

---

## References

- [1] Abdulalitov, I. M., Alibekov, B. G, *A method of “pseudo curve” for description of scale-features of a substance near the critical point*, Zhurnal fizicheskoi khimii, 1982, vol. 59, no. 2, p. 468.
- [2] Alekseev, P. G., Kulakov, I. G., Povarnin, P. I., et al., *A set-up to for determination of a complex of thermophysical properties of liquids in a wide temperature range*, Trudy Moskovskogo Instituta Tonkoi Khimicheskoi Technologii imeny M. V. Lomonosova (Works of Lomonosov Institute of Fine Chemical Technology, Moscow), 1974, vol. 4, no. 3.
- [3] Alekseev, P. G., Maksimova, G. P., Povarnin, P. I., *Critical constants, and similarity conditions for organosilicon compounds*, Proceedings of Dzerzhinski house of sci. and tech. propaganda, Moscow, Publ. of Society “Znanie,” Russian Federation, Moscow, 1982.
- [4] Alekseev, P. G., Povarnin, P. I., Filippov, V. M., *Generalization and evaluation of some thermophysical properties of organosilicon compounds*, Trudy Moskovskogo Instituta Tonkoi Khimicheskoi Technologii imeny M. V. Lomonosova (Works of Lomonosov Institute of Fine Chemical Technology, Moscow), 1975, vol. 5, no. 2.
- [5] Alekseev, P. G., Povarnin, P. I., *Determination of density—viscosity relationship for organosilicon liquids*, Khimicheskaya promyshlennost’, 1985, no. 1, p. 51.
- [6] Alekseev, P. G., Povarnin, P. I., *Methods of measuring thermophysical properties of organosilicon polymers*, Deposited in and available from NIITEKHIM (Nauchno-issledovatel’skii institut techniko-ekonomicheskikh issledovanii), Cherkassy, Russia, 1984, no. 4, p. 135.
- [7] Alekseev, P. G., Khananashvili, L. M., Povarnin, P. I., et al., *Effect of structure of  $\alpha$ ,  $\omega$ , Bis (organocyclosiloxy) polydimethylsiloxanes on the thermophysical properties*, Izvestiya AN GSSR, Ser. Kcimiya, 1984, vol. 10, no. 3, p. 188.
- [8] Aleksandrova, V. F., *Thermal stability and cooling properties of some organosilicones near the critical region of the state parameters*, Cand. Sci. Dissertation, Moscow, 1986.
- [9] Andrianov, P. G., Khananashvili, L. M., *Technology of organoelemental monomers and polymers*, Khimiya, Moscow, 1983.
- [10] Anisimov, M. A., *Equations of state and methods of calculation of thermophysical properties of near the critical region*, Obzory po

