

THERMODYNAMIC DATABASE FOR PURE SUBSTANCES IVTANTHERMO-ONLINE

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Thermodynamic databases play essential role in a wide range of applications such as rocket engine engineering, nuclear power, chemical technology, metallurgy, resource usage, waste recycling, etc. The IVTANTHERMO information system has made a significant contribution to the accumulation of thermodynamic data. It has been developed since 1966 in the Institute of High Temperatures of the Academy of Sciences of the USSR. Nowadays the development is continued in the Department for Thermophysical Data of JIHT RAS.

The IVTANTHERMO system includes the database which contains more than 3400 substances, formed of 96 chemical elements, as well as supplementary software for analysis of experimental results, data fitting, calculation and estimation of thermodynamical functions and thermochemistry quantities. In this report we present the next version called "IVTANTHERMO-Online" [1]. It has a new extensible database design, user-friendly web interface with client-server architecture and a number of features for online and offline data processing. The new system enables to handle multiple versions of each block of data, to store additional information for users and experts (such as comments, bibliography, experimental data, molecular structure, etc.), to present data in multiple forms, to attach calculation services and link with other databases. The substances can be searched using their names, formula, atomic composition or CAS numbers. The supplemented software includes modules for calculation of chemical composition and data fitting.

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1. Belov G.V., Dyachkov S.A., Levashov P.R., Lomonosov I.V., Minakov D.V., Morozov I.V., Sineva M.A., Smirnov V.N. // *J. Phys. Conf. Ser.* 2018. V. 946. P. 012120