



Altamira Instruments

Altamira Notes
Vol. 3.4

Temperature-Programmed Desorption for Catalyst Characterization

Bibliography

1. Absi-Halabi, M. and A. Stanislaus, "Effect of Phosphorus on the Acidity of γ -Alumina and on the Thermal Stability of γ -Alumina Supported Nickel-Molybdenum Hydrotreating Catalysts". Applied Catalysis, 39, pp 239-253 (1988).
2. Ahlafi, H., D. Bianchi, and C.O. Bennet, "Changes of the Metallic Surface of Fe/AlO₃ During Exposure to CO/He and CO/H₂," Applied Catalysis, 66, pp 99-110 (1990).
3. Anderson, J.R., K. Foger, and R.J. Breakspere, "Adsorption and Temperature-Programmed Desorption of Hydrogen with Dispersed Platinum and Platinum-Gold Catalysts," Journal of Catalysis, 57, pp 458-475 (1979).
4. Arakawa, T., K-l. Takada, Y. Tsunemine, and J. Shiokawa, "Temperature-Programmed Desorption of CO from Reduced Perovskite Oxides LnCoO₃ x(Ln=La, Sm)," Material Research Bulletin, 24, pp 395-402 (1989).
5. Bailey, K.M., T.K. Campbell, and J.L. Falconer, "Potassium Promotion of Ni/Al₂O₃ Catalysts," Applied Catalysis, 54, pp 159-175 (1989).
6. Baker, J.R., R.L. McCormick, and H.W. Haynes, Jr., "Effect of Sodium Impregnation on Catalyst Performance when Hydrotreating a Coal-Derived Liquid," Industrial Engineering Chemical Research, 29, pp 1895-1901 (1987).
7. Beriowitz, P.J. and D.W. Goodman, "Chemisorption of Ultrathin Pd Layers on W(110) and W(100): Adsorption of H₂ and CO," Lanomuir, 4, (1988).
8. Bernal, S., F.J. Botana, R. Garcia, Z. Kang, M.L. Lopez, M. Pan, F. Ramirez, and J.M. Rodriguez-Izquierdo, "Characterization of Rare Earth Oxide Supported Metal Catalysts. Study of Some Ceria Supported Rhodium Phases," Catalysis Today, 2, (1988).
9. Bertuccio, A. and C.O. Bennett, "Characterization of a Silica-Supported Rhodium Catalyst via Hydrogen Chemisorption, Temperature-Programmed Desorption and Isotopic Exchange Measurements," Applied Catalysis, 35, pp 329-349 (1987).