- teplofizicheskim svoistvam veshchestv (A review series on the thermophysical properties of the substances), Institute for high temperature Acad. Sci. USSR, Moscow, 1980, no. 5(25), p. 44.
- [11] Arslanov, V. V., Ogarev, V. A., Ivanova, T. A., et al., *Equation of spreading of viscous polydimethylsiloxane droplets along the flat horizontal surface*, Zhurnal Fizicheskoi Khimii, 1976, vol. 48, p. 1219.
- [12] Arutyunov, B. A., *Development of generalized methods of determination of thermophysical properties of amorphous polymers*, Teoreticheskie osnovy chimicheskoi technologii, 1981, vol. 15, no. 2. pp. 266–278.
- [13] Arutyunov, B. A., Kazancheva, S. L., *Diffusion of gases and liquids in amorphous substances*, Teoreticheskie osnovy chimicheskoi technologii, 1979, vol. 13, no. 4. pp. 490–593.
- [14] Akhundov, T. S., Abdulalitov, I. M., Ishhanov, Yu. B., *Equation describing behavior of a pure substance viscosity in a wide range of parameters including the critical region*, Teptofizika vysokikh temperatur, 1985, vol. 23, no. 2, p. 285.
- [15] Bazhant, V., Chvalovskii, V., Potuski, I., *Silikons*, Gostechizdzt Publishers, Moscow, 1960.
- [16] Baidakov, V. G., Sulla, I. I., *Surface tension of propane and isopentane at temperatures close to the critical*, Zhurnal Fizicheskoi Khimii, 1985, vol. 59, no. 4, p. 955.
- [17] Bretsznajder, S., *Properties of gases and liquids*, Khimiya, Moscow, 1966.
- [18] Bessarab, N. A., Martynov, Yu. A., *Saturated pressure of m- and o-chlorophenyltrichlorosilane*, Zhurnal Fizicheskoi Khimii, 1974, vol. 28, no. 10, p. 2610.
- [19] Barikov, Yu. N., Rasskazov, D. S., *Organic and organosilikon coolants*, Energia, Moscow, 1975.
- [20] Berlin, A. N., Vol'fon, S. A., Enikolopyan, N. S., *Kinetics of polymerization processes*, Khimiya, Moscow, 1978.
- [21] Barkan, E. S., *Generalization and improvement of second virial coefficient for n-hexane, n-octane, benzene and toluene*, Zhurnal Fizicheskoi Khimii, 1985, vol. 44, no. 5, p. 839.
- [22] Vargaftik, N. B., *Handbook of thermophysical properties of liquids and gases*, Hemisphere publishing corporation, Washington–New York–London, 1975.
- [23] Vargaftik, N. B., Filippov, L. P., Tarzimanov, A. A., et al., *Thermal conductivity of liquids and gases*, Standards Press, Moscow, 1980.
- [24] Voronkov, M. G., Milishkevich, V. P., Yuzhelevskii, Yu. A., *Silicon bond*, Nauka Publishers, Novosibirsk, 1976.
- [25] Vukalovich, M. P., Novikov, I. I., *Thermodynamics*, Mashinostroenie Publishers, Moscow, 1972.

- [26] Hirshfelder, J. O., Curtiss, C. F., and Bird, R. B., *Molecular Theory of gases and Liquids*, John Willey & Sons Inc., New York, 1954.
- [27] Godovskii, Yu. K., Levin V. Yu., Zhdanov, A. A., et al., *High molekular compounds*, 1969, Ser. A, vol. 11, no. 5, pp. 1109, 2444.
- [28] Golik, A. Z., Cholpan, P. F., Ivanova, I. I., *Investigation of some properties of polymethylphenylsiloxanes*, Ukrainskii Fizicheskii Zhurnal, 1962, vol. 28, no. 7, p. 554.
- [29] Golubkov, Yu. V., Nisselson, L. A., *On correlation between parachor and reochor*, Zhurnal Fizicheskoi Khimii, 1985, vol. 59, p. 648
- [30] Golubkov, Yu. V., Luchkina, R. I., Kuznetsov, V. V., *On correlation of parachor and the b-constant in the Bachinskii equation*, Zhurnal Fizicheskoi Khimii, 1985, vol. 59, no. 4, p. 979.
- [31] *Polyorganosilicone liquids*, Khimiya, publishers, Moscow, 1965.
- [32] Gukhman, A. A., *Introduction to the theory of similarity*, Vyschaya Shkola Publishers, Moscow, 1973.
- [33] Dizent, V. E., Skorokhodov, I. I., Terent'eva, N. A., et al., *Saturation pressure of polyorganosiloxanes*, Zhurnal Fizicheskoi Khimii, 1978, vol. 52, p. 1870.
- [34] Ermakov, G. V., Sharapov, Z. A., *Calculation of pVT values for superheated liquids using a single-parameter theory of thermodynamic similarity*, Zhurnal Fizicheskoi Khimii, 1985, vol. 59, no. 4, p. 842.
- [35] *Encyclopedia of polymers*, vol. 1, Sovetskaya encyclopediya publishers, Moscow, 1972.
- [36] Zinovkina, T. V., *Investigation of thermophysical and heat transfer characteristics of organosilicon compounds*, Cand. Sci. Dissertation, Moscow, 1980.
- [37] Ivannikov, P. S., Litvinenko, I. V., Radchenko, I. V., *Thermal conductivity of tetrametoxylane and tetraetoxylane*, Inzenerno-fizicheskii zhurnal, 1975, vol. 28, no. 1, p. 86.
- [38] Irzhak, V. I., Rozenberg, B. A., Enikolopyan, N. S., Nauka Publishers, Moscow, 1979.
- [39] Karlin, A. V., Rozenfeld, D. F., Kagan, E. G., et al., *Chemistry and technology of organosilicon elastoplastics*, Khimiya Publishers, Leningrad, 1973.
- [40] *Organosilikon items produced in USSR*, Khimiya Publishers, Moscow, 1975, p. 72.
- [41] Korshak, V. V., *Chemical structure and temperature characteristics of polymers*, Nauka Publishers, Moscow, 1970.
- [42] Kuznetsov, A. G., Telegina, N. P., Golubtsov, S. A., et al., *Dimethyl(methylphenyl)siloxanes. Identification and some physical and chemical properties*, Zhurnal Organicheskoi Khimii, 1972, vol. 42.

