studies of ethylene polymerization on chromia-silica catalysts. Kinetics and, V. B. KAZANSKI AND J. TURKEVICH, 231
- Ethane over the noble metals of Group VIII. Catalytic hydrogenolysis of, J. H. SINFELT AND D. J. C. YATES, 82
- Ethyl alcohol. Effect of sodium ion impurities in γ -alumina on the catalytic, vapor-phase dehydration of, D. E. R. BENNETT AND R. A. ROSS, 289
- Ethylene on silica-supported nickel. Infrared spectra of chemisorbed molecules. I. J. ERKELENS AND TH. J. LIEFKENS, 36
- Ethylene over evaporated palladium-silver alloy films. The oxidation of, R. L. MOSS AND D. H. THOMAS, 151, 162
- Ethylene oxidation over gold-silver alloy catalysts. The geometric factor in, WILLIAM H. FLANK AND HAROLD C. BEACHELL, 316
- Ethylene polymerization on chromia-silica catalysts. Kinetics and ESR studies of, V. B. KAZANSKI AND J. TURKEVICH, 231
- F**
- Faujasites. Reversible adsorption of hydrogen on near-, JOHN E. BENSON AND MICHEL BOUDART, 93
- Fe³⁺-H₂O₂ reaction by acetone. Inhibition of the, J. M. FLICSTEIN AND M. L. KREMER, 145
- Ferromagnetic resonance investigation of nitrogen adsorption on nickel. A. A. ANDREEV AND P. W. SELWOOD, 98
- Ferromagnetic resonance of supported nickel with adsorbed hydrogen, oxygen, and ethylene. A. A. ANDREEV AND P. W. SELWOOD, 375
- Fluorided alumina. The nature of catalytically active sites on, V. C. F. HOLM AND ALFRED CLARK, 286
- Freons. Kinetic structural analysis of catalytic disproportionation of, E. CAVATERRA, V. FATTORE, AND N. GIORDANO, 137
- G**
- Gas chromatographic determination of reversible adsorption of hydrogen. ATSUMU OZAKI, YOSHIKO SHIGEHARA, AND SADA O GASAWARA, 22
- Geometric factor in ethylene oxidation over gold-silver alloy catalysts. The, WILLIAM H. FLANK AND HAROLD C. BEACHELL, 316
- Gold-silver alloy catalysts. The geometric factor in ethylene oxidation over, WILLIAM H. FLANK AND HAROLD C. BEACHELL, 316
- H**
- Heat of adsorption for hydrogen. Thermal titration of platinum black and the initial, EDWARD S. J. TOMESKO AND GEORGE T. FURUKAWA, 386

