

HUTAS, Imre, Dr.; ZSAMBEKY, Pal, Dr.; VARGA, Zsuzsa, Dr.

Data on the diagnosis and therapy of solitary liver abscesses. Orv. hetil.
99 no.33:1147-1150 17 Aug 58.

1. A Vas Megyei Tanacs "Markusovszky" Korhaza I. sz. Belgyogyaszati
Osztalyanak (foorvos: Vasarhelyi Bela dr.) es Rontgenosztalyanak (foorvos:
Hutas Imre dr.) kozlemenye.
(LIVER, abscess
solitary, diag. & ther., case reports (Hun))

SZUCS, Sandor, dr.; NYIREDY, Geza, dr.; VARGA, Zoltan, dr.; GAAL, Jozsef, dr.

Bronchographic aspects of small bronchi in tuberculosis. Tuberkulozis
13 no.2:47-50 F '60.

1. A Budapesti Orvostudományi Egyetem Tudományegészségi Klinika
(igazgató: Kovács, Ferenc, dr. egyetemi tanár, az orvostudományok
doktora) közleménye.

(TUBERCULOSIS PULMONARY radiogr.)

HORANYI, Janos, dr.; KERENYI, Imre, dr.; VARGA, Zoltan, dr.

Lymphocytoma in the lungs. *Magy. sebeszet* 14 no.3:171-176 Je '61.

1. A Budapesti Orvostudományi Egyetem Tudománygyógyászati Klinikájának (igazgató: Kovacs Ferenc dr. egyetemi tanár), a II. sz. Sebészeti Klinikájának (megbízott vezető: Stefanics Janos dr. egyetemi docens) és a MAV Egészségügyi Intézmények Budakeszi Tudománygyógyintézetének (igazgató: Nyíró József dr.) közleménye.

(LUNG NEOPLASMS case reports)
(LYMPHOMA case reports)

VARGA HASZONITS, Zoltan

Moisture conditions of soils cultivated according various methods.
Idojaras 64 no.4:238-242 JI-Ag '60. (EEAI 10:2)
(Soils)

VARGA HASZONITS, Zoltan

Soil temperature dispersion. Idojaras 64 no.6:375-376 '60.
(Soils) (EAI 10:7)

VARGA HASZONITS, Zoltan

Extreme values of soil temperature of soils variously cultivated.
Idejaras 64 no.3:181-183 My-Je '61.

VARGA HASZONITS, Zoltan

Air and soil temperature in Holland hotbeds with various heating systems. Orsz meteor int besz tud kut 25:273-277 '61 (publ.'62).

MORVAY, Anna; VARGA HAZONITS, Zoltan

Daily course of plant temperature in a Holland bed. Idojaras 66
no.4:248-249 JI-Ag '62.

VARGA HASZONITS, Zoltan

Temperature of grassy and rolled soil. Idojaras 67 no.3:178-
179 My-Je '63.

VARGA HASZONITS, Zoltán

Hungarian agrometeorologists in the Soviet Union. Idojaras 67
no.4:256 JI-Ag '63.

VARGA HASZONITS, Zoltan

Times of surface frosts in the late spring and early fall. Orsz
meteor int besz tud kut 26:305-310 '62(publ.'63).

VARGA-MANYI, Piroška; TIGYI, J.

Separation of muscle excitation from contraction. Acta physiol.
acad. sci. hung. 22 no.3/4:287-291 '62.

1. Institute of Biophysics, Medical University, Pecs.
(MUSCLES) (PERFUSION)

KALDOR, Gyorgy.; VARGADY, Laszlo.

Direct rapid filter partition electrophoresis with Pulfrich photometer. Kiserletes orvostud. 7 no.2:212-215 Mar 55.

1. Budapesti Orvostudományi Egyetem Sebész Továbbképző