- [43] Lovygin, I. I., Skorokhodov, I. I., Zaitseva, L. Ya., et al., *Physical and chemical properties and critical temperature values of methylphenylsiloxanes*, Neorganicheskie Materialy (Inorganic materials), 1978, vol. 14, p. 759.
- [44] Lopatkina, I. L., Kucherskaya, L. A., Kuznetsiva, A. G., *Vapor pressures of some cyclosiloxanes*, Zhurnal Fizicheskoi Khimii, 1973, vol. 47, p. 2900.
- [45] Lysenkov, V. F., Platunov, E. S., *Methods of construction of nonanalytic equations of state taking into account the features of the critical state*, Trudy IVTAN (Works of the Institute for high temperatures, Moscow), 1984, no. 1(45).
- [46] Mekhtiev, S. A. O., *Thermodynamic investigations of some organosilicon compounds*, Cand. Sci. Dissertation, Baku, 1978.
- [47] Mileshkevich, E. P., Yuzhelevskii, Yu. A., *Properties of oxygen-containing silicon compounds*, TSNIITENeftekhim (Central research institute of technical and economical investigations of Ministry of Oil and Chemistry) publ., 1978, Moscow, p. 109.
- [48] Mironov, V. F., *Review literature on organosilicon compounds index*, Moscow, 1981.
- [49] Mironov, V. F., Kazakov, V. P., et al., *Synthesis, properties, and applications of iodosilicones*, Moscow, 1977.
- [50] Minsar, A., *Thermal conductivity of solids, liquids and gases and their compositions*, Mir Publishers, Moscow, 1968.
- [51] Molokanov, Yu. K., *Separation of organosilicon compound mixtures*, Khimiya Publishers, Moscow, 1974.
- [52] Morse, F., *Thermal Physics*, Bengamin-New York-Amsterdam, 1965.
- [53] Nemser, V. G., *Experimental studies of thermophysical properties of polyorganic liquids*, Cand. Sci. Dissertation, Minsk, 1970.
- [54] Nemser, V. G., Rastorguev, Yu. L., *Generalization of experimental data on thermophysical properties of polydiethylsiloxanes (PES)*, Izvestiya Vuzov, Neft' and Gas, 1975, no. 6, p. 55.
- [55] Nefedov, S. N., *Methods of investigation of thermophysical properties of liquids*, Cand. Sci. Dissertation, Lomonosov Moscow State University, Moscow, 1980.
- [56] Orlov, N. F., et al., *Organosilicon compounds in textile industry*, Legkaya Industriya Publishers, Moscow, 1966.
- [57] Okhotsimskii, A. D., Filatov, L. P., *A method of computational selection of substances from their thermophysical properties*, Doklady Akademii Nauk, SSSR, 1985, vol. 280, p. 538.
- [58] Okhotsimskii, A. D., Filatov, L. P., *A method of selection of the substances with given properties (a continuous flow method)*, Zhurnal Fizicheskoi Khimii, 1985, vol. 59, no. 10, p. 2507.

