

DMITRII VLADIMIROVICH SOKOL'SKII

(ON HIS 60TH BIRTHDAY)

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Dmitrii Vladimirovich Sokol'skii, hero of Socialist Labor, Vice-president of the Academy of Sciences of the Kazakh SSR, Academician of the Academy of Sciences of the Kazakh SSR, Doctor of Chemical Sciences, Professor, eminent specialist in the field of catalysis, and Director of the Institute of Organic Catalysis and Electrochemistry of the Academy of Sciences of the Kazakh SSR, has celebrated his 60th birthday.



D. V. Sokol'skii's work has been characterized by the wide use of electrochemical methods for the investigation of catalytic processes. His interest in electrochemistry and profound attention to electrochemical phenomena at the catalyst-solution interface have been manifested in D. V. Sokol'skii's articles since 1949, when he developed an original method for measuring the potential of powdered catalysts in the simultaneous investigation of the kinetics of catalytic reactions. During long years of continuous perfection and refinement, this method has been converted to an effective weapon in the hands of the experimenter, permitting profound penetration into the essence of the processes that occur on the surface of a catalyst. The information obtained permits not only a judgment of the ratio of the reacting components on the active surface and the limiting step, but also makes it possible to formulate hypotheses on the forms of adsorption and the mechanism of the reaction. By varying the potential of the catalyst, the rate and selectivity of the reactions can be influenced within wide limits.

Subsequently methods of measuring the electric conductivity of powders of metallic catalysts in current-conducting and dielectric media were developed, and the charging curves of powdered catalysts were obtained for the first time.

D. V. Sokol'skii's great merit lies in the fact that in his articles, monographs, and reports he has constantly focused his attention upon the sequences and realities of electrochemical methods in catalysis. The potentiometric method is achieving wider and wider recognition not only in the Soviet Union, but also abroad (German Democratic Republic, Hungary, German Federated Republic, France, Poland, etc.).

The systematic investigation of the metals of group VIII of the periodic system and their alloys during liquid-phase hydrogenation has yielded a number of very important characteristics of their catalytic and adsorption properties, on the basis of which realistic predictions of catalytic action are now being made.

The circle of Sokol'skii's scientific interest is very broad. His more than 60 patents confirm the originality of the creative researches of Sokol'skii and his school. Together with hydrogenation and other processes on solid catalysts, studies of homogeneous catalysis are receiving ever greater development: the hydration of acetylene and its purification from harmful impurities, the reduction of carbon monoxide under mild conditions, the polymerization of olefins, and the activation of molecular nitrogen.

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Considerable work is being conducted in the field of the development of new catalysts for the purification of the exhaust gases of internal combustion engines and other gas mixtures from toxic components and the determination of the mechanism of the oxidation of carbon monoxide and the decomposition of oxides of nitrogen.

D. V. Sokol'skii is participating actively in the organization of science. He is a member of the Scientific Council on the Problem, "Catalysis and Its Industrial Use" under the Committee on Science and Technology of the Council of Ministries of the USSR, Chairman of the Section of Hydrogenation of this problem council, a member of the Scientific Council on the Problem "Fuel Cells," and Chairman of the Scientific Council on Catalysis of the Academy of Sciences of the Kazakh SSR. D. V. Sokol'skii has supervised the organization and implementation of a number of All-Union Scientific Conferences and meetings and was a member of the Organizational Committee of the Fourth International Congress on Catalysis.

D. V. Sokol'skii devotes considerable effort to pedagogical activity. Since 1939 he has headed the Chair of Physical Chemistry, and since 1945 the Chair of Catalysis and Technical Chemistry of the Kazakh State University. Under his supervision, 90 Candidates and four Doctors of Sciences have been trained, and six Doctoral Dissertations have been prepared for defense.

The Soviet Government has awarded Dmitrii Vladimirovich Sokol'skii two Orders of the Red Banner of Labor, the Order "Sign of Honor," and the title "Honored Scientist of the Kazakh SSR" for his outstanding services in science. In 1969 the Presidium of the Supreme Soviet of the USSR awarded Dmitrii Vladimirovich Sokol'skii the title Hero of Socialist Labor and an Order of Lenin.

Dmitrii Vladimirovich is in the full bloom of his creative forces. His further activity will undoubtedly enrich Soviet science and technology with new achievements.