10. Bhatia, S., J. Beltramini, and D.D. Do, Temperature-Programmed Analysis and Its Applications in Catalytic Systems," Catalysis Today, 7, pp 309-438 (1990).
11. Bowker, M. and D. Halstead, "Adsorption Studies on Catalysts. II. Application to Rapid Adsorbers - Oxygen on Europlatinum 1," Applied Surface Science, 44, pp 1-6 (1990).
12. Cao, R., W.X. Pan and G.L. Griffin, "Direct Synthesis of Higher Alcohols Using Bi-Metallic Copper/Cobalt Catalysts," Lanomuir, 4, (1988).
13. Chan, Y-C. and R.B. Anderson, Temperature-Programmed Desorption of N₂, Ar, and CO₂ Encapsulated in 3A Zeolite," Journal of Catalysis, 50, pp 319-329 (1977).
14. Chen, I. and F-L. Chen, "Effect of Alkali & Alkaline-Earth Metals on the Resistivity to Coke Formation and Sintering of Nickel-Alumina Catalysts," Industrial Engineering & Chemical Research, 29, pp 534-539 (1990).
15. Chen, I. and F-L. Chen., "Effect of Initial pH Value on Coke Formation of Nickel-Alumina Catalysts in Catalytic Cracking," Industrial Engineering Chemical Research, 29, pp 550-554 (1990).
16. Choudhary, V.R. and V.S. Nayak, "A GC Pulse Method Based on Temperature-Programmed Desorption under Chromatographic Conditions for Measuring Irreversible Adsorption on Solid Catalysts," Applied Catalysis, 4, pp 31-36 (1982).
17. Cvetanovic, R.J. and Y. Amenomiya, "A Temperature-Programmed Desorption Technique for Investigation of Practical Catalysts," Catalysis Reviews, 6(1), pp 21-48 (1972).
18. Diagne, C., H. Idriss, I. Pepin, J.P. Hindermann, and A. Kiennemann "Temperature-Programmed Desorption Studies on Pd/CeO₂ after Methanol and Formic Acid Adsorption and Carbon Monoxide-Hydrogen Reaction," Applied Catalysis, 50, pp 43-53 (1989).
19. Diagne, C., H. Idriss, J.P. Hindermann, and A. Kiennemann, "Promoting Effects of Lithium on Pd/CeO₂ Catalysts in Carbon Monoxide-Hydrogen Reactions. Chemical Trapping and Temperature-Programmed Desorption Studies," Applied Catalysis, 51, pp 165-180 (1989).
20. Dossi, C., A Fusi, E. Grilli, R. Psaro, R. Ugo, and R. Zanoni, "FTIR, XPS and TPD Studies on the Thermal Decomposition of Os₃ (CO)₁₂/Silica: A Multi-technique Approach to the Resolution of Some Controversial Problems," Catalysis Today, 2, (1988).

21. Falconer, J.L. and J.A. Schwarz, "Temperature-Programmed Desorption and Reaction: Applications to Supported Catalysts," Catalysis Review-Scientific Engineering, 25 (2), pp 141-227 (1983).
22. Halpem, B. and J.E. Germain, Thermodesorption of Oxygen from Powdered Transition Metal Oxide Catalysts," Journal of Catalysis, 37, pp 44-56 (1975).
23. Hong, C-C. and C-T. Yeh, "Probing the Electronic Interaction between Metal and Support on Pd/TiO₂ Catalyst with Absorption of Hydrogen," Mater. Chem. Phvs., 20, pp 471-483 (1988).
24. Hu, Z., K. Kunimori, and T. Uchijima, "Interaction of Hydrogen and Oxygen with Niobia-Supported and Niobia-Promoted Rhodium Catalysts," Applied Catalysis, 69, pp 253-268 (1991).
25. Iwamoto, Masakazu, Yoda, Yukihiro, Egashira, and Selyama, Tetsuro, "Study of Metal Oxide Catalysts by Temperature-Programmed Desorption," The Journal of Physical Chemistry, 80, No. 18 (1976).
26. Kofke, T.J., Gricus, R.J. Gorte and G.T. Kokotailo, "Determination of Framework Concentrations of Gallium in [Ga]-ZSM-5," Applied Catalysis, 54, pp 177-188 (1989).
27. Konvalinka, J.A., P.H. Van Oeffelt, and J.J.F. Schotten, Temperature-Programmed Desorption of Hydrogen from Nickel Catalysts," Applied Catalysis, 1, pp 141-158 (1981).
28. Konovalova, N.D., V.A. Zazhigalov, Y.P. Zartseu, V.M. Belousov, and E.I. Yaremenko, "Investigation of Acidic Properties of the Surface of V and Mo Oxides and V-Mo-O Catalysts by the Ammonia Thermal-Desorption Method," Sov. Proa. Chem., 54, pp 33-37 (1988).
29. Leary, K.J., J.N. Michaels, and A.M. Stacy, "Penetration of Hydrogen into Sub-surface Sites of Silica-Supported Palladium During Temperature-Programmed Desorption," Langmuir, 4, pp 1251-1257 (1988).
30. Le Van Mao, R., T.M. Nguyen, and J. Yao, "Conversion of Ethand in Aqueous Solution Over ZSM-5 Zeolites. Influence of Reaction Parameters and Catalyst Acidic Properties as Studied by Ammonia TPD Technique," Applied Catalysis, 61, pp 161-173 (1990).
31. Levy, P-J. and M. Prime, "States of Hydrogen Adsorption on Platinum-Alumina and Platinum-Ceria Catalysts. A Temperature-Programmed Desorption Study." Applied Catalysis, 70, DP 263-276 (1991).