- Heats of adsorption of ammonia on acidic catalysts. F. S. STONE AND L. WHALLEY, 173
- Homogeneous hydrogenation catalyst. I. Chlorotris (triphenylphosphine)-rhodium (I) as a hydrogen-exchange catalyst. Tritium exchange using, A. L. ODELL, J. B. RICHARDSON, AND W. R. ROPER, 393
- Hybridization of the carbon atom in chemisorbed hydrocarbon species. J. ERKELENS AND L. P. VAN'T HOF, 103
- Hydration of propylene on the metal sulfate-silica gel catalyst. Catalytic vapor-phase, YOSHISADA OGINO, 64
- Hydrocarbons on a nickel catalyst. Hydrogenolysis of saturated, K. KOCHLOEFL AND V. BAZANT, 250
- Hydrogen and carbon monoxide on platinum group metals. Interaction of, D. W. McKEE, 240
- Hydrogen and carbon monoxide oxidation over a manganese oxide. The kinetics of, C. S. BROOKS, 272
- Hydrogen by supported metal catalysts. The retention of, G. F. TAYLOR, S. J. THOMSON, AND G. WEBB, 388
- Hydrogen conversion with organic vapor under illumination. Anthracene and anthracene-TNB complex. H. INOKUCHI, M. TSUDA, AND T. KONDOW, 91
- Hydrogen exchange between deuterium and charge-transfer complexes. H. INOKUCHI, Y. MORI, AND N. WAKAYAMA, 288
- Hydrogen on near-faujasites. Reversible adsorption of, JOHN E. BENSON AND MICHEL BOUDART, 93
- Hydrogenation of o-, m-, and p-Cresols with a rhodium catalyst. YUZURU TAKAGI, SHIGEO NISHIMURA, KAZUO TAYA, AND KOZO HIROTA, 100
- Hydrogenolysis of ethane over the noble metals of Group VIII. Catalytic, J. H. SINFELT AND D. J. C. YATES, 82
- Hydrogenolysis of saturated hydrocarbons on a nickel catalyst. I. K. KOCHLOEFL AND V. BAZANT, 250
- I
- Infrared frequencies of adsorbed carbon monoxide and metal electron population. A relationship between, J. K. A. CLARKE, 200
- Infrared spectra of chemisorbed molecules. I. Ethylene on silica-supported nickel. J. ERKELENS AND TH. J. LIEFKENS, 36
- Inhibition of the Fe^{3+} - H_2O_2 reaction by acetone. J. M. FLICSTEIN AND M. L. KREMER, 145
- Iron catalyst. Mossbauer effect spectra of a supported, M. C. HOBSON, JR. AND A. D. CAMPBELL, 294
- Isomerization and transmethylation over platinum-on-silica catalyst. SIGMUND M. CSICSERY AND R. L. BURNETT, 75
- Isomerization over silica-alumina. Mechanism of methylcyclopropane, H. R. GERBERICH, JOE W. HIGHTOWER, AND W. KEITH HALL, 391
- Isobutene, and benzene over lead monoxide, Catalytic oxidation of propylene, J. R. ANDERSON AND A. B. SWANSON, 41
- K
- Kinetics and ESR studies of ethylene polymerization on chromia-silica catalysts. V. B. KAZANSKI AND J. TURKEVICH, 231
- Kinetics of hydrogen and carbon monoxide oxidation over a manganese oxide. C. S. BROOKS, 272
- L
- Lead monoxide. Catalytic oxidation of propylene, isobutene, and benzene over, J. R. ANDERSON AND A. B. SWANSON, 41
- Lewis Acid-Lewis base reactions on oxide surfaces. Redox processes and, B. D. FLOCKHART AND R. C. PINK, 293
- Linear free energy relationships in heterogeneous catalysis. III. ISAO MOCHIDA AND YUKIO YONEDA, 223
- M
- Manganese oxide. The kinetics of hydrogen and carbon monoxide oxidation over a, C. S. BROOKS, 272
- Mechanism of methylcyclopropane isomerization over silica-alumina. H. R. GERBERICH, JOE W. HIGHTOWER, AND W. KEITH HALL, 391
- Mechanism of triphenylcarbonium ion formation on the silica-alumina surface. CHING YONG WU AND W. KEITH HALL, 394
- Metal electron population. A relationship between infrared frequencies of adsorbed carbon monoxide and, J. K. A. CLARKE, 200
- Metal films. The reaction of deuterium with cyclopropane and methylcyclopropane over, J. R. ANDERSON AND N. R. AVERY, 48
- Metal oxides. Oxidation-reduction potentials and their relation to the catalytic activity of transition, K. KLIER, 8
- Metals of Group VIII. Catalytic hydrogenolysis of ethane over the noble, J. H. SINFELT AND D. J. C. YATES, 82
- Methyl alcohol on vanadium pentoxide catalyst. Kinetics of vapor-phase oxidation of, S. K. BHATTACHARYYA, K. JANAKIRAM, AND N. D. GANGULY, 128
- Methylcyclopropane isomerization over silica-alumina. Mechanism of, H. R. GERBERICH, JOE W. HIGHTOWER, AND W. KEITH HALL, 391
- Methylcyclopropane over evaporated metal films.