- [59] Povarnin, P. I., Alekseev, P. G., Kulakov, I. G., et al., *Results of the study of the thermophysical properties of organosilicon compounds as a function of temperatures*, Trudy Moskovskogo Instituta Tonkoi Khimicheskoi Technologii imeny M. V. Lomonosova (Works of Lomonosov Institute of Fine Chemical Technology, Moscow), 1974, vol. 4, no. 2, p. 203.
- [60] Povarnin, P. I., *Thermal conductivity and thermal capacity of liquids*, In: Teploobmen, gidrodinamika i teplofizicheskie svoistva veshchestv (Heat transfer, hydrodynamics, and thermophysical properties of substances), Nauka Publishers, Moscow, 1968.
- [61] Povarnin, P. I., *Viscosity of liquids*, In: Teploobmen v elementakh energeticheskikh ustanovok (Heat transfer within elements of power-engineering installations), Nauka Publishers, Moscow, 1966, p. 100.
- [62] Povarnin, P. I., *Approximation of the critical density of substances*, In: Teploobmen v elementakh energeticheskikh ustanovok (Heat transfer within elements of power-engineering installations), Nauka Publishers, Moscow, 1966, p. 107.
- [63] Povarnin, P. I., *Application of the thermodynamic similarity method to calculation of the surface tension of liquids*, In: Teploperedacha (Heat transfer), Acad. Sci. USSR Publication, 1962, p. 105.
- [64] Potapov, V. M., Kochetova, E. K., *Order of precedence in nomenclature of organic compounds*, Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni Mendeleeva, 1983, vol. 28, no. 3, p. 42.
- [65] Potapov, V. M., *Basic principles of nomenclature of organic compounds*, Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni Mendeleeva, 1983, vol. 28, no. 3, p. 21.
- [66] Privalko, V. P., *Handbook of physical chemistry of polymers*, Naukova Dumka Publishers, Kiev, 1984.
- [67] Prigogine, I., Defey, R., *Chemical Thermodynamics*, London–New York, Longmans Green & Co., 1954.
- [68] Proskurina, M. V., *Nomenklatura of organic compounds of silicon, phosphorus, arsenic, antimony, bismuth*, Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni Mendeleeva, 1983, vol. 28, no. 3, p. 29.
- [69] Pugacheva, P. P., Martirosyan, A. A., Lavolin, I. A., *Viscosity and density of a polydimethylsiloxane solutions in toluene*, Inzenerno-fizicheskii zhurnal, 1975, vol. 49, no. 1, p. 130.
- [70] Perry, G., *A handbook of chemist*, Khimiya Publishers, Moscow, 1960
- [71] Rastorguev, Yu. L., Nemzer, V. I., *Study of density and thermal conductivity of organosilicon compounds*, Teplofizicheskie svoistva zhidkostei (Thermophysical properties of liquids), Nauka Publishers, Moscow, 1970.
- [72] Reid, R. C., Prausnitz, J. M., Sherwood, T. K., *The properties of gases and liquids*, Third edition, McGraw-Hill Book Company, New York, 1977.

- [73] Rafikov, S. R., Butov, V. P., Mekalov, Yu. B., *Introduction to physical chemistry of polymer solutions*, Khimiya publishers, 1978.
- [74] Rykova, V. I., Shutova, S. S., Yakovlev, G. S., *On temperature dependence of heat of vaporization*, Voprosy fiziki formoobrazobaniya i fazhovyh prevrachshenii (Problems of physics of moldability and phase transitions), Kalinin, 1985, pp. 29–37.
- [75] Savada, H., *Thermodynamics of polymerization*, Khimiya Publishers, Moscow, 1979.
- [76] Sapronov, V. I., *Oils for refrigerators*, Kholodil'nye ustyanovki (Refrigeration installations), 1982, no. 7.
- [77] A handbook—catalog: *Organosilicon compounds produced in USSR*, Khimiya Publishers, 1975.
- [78] *Synthesis and physical chemistry of polymers*, Naukova Dumka Publishers, Kiev, 1984.
- [79] *Heat-resistant protective coatings for construction materials*, Stroizdat Publishers, Leningrad, 1977.
- [80] *Organosilica materials, properties and experience of applications*, Khimiya Publishers, Leningrad, 1977.
- [81] *Protective coatings*, Khimiya Publishers, Leningrad, 1977.
- [82] *Chemistry and application of organosilicon and organophosphorus compounds*, Khimiya Publishers, Moscow, 1978.
- [83] Skorokhodov, I. I., Lovygin, I. A., *An additive method of estimating the heat of vaporization of organosilicon compounds*, TSNIIITENeftekhim (Central research institute of technical and economical investigations of Ministry of Oil and Chemistry) publications, 1982, Moscow.
- [84] Skorokhodov, I. I., *Physical, and chemical properties and performance of polyorganosiloxane liquids*, GNIIKHTEOS (Gosudarstvennyi nauchno-issledovatel'skii institut khimii i technologii elementoorganicheskikh soedinenii) publications, 1978, no. 1.
- [85] Skorokhodov, I. I., *Physical, and chemical properties and performance of polyorganosiloxane liquids*, GNIIKHTEOS (Gosudarstvennyi nauchno-issledovatel'skii institut khimii i technologii elementoorganicheskikh soedinenii) publications, 1978, no. 2.
- [86] Skorokhodov, I. I., *Physical, and chemical properties and performance of polyorganosiloxane liquids*, GNIIKHTEOS (Gosudarstvennyi nauchno-issledovatel'skii institut khimii i technologii elementoorganicheskikh soedinenii) publications, 1978, no. 3.
- [87] Skorokhodov, I. I., *Physical, and chemical properties and performance of polyorganosiloxane liquids*, GNIIKHTEOS (Gosudarstvennyi nauchno-issledovatel'skii institut khimii i technologii elementoorganicheskikh soedinenii) publications, 1978, no. 4.

