intensively "boiling" bed. To bring this about, increase the linear gas velocity to 0.15 m/sec and also increase the bed height. In this case, because of departure from the standardized operating conditions, employ a reactor of modified construction.

Laboratory Method of Dehydrogenation of Isopropyl Alcohol Over Weighed Catalyst Bed

By B. V. Yerofeyev and R. I. Beilskaya
The Institute of Organic Physical Chemistry of the Academy of Sciences of Bielo-Russian S.S.R.

Describe a laboratory technique of dehydrogenation of isopropyl alcohol over a weighed bed of catalyst.

Show that lowering of acetone yield, which is observed at various operating conditions, is due to a partial reversal of the reaction over the catalyst in a colder section of the reactor. Entrainment of the catalyst from the weighed bed and subsequent deposition account for its presence in the colder reactor zone. Also show that in absence of such catalyst loss, near-equilibrium yields of acetone are produced to agree with the equation, $CH_3CH(OH)CH_3 \leftrightharpoons CH_3COCH_3 + H_2$.

Standardization and Automation of Some of the Laboratory Steps in Preparation and Evaluation of Catalysts

By V. E. Vasserberg
N. D. Zeleenskii Laboratory of the Institute of Organic Chemistry of the Academy of Sciences of U.S.S.R.

Describe construction of a number of simple laboratory devices, such as an electrolytic burette to measure delivery of liquids, electronic manometers of a variable-resistance type, highly-sensitive spring-beam balances for adsorption measurements, and bench-scale micro-cathetometers. These instruments, along with various standard electronic measuring devices, make possible to automate and standardize some of the laboratory operating steps, such as precipitation of catalysts at constant pH values, recording the amounts of gases separating from liquids, introducing test-specimens into processing units under vacuum and withdrawal of samples therefrom, maintenance of constant gas flow-rates and recording them, etc.

A Thermographic Method for Determination of Natural and Synthetic Silica-Alumina Catalysts

By Z. G. Zoolfoogarov, A. S. Aleeyev, S. M. Rasoolova and V. E. Smeernova
Institute of Chemistry of the Academy of Sciences of Azierbaidjan S.S.R.

Show that activity of silica-alumina cracking catalysts can be evaluated frrom intensity of the thermograms of the primary endothermal effect. Also, demonstrate reversibility of catalytic activity and of the thermogrammic properties of silica-alumina hydrogels.

Methods for Calculating Kinetics of Continuous Heterogeneous Catalytic Processes Retarded by the Reaction Products

By A. Ya. Rosovskii
Institute of Petrochemical Synthesis of the Academy of Sciences of U.S.S.R.

With concentration of a reactant on a catalyst surface as the basis, determined some of the parameters of kinetics of the first order catalytic reactions. The correlation between catalytic activity and the reaction rate constant is the preferred parameter of a heterogeneous catalytic reaction. Activity of a catalyst is most accurately expressed as the amount of a substance reacted per unit of time and per unit quantity of active centers.

Also investigated were kinetics and methods of calculation of the reaction rate constants for the kinetic and the internal diffusion and adsorption stages of the process, as well as the methods to determine the value of the diffusion retarding factor in a differential reactor. Although equations of the same type serve to describe all of the three stages of the process, the values of the equation constants for each stage are different in magnitude and in physical significance. To optimize accuracy of these calculations, extreme care must be exercised in evaluating physical significance of the parameters derived from the experimental data, correcting them, where necessary, for the superimposed distorting effects of diffusion and adsorption.

Evaluation of Catalysts and of Catalytic Processes in Tall Beds

By O. A. Strieltzov, B. P. Samareen, I. P. Seedorov and M. T. Roosov
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Review a method to evaluate catalysts and catalytic reactions in tall beds, with concurrent determination of concentrations of the reactants and of the longitudinal bed temperature gradient. This method is applicable to high pressure processes; it is also suitable for accumulation of reliable data to be used in designing commercial-size reactors.