The reaction of deuterium with cyclopropane and, J. R. ANDERSON AND N. R. AVERY, 48
 Mossbauer effect spectra of a supported iron catalyst. M. C. HOBSON, JR. AND A. D. CAMPBELL, 294

N

Nickel. Ethylene on silica-supported. Infrared spectra of chemisorbed molecules. I. J. ERKELENS AND TH. J. LIEFKENS, 36
 Nickel. Ferromagnetic resonance investigation of nitrogen adsorption on, A. A. ANDREEV AND P. W. SELWOOD, 98
 Nickel and platinum. Investigations on the chemisorption of benzene on. PAL TETENYI AND LAJOS BABERNICS, 215
 Nickel with adsorbed hydrogen, oxygen, and ethylene. Ferromagnetic resonance of supported, A. A. ANDREEV AND P. W. SELWOOD, 375
 Nickel catalyst. Hydrogenolysis of saturated hydrocarbons on a, K. KOCHLOEFL AND V. BAZANT, 250
 Nickel catalysts. The promoting action of the chromia for, PETRE MĂRGINEANU AND ALEXANDRU OLARIU, 359
 Nickel catalysts. The properties of reversibly adsorbed hydrogen on a, ATSUMU OZAKI, YOSHIKO SHIGEHARA, AND SADA O GASAWARA, 22
 Nitrogen adsorption by an abbreviated method. Pore-size distributions from, GEORGE R. LESTER, 283
 Nitrogen adsorption on nickel. Ferromagnetic resonance investigation of, A. A. ANDREEV AND P. W. SELWOOD, 98
 Nitrous oxide on chromic oxide. Decomposition of, KEN-ICHI TANAKA AND ATSUMU OZAKI, 307

O

Olefin polymerization by titanium trichloride-aluminum alkyl. Electronic transitions in, J. W. BEGLEY AND F. PENNELLA, 203
 Oxidation of ethylene over evaporated palladium-silver alloy films. R. L. MOSS AND D. H. THOMAS, 151, 162
 Oxidation of methyl alcohol on vanadium pentoxide catalyst. Kinetics of vapor-phase, S. K. BHATTACHARYYA, K. JANAKIRAM, AND N. D. GANGULY, 128
 Oxidation of propylene, isobutene, and benzene over lead monoxide. Catalytic, J. R. ANDERSON AND A. B. SWANSON, 41
 Oxidation over a manganese oxide. The kinetics of hydrogen and carbon monoxide, C. S. BROOKS, 272
 Oxidation-reduction potentials and their relation to

the catalytic activity of transition metal oxides. K. KLIER, 14
 Oxide surfaces. Redox processes and Lewis Acid-Lewis base reactions on, B. D. FLOCKHART AND R. C. PINK, 293

P

Palladium. Active centers in cyclohexene disproportionation on supported, S. CARRA, V. RAGAINI, AND F. GUELLA, 261
 Palladium-silver alloy films. The oxidation of ethylene over evaporated, R. L. MOSS AND D. H. THOMAS, 151, 162
 Peroxo radicals on tin dioxide. Formation of, J. H. C. VAN HOOFF AND J. F. VAN HELDEN, 199
 Phosphomolybdic acid with acrolein. Reaction of, HITOSHI NAKAJIMA AND NAOYA KOMINAMI, 197
 Platinum. Investigations on the chemisorption of benzene on nickel and, PAL TETENYI AND LAJOS BABERNICS, 215
 Platinum black and the initial heat of adsorption for hydrogen. Thermal titration of, EDWARD S. J. TOMEZSKO AND GEORGE T. FURUKAWA, 386
 Platinum group metals. Interaction of hydrogen and carbon monoxide on, D. W. MCKEE, 240
 Platinum-on-silica catalyst. Isomerization and transmethylation over, SIGMUND M. CSICSERY AND R. L. BURNETT, 75
 Polymerization. I. Supported Chromium oxide catalysts for propene, H. CHARCOSSET, A. REVILLON, AND A. GUYOT, 326, 334
 Pore-size distributions from nitrogen adsorption by an abbreviated method. GEORGE R. LESTER, 283
 Pore size distributions from sorption isotherms. On the methods for the estimation of, C. EMIG AND H. HOFMANN, 303
 Pore-size distribution in terms of surface area. Computation of, B. VISWANATHAN AND M. V. C. SASTRI, 312
 Propene polymerization. I. Supported chromium oxide catalysts for, H. CHARCOSSET, A. REVILLON, AND A. GUYOT, 326, 334
 Propylene, isobutene, and benzene over lead monoxide. Catalytic oxidation of, J. R. ANDERSON AND A. B. SWANSON, 41
 Propylene on the metal sulfate-silica gel catalyst. Catalytic vaporphase hydration of, YOSHISADA OGINO, 64