32. Liu, X., Y. Yang, and J. Zhang, Temperature-Programmed Reduction and Desorption Studies of Praseodymium Promoted Platinum/Alumina Catalysts," Applied Catalysis, 71, pp 167-184 (1991).
33. Marengo, S., A. Carimati, A. Girelli, S. Martinengo, and L. Zanderighi, "Studies on the Reactivity of Supported Rhodium and Molybdenum Carbonyl Complexes using Temperature-Programmed Techniques," Catalysis Today, 6, pp 89-96 (1989).
34. McCormick, R.L, J.R. Baker, H.W. Haynes, Jr., and R. Malhotra, "Surface Acidity Studied by the Temperature-Programmed Desorption of Tert-Butylamine," Energy Fuels, 2, pp 740-743 (1988).
35. Mieville, R.L. and M.G. Reichmann, "Temperature-Programmed Desorption Study of CO on Pt Reforming Catalysts," Preprints Division of Petroleum Chemistry ACS, pp 601-606 (1988).
36. Moon, S-J. and S-K. Ihm, "Nitric Oxide Chemisorption and Temperature-Programmed Desorption Study of Cobalt and Molybdenum Catalysts Supported on Activated Carbon and Alumina," Applied Catalysis, 42, pp 307-324 (1988).
37. Nag, N.K., D. Fraenkel, JA Moulijn, and B.C. Gates, "Characterization of Hydroprocessing Catalysts by Resolved Temperature-Programmed Desorption, Reduction, and Sulfiding," Journal of Catalysis, 66, pp 162-170 (1980).
38. Qi, Y., Z. Wang, and R. Wang, "Design and Study of Catalysts for Selective Hydrogenation," Applied Catalysis, 53, pp 63-70 (1989).
39. Spinnid, R. and A. Ulibarri, "Characterization of the Catalytic Activity of a Thermally Activated Hydrotalcite-like Compound in Propylene Oligomerization," Mater. Chem. Phys., 26, pp 1-12 (1990).
40. Subramanian, S. and J.A. Schwarz, "Structure and Activity of Composite Oxide Supported Platinum-Indium Catalysts." Applied Catalysis, 74, pp 65-81 (1991).
41. Suzuki, T., T. Hiral, and S. Hayashi, "Adsorbate Interaction Between Carbon Monoxide and Ethylene over γ -Al₂O₃" React. Kinet. Catal. Lett., 43, pp 293-299 (1991).
42. Tejuca, G.L, A.T. Bell, J.L.G. Fierro, and MA Pena, "Surface Behavior of Reduced LaCoO₃ as studied by TPD of CO, CO₂ and H₂ Probes and by XPS," Applied Surface Science, 31, pp 301-316 (1988).

43. Tejuca, L.G., A.T. Bell, and C.V. Cortes, "TPD and IR Spectroscopy Studies of CO, CO₂ and H₂ Adsorption on LaCrO₃," Applied Surface Science, 37, pp 353-366 (1989).
44. Tungler, A., J. Heiszman, S. Bekassy, and J. Petro, "Complex Studies on Industrial Nickel Catalysts," Period. Polytech. Chem. Eng. 32, pp 175-179 (1988).
45. Vlaev, L., D. Damyanov, and M.M. Mohamed, "Effect of the Nature of Promoting Chromium-Containing Compounds on the Isomerization and Dehydrocydization Activities of Pt-Cr/Al₂O₃ Catalysts," Applied Catalysis, 65, pp 11-20 (1990).

