RUSSIAN CHEMICAL REVIEWS
Uspekhi Khimii

September 1977



Centenary of the Birthday of Academician A.E.Arbuzov

The chemistry of organophosphorus compounds is one of the most important branches of modern organic chemistry. It developed unusually rapidly after the Second World War in connection with the discovery of the physiological activity of organophosphorus compound. At the present time, research in this interesting field of organic chemistry is being carried on vigorously in many chemical centres of the Soviet Union and abroad. Organophosphorus compounds are widely used in various branches of the national economy as drugs, pesticides, catalysts, extractants, plasticisers, and other important technical products.

Academician Aleksandr Erminingel'dovich Arbuzov, one of the most outstanding Soviet scientists, organic chemist, Head of the Kazan Chemical School, and a social and state activist, the centenary of whose birthday the scientific community is preparing to celebrate on 11th September, 1977, was the founder of the chemistry of organophosphorus compounds in our country.

As a pupil and successor of the Butlerov Chemical School in Kazan, Arbuzov continued and developed in the course of six decades the ideas of the great Butlerov—the theory of the chemical structure of organic compounds.

Between 1911 and 1930, Arbuzov was Head of the Department of Organic Chemistry at Kazan University and for more than 30 years (1930–1962) headed the [relevant] Department at the Kazan Institute of Chemical Engineering During the years of his fruitful scientific and teaching activity, Arbuzov trained and taught thousands of highly qualified specialists—chemists, engineers, teachers, and scientific workers.

Arbuzov, a classical organic chemist, created in Russia his own School dealing with the study of organophosphorus compounds, which has become one of the

largest Schools of this kind in the world, and founded other scientific centres in our country dealing with this field. New scientific establishments were created in Kazan with Arbuzov's direct participation: the Butlerov Chemical Institute (1929), the Institute of Chemical Engineering (1930), the Branch of the USSR Academy of Sciences (1945), and the Arbuzov Institute of Organic and Physical Chemistry of the USSR Academy of Sciences (1965).

Outstanding Soviet scientists were members of Arbuzov's Chemical School: Corresponding Member of the Academy of Sciences of Belorussian SSR P. S. Pishchimuka, Academician B. A. Arbuzov, Professor A. I. Razumov, Professor G. Kh. Kamai, Professor V. S. Abramov, Corresponding Member of the USSR Academy of Sciences S. R. Rafikov, Corresponding Member of the USSR Academy of Sciences A. N. Pudovik, Corresponding Member of the USSR Academy of Sciences B. M. Mikhailov, and others.

Arbuzov was Permanent Chairman of the Praesidium of the Kazan Branch of the USSR Academy of Sciences (1945–1965), Director of its Chemical Institute, and Director of the Butlerov Chemical Institute (1929–1960).

He was the author of more than 400 scientific papers and patents. The results of his many investigations have found practical applications in medicine, agriculture, chemical wood-based industry, and other branches of the national economy.

Arbuzov's discovery of the catalytic isomerisation of organic derivatives of phosphorus(III) to phosphorus(V) compounds has been of fundamental importance in the chemistry of organophosphorus compounds. This reaction is known in world science as the "Arbuzov reaction". With the aid of the Arbuzov reaction, chemists throughout the world have obtained and continue to obtain many thousands of new organophosphorus compounds, which are of very great theoretical and practical importance.

Arbuzov was one of the greatest historians of chemistry in our country. For many years he was Chairman of the Commission on the History of Chemistry attached to the Division of Chemical Sciences of the USSR Academy of Sciences and directed its activities to the end of his life. He was for many years Chairman of the Soviet National Society of Historians of Natural Sciences and Engineering. Arbuzov left a heritage of seventy years of work on the history of Soviet chemistry.

He was a member of the Editorial Boards of many chemical journals and was the custodian of priceless chemical relics from the time of N. N. Zinin, K. K. Klaus, A. M. Butlerov, A. M. Zaitsev, V. V. Markovnikov, and other representatives of the famous Kazan School of Chemistry.

Arbuzov was not only a great Soviet scientist but also a social and state activist.

Academician Arbuzov's many years of selfless labour have been highly valued by the Government and the scientific community.