- [88] Sinitzin, V. V., *Plastic lubricants in USSR*, Khimiya Publishers, Moscow, 1979.
- [89] Sobolevskii, M. V., *Oligoorganosiloxanes. Properties, formation, and applications*, Khimiya, Moscow, 1985.
- [90] Sobolevskii, M. V., *A study of thermal conversion of oligomethylphenylsiloxanes*, Vysokomolekularnye soedineniya, 1974, A16, p. 729.
- [91] Stolyarov, N. N., Blagonravov, L. A., *On the temperature dependence of isobaric heat capacity of liquids*, Ultrazvuk i termicheskie svoistva bechhestv, Publ. of Kursk Polytechnical Institute, Kursk, 1984, pp. 142–147.
- [92] *A handbook of chemist*, GOSTEKHIZDAT Publishers, Moscow, Leningrad, 1966, vol. 1, p. 1070.
- [93] Stoun, P., Grehem, M., *Inorganic polymers*, 1975.
- [94] Sychev, V. V., *Differential equations of thermodynamics*, Nauka publishers, Moscow, 1981.
- [95] Tager, S. A., *Physics and chemistry of polymers*, Khimiya Publishers, Moscow, 1978.
- [96] Usmanov, A. G., Mukhanedzyanov, G. H., *Thermal conductivity of organic liquids*, Khimiya Publishers, Moscow, 1971.
- [97] Faizulin, M. Z., *Thermodynamic similarity of melting curves*, Cand. Sci. Dissertation, Ural's Polytechnical Institute, Sverdlovsk, 1980.
- [98] Filippov, G. G., *Saturation pressure of organosilikon compounds*, GNIIKHTEOS (Gosudarstvennyi nauchno-issledovatel'skii institut khimii i technologii elementоорганических соединений), Publication of NIITEKHIM (Nauchno-issledovatel'skii institut techniko-экономических исследований), Moscow, 1981.
- [99] Filippov, L. P., *Similarity of properties of substances*, Lomonosow Moscow State University, Moscow, 1978.
- [100] Filippov, L. P., *On structural properties of liquids*, In: Ultrazvuk i fizikokhimicheskie svoistva veshchestv (Ultrasonics and physical and chemical properties of substances) Kursk Polytechnical institute, Kursk, 1980, no. 4, p. 30.
- [101] Filippov, L. P., Veretennikova, N. L., Okhotsimskii, A. L., *On the second virial coefficient for vapors*, Inzenerno-fizicheskii zhurnal, 1975, vol. 48, no. 6, p. 595.
- [102] Filippov, L. P., Okhotsimskii, A. L., *On the incremental method of calculating of characteristic criterion of thermodynamic similarity*, Zhurnal Fizicheskoi Khimii, 1985, vol. 59, p. 648.
- [103] Filippov, L. P., *Law of corresponding states*, Publication of Lomonosow Moscow State University, Moscow, 1980.