R

Redox processes and Lewis acid-Lewis base reactions on oxide surfaces. B. D. FLOCKHART AND R. C. PINK, 293
 Retention of hydrogen by supported metal catalysts. The, G. F. TAYLOR, S. J. THOMSON, AND G. WEBB, 388

Rhodium catalyst. The hydrogenation of *o*-, *m*-, and *p*-Cresols with a, YUZURU TAKAGI, SHIGEO NISHIMURA, KAZUO TAYA, AND KOZO HIROTA, 100

Rhodium in relation to its state of dispersion. The catalytic activity of, D. J. C. YATES AND J. H. SINFELT, 348

S

Selective poisoning of Al_2O_3 catalysts. JOE W. HIGHTOWER, 298

Selective poisoning of Al_2O_3 catalysts (an answer to the remark of J. W. Hightower), J. MEDEMA AND J. P. W. HOUTMAN, 301

Silica-alumina. Mechanism of methylenecyclopropane isomerization over, H. R. GERBERICH, JOE W. HIGHTOWER, AND W. KEITH HALL, 391

Silica-alumina surface. Mechanism of triphenylcarbonium ion formation on the, CHING YONG WU AND W. KEITH HALL, 394

Silver chloride. On the dehydrochlorination of *tert*-butyl chloride on pure and doped, K. HAUFFE AND F. SITABKHAN, 340

Sodium ion impurities in γ -alumina on the catalytic, vapor-phase dehydration of ethyl alcohol. D. E. R. BENNETT AND R. A. ROSS, 289

Subject index, 401

Surface-area distributions of porous solids. A simple method to determine cumulative. J. MEDEMA AND A. COMPAGNER, 120

Surface models in heterogeneous catalysis. G. PARRAVANO, 29

T

Temperature profiles in a rapidly fouling catalyst bed. P. G. MENON AND R. SREERAMAMURTHY, 95

Thermal titration of platinum black and the initial

heat of adsorption for hydrogen. EDWARD S. J. TOMEZSKO AND GEORGE T. FURUKAWA, 386

$TiCl_3$ - $AlCl_3$ System. Solid solution formation in the, E. G. M. TORNQVIST, J. T. RICHARDSON, Z. W. WILCHINSKY, AND R. W. LOONEY, 189

Tin dioxide. Formation of peroxy radicals on. J. H. C. VAN HOOFF AND J. F. VAN HELDEN, 199

Titanium trichloride-aluminum alkyl. Electronic transitions in catalyst systems. Olefin polymerization by, J. W. BEGLEY AND F. PENNELLA, 203

Transmethylation over platinum-on-silica catalyst. Isomerization and, SIGMUND M. CSICSERY AND R. L. BURNETT, 75

Triphenylcarbonium ion formation on the silica-alumina surface. Mechanism of, CHING YONG WU AND W. KEITH HALL, 394

Tritium exchange using homogeneous hydrogenation catalyst. I. Chlorotris(triphenylphosphine)-rhodium (I) as a hydrogen-exchange catalyst. A. L. ODELL, J. B. RICHARDSON, AND W. R. ROPER, 393

U

Uranium nitride. Ammonia synthesis catalyzed by, N. SEGAL AND F. SEBBA, 105, 113

V

Vanadium pentoxide catalyst. Kinetics of vapor-phase oxidation of methyl alcohol on, S. K. BHATTACHARYYA, K. JANAKIRAM, AND N. D. GANGULY, 128

Z

Zeolite catalysts. Dehydration of alcohols over, D. E. BRYANT AND W. L. KRANICH, 8

Zeolites, mordenite and Y faujasite. Relationship between catalytic activity and nature of acidity of the crystalline, H. A. BENESI, 368