REVIEW

A NEW PERIODICAL: HUNGARIAN JOURNAL OF INDUSTRIAL CHEMISTRY

A new periodical in foreign language has been launched in Hungary, entitled "*Hungarian Journal of Industrial Chemistry*". The journal, publishing papers in English, Russian, French and German, is a joint edition of institutions of the chemical industry seated in Veszprém such as the Hungarian Oil and Gas Research Institute (MÁFKI), the Research Institute for Heavy Chemical Industries (NEVIKI), the Research Institute for Technical Chemistry of the Hungarian Academy of Sciences (MÜKKI) and the Veszprém University of Chemical Engineering (VVE). It contains original publications on the achievements of applied and fundamental research work affecting the chemical industry, in addition to those from the field of chemical processing, chemical engineering, and chemical unit operations. Most of the authors are research workers of the quoted institutions but papers by other authors are also accepted by the editorial board, provided they fit into the periodical. As an introduction of the new periodical to the readers of our journal, let me review the papers in the first issue of the Hungarian Journal of Industrial Chemistry.

László, A. and Árva, P.: "*Application of Analog Computers for he Measurement and Evaluation of Residence Time Distribution.*"

A measurement and calculation method for directly connecting any optional unit and an analog computer is described. Measurement and evaluation of residence time distribution pressions have been converted so as to deliver quantities which can be directly fed into an analog computer.

The method is advantageous by its high speed, permitting calculations to parallel the experiments. In addition, any variable convertible to electric voltage can be directly fed into an analog computer. For example, a chromatograph can be directly connected to an analog computer. Accordingly, the method is of universal technical use.

Blickle, T.: *Algebraic Desrciption of Technical Chemical Systems I. The Significance of Modern Algebraic Methods in Chemical Systems Engineering.*

Papers in this series will be concerned with:
— material systems and transformations;
— combination and projection of material systems;
— technical chemical operators;
— composition of technical chemical operators;
— generalization of the technical information package.

In the introductory paper, the possible applications of systems theory, systems engineering and modern algebra in technical chemistry are discussed, and the stage assignments and expected results of the algebraic treatment are defined. Tasks facing one in course of the study and optimalization of technical chemical systems are:

1. Qualitative description and study of technical chemical systems.
2. Study of the functions interpreted for technical chemical systems and of their correlations.
3. Optimalization of static systems.
4. Description, control and optimalization of dynamic systems.

Fitness of modern algebraic methods of treatment for solving the first task will be confirmed by subsequent papers.

Blickle, T. and Ormos, Z.: "*Studies on the Hydrodynamics of Fluidized Layers.*"

Knowledge of the expansion of fluidized layers is important both for calculating heat and mass transfer processes, and for apparatus design. The expansion of the layer can —

among others be characterized by the voids-ratio of the fluidized bed. Its determination methods can be applied in the case of fluidization

a) either with a liquid or with a gas;
b) only with a liquid;
c) only with a gas.

The measuring techniques published in the literature are described according to the above classification.

CSONTOS, G., HEIL, B., MARKÓ, L. and CHINI, P.: "*Hydroformylation of Propylene with Hydrogen, $Rh_4(CO)_{12}$ and Carbon Monoxide.*"

Propylene reacts with H_2 and $Rh_4(CO)_{12}$ at room temperature and atmospheric pressure to yield butyr aldehydes and $Rh_4(CO)_{11}$. With higher olefins, isomerization and hydrogenation were observed as side reactions. The rate of butyr aldehyde formation is of the first order with respect to $Rh_4(CO)_{12}$ and H_2. The initial rate of the reactions is much inhibited by the presence of CO, namely then CO is incorporated into the reaction product and partially converts the system into one catalyzed by rhodium. The step controlling the rate is apparently the reaction of $Rh_4(CO)_{12}$ with H_2 to give mononuclear rhodium carbonyl hydrides responsible for the hydroformylation of propylene.

KÁNTOR, E., MAGYAR, M. and MÓZES, GY.: "*Calculation of Extraction Columns for Lubricating Oil Refinement.*"

A report is given of a research work started a few years ago, aimed at funding a method for modelling operational units, procedures and apparatus used in mineral oil and petrochemical industry. This work was based on the known fundamentals of theoretical reactor techniques.

ILLÉS, V., WELTHER, K. and SZEPESY, L.: "*Description of the Thermal Decomposition of Naphthas.*"

Pyrolysis of a straight-run Romashkino naphtha cut (boiling range 40 to 160 °C) has been investigated at atmospheric pressure and in the temperature range of 570 to 830 °C, using a laboratory tubular reactor.

A new index was introduced to specify the decomposition of the naphthas. Replacing the conversion by the decomposition grade in equations developed for tubular reactors, correlations were derived for describing the overal decomposition rate of the naphthas. It has been demonstrated that in the usual temperature and residence time ranges of industrial pyrolysis processes, the expansion and the yield distribution of the main reaction products depend only on the decomposition grade.

A simplified kinetic model was elaborated for predicting the product distribution in naphtha pyrolysis.

GÁRDOS, GY., HÓDOSSY, L. and KUN SZABÓ, T.: "*Catalytic Dehydrogenation of Tetrahydrothiophene to Thiophene.*"

Thermodynamic conditions of the dehydrogenation of tetrahydrothiophene have been studied in experiments with various types of metal oxide and metal sulphide catalysts, in order to increase the rate fo the equilibrium reaction under standard conditions. Reaction kinetics have been determined for each catalyst. According to the calculations, surface reaction is the partial process determining the rate.

I feel the papers reviewed give a true picture of the new journal the Editor-in-Chief of which is Professor Dr. Endre Bodor, University of Chemical Engineering, Veszprém.

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