- [104] Filippov, L. P., *On thermophysical properties of polymers*, In: Vysokomolekulyarnye soedineniya Kratkie soobshcheniya (High-molecular compounds. Short communications), 1985, vol. 27B, no. 10, p. 790.
- [105] Filippov, L. P., *Transport properties*, Publications of Lomonosow Moscow State University, Moscow, 1986.
- [106] Filippov, L. P., Kravchun, S. N., Laushkina, L. A., *The results of investigations of thermophysical properties of liquids*, In: Teplofizicheskie svoistva veshchestv (Thermophysical properties of substances), Publication of Moscow Power Engineering Institute, Moscow, 1986, no. 1.
- [107] Filippov, L. P., *Prediction of thermophysical properties of liquids and gases*, Energoizdat Publishers, Moscow, 1988.
- [108] Filippov, L. P., *Techniques used to calculate the compressibility and the critical properties of mixtures of normal liquids*, Inzenerno-fizicheskii zhurnal, 1982, vol. 56, no. 2, p. 327.
- [109] Filippov, L. P., Chernova, N. I., Kazakov, S. V., *Description of thermodynamic and kinetic properties in the large region surrounding the critical point of stratification*, Zhurnal Fizicheskoi Khimii, 1986, vol. 61, no. 4, p. 1410.
- [110] Filippov, L. P., *Calculation of critical volume of substance from a structural formula*, Zhurnal Fizicheskoi Khimii, 1983, vol. 24, no. 4, p. 135.
- [111] Filippov, L. P., *Determination of the critical volume from the data on the sound velocity*, Zhurnal Fizicheskoi Khimii, 1984, vol. 58, no. 7, p. 1780.
- [112] Filippov, L. P., *Prediction of thermal conductivity of liquids*, Inzenerno-fizicheskii zhurnal, 1987, vol. 53, no. 2, p. 328.
- [113] Filippov, L. P., *On the heat of vaporization of liquids*, Kursk Polytechnical institute, Kursk, 1981, no. 15, p. 7.
- [114] Filippov, L. P., *On relation of surface tension of a liquid to its compressibility and heat of vaporization*, Zhurnal Fizicheskoi Khimii, 1980, vol. 54, no. 11, p. 2979.
- [115] Kharitonov, N. P., Ostrovskii, V. V., *Thermal and thermo-oxidizing destruction*, Nauka Publishers, Leningrad, 1982.
- [116] Kharitonov, N. P., Krotikov, V. A., Ostrovskii, V. V., *Organosilicate compositions*, Nauka Publishers, Leningrad, 1980.
- [117] Chelpan, P. F., *Investigation of physical properties of liquid silicones as related to their molecular structure*, Cand. Sci. Dissertation, L'vov, 1962.
- [118] Chechetkin, A. V., *High temperature coolants*, Energia publishers, 1971.
- [119] Bazant, V., *Organosilicon Compounds*, Prague, 1973, vol. 4.
- [120] Briano, L. G., Glant, E. D., *Statistical thermodynamics of polydispersed fluids*, J. Chem. Phys., 1984, vol. 80(7), p. 3336.

- [121] Gambill, W. R., Chem. Eng., 1959, vol. 66, no. 14.
- [122] Kehlen, H., Rätzch, M. J., *Continuous thermodynamics of multicomponent mixtures*, Proc. 6th Conf. on Thermal. Meresburg, (DDR), 1980, p. 41.
- [123] Lakomy, Z., Lehar, L., Chem. Listy, 1965, vol. 59, no. 8, p. 985.
- [124] Landolt-Bornstein, *Physikalisch-chemische Tabellen, Zahlenwerte und Funktionen*, Springer Verlag, 1971, Bd. 11, T. 1.
- [125] Legrand, D. G., Gains, G. L., *Surface tension dependency on molecular mass*, J. Colloid and Interface Science, 1973, vol. 42, p. 181.
- [126] Aldermen, A. L., *Estimation of Critical Properties of Organic Compounds*, Univ. Wisconsin coll. Eng. Exp. Sin. Rep. 3, Madison Wis., 1955, April.
- [127] Pitzer, K. S., *Critical Parameters*, J. Am. Chem. Soc., 1955, vol. 77, pp. 3427, 3433.
- [128] Riedel, L., *Critical parameters*, Chem. Eng. Techn., 1954, vol. 26, p. 83; 1956, vol. 28, p. 557.
- [129] Jong, C. L., *Kinetic transitions gas–liquid in polydimethylsiloxanes*, J. Chem. Soc. Faraday Trans., 1972, vol. 68, part 2, p. 580.