



Heterogeneous Catalysis Research Progress

By Mathias B. Gunther

Nova Science Publishers Inc. Hardback. Book Condition: new. BRAND NEW, Heterogeneous Catalysis Research Progress, Mathias B. Gunther, Heterogeneous catalysis is a chemistry term which describes catalysis where the catalyst is in a different phase (ie. solid, liquid and gas, but also oil and water) to the reactants. Heterogeneous catalysts provide a surface for the chemical reaction to take place on. In order for the reaction to occur, one or more of the reactants must diffuse to the catalyst surface and adsorb onto it. After reaction, the products must desorb from the surface and diffuse away from the solid surface. Frequently, this transport of reactants and products from one phase to another plays a dominant role in limiting the reaction rate. Understanding these transport phenomena and surface chemistry such as dispersion is an important area of heterogeneous catalyst research. Catalyst surface area may also be considered. Mesoporous silicates, for example, have found utility as catalysts because their surface areas may be in excess of 1000 m²/g, which increases the probability that a reactant molecule in solution will come in contact with the catalyst surface and adsorb. If diffusion rates are not taken into account, the reaction rates for various reactions on...



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