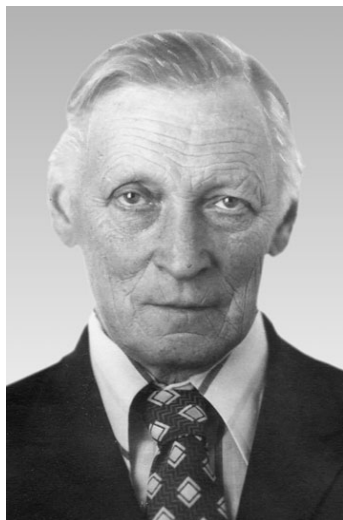


Information



Novikov Sergei Sergeevich
(the 100th anniversary of his birthday)

October 17, 2009, was the 100th birthday of Sergey Sergeevich Novikov, a well-known Russian scientist in the field of the chemistry of nitro compounds and high-energy compounds.

S. S. Novikov was born in the settlement Pushkino, Moscow Region, to a white-collar worker family. In 1935, he graduated from the M. V. Lomonosov Moscow State University, and in 1940 he fulfilled his post-graduate work performed at the same University under the supervision of Academician N. D. Zelinsky. In January 1941, after defending Ph.D. Thesis, S. S. Novikov started working at the Institute of Organic Chemistry of the Academy of Sciences of the USSR (IOC), at N. I. Shuikin's laboratory where he was engaged in the studies of catalytic transformations of oil and development of aircraft fuels. For these works, S. S. Novikov (together with N. D. Zelinsky and N. I. Shuikin) was awarded the State (Stalin) Prize in 1947. In 1951, S. S. Novikov defended the Doctoral Thesis, and in 1974 he was elected Corresponding Member of the Academy of Sciences of the USSR.

Since 1953, S. S. Novikov had headed the Laboratory of Organic Synthesis at the IOC. On the basis of this laboratory he founded the Department of Organic Synthesis in 1962. The Department's works had the principal goal of synthesizing energetic compounds that would ensure a leading position for the USSR in the development of energetic materials, key components of high-impulse solid and liquid rocket propellants, potent explosive compositions, and cannon powders. The search for such compounds was mainly performed among polynitro derivatives of various classes and was based on original and systematic fundamental research into the reactivity and structure of nitro compounds. During these studies,

the 1,3-dipolar cycloaddition reaction typical of the *aci*-form of nitro compounds was discovered, and this markedly extended the use of nitro compounds in organic synthesis and gave rise to new methods for the synthesis of heterocycles, including previously unknown ones, and polyfunctional nitrogen-containing structures. For this series of works, S. S. Novikov and V. A. Tartakovsky were awarded the A. M. Butlerov Prize in 1967. The Department has trained well-known specialists such as Academician V. A. Tartakovsky, Professor A. A. Fainzil'berg, L. I. Khmel'nitsky, S. A. Shevelev, O. A. Luk'yanov, N. N. Makhova, M. M. Krayushkin, O. V. Lebedev, and others.

The discovery, development, and industrial implementation of the methods of synthesis and comprehensive study of the main chemical properties of dinitramide and its salts were an outstanding advancement. The discovery of dinitramide salts can be regarded as the most significant achievement in the chemistry of energetic compounds of the post-war period. Dinitramide salts formed the basis for the priority development and leadership of the USSR in the elaboration of high-impulse solid rocket propellants. The works along this line in the USSR were almost 20 years ahead similar works in the USA. The preparation of dinitramide salts was recognized as a scientific discovery for which S. S. Novikov and V. A. Tartakovsky were awarded the Lenin Prize and O. A. Luk'yanov was awarded the USSR State Prize.

S. S. Novikov had a broad erudition, energy, and extensive managerial abilities. To some extent, by S. S. Novikov's initiative, a number of institutes of the Academy of Sciences, higher schools, and specialized departmental institutions were engaged in the synthesis and studies of the properties of energetic compounds. For his scientific and organizing activity, S. S. Novikov was awarded two Honor Sign orders and two Labor Red Banner orders.

Along with intense scientific research, S. S. Novikov did much for training scientific personnel. With his participation, more than 90 Ph.D. Theses and 20 Doctoral Theses were defended. For many years, S. S. Novikov lectured at the Moscow State Engineering Physics Institute being first a professor and later Head of the Chair for Combustion and Explosion Physics and Chemistry. He actively participated in the work of problem-related scientific councils of the USSR Academy of Sciences, interdepartmental councils, academic councils of the IOC and the Institute of Chemical Physics of the USSR Academy of Sciences, Scientific-Production Association Soyuz, the Ministry of Mechanical Engineering, and headed the Expert Council of the Higher Certification Board on Special Chemistry.

S. S. Novikov passed away in August 1979 but the trends of research that he initiated are still vigorously developing under the supervision of his numerous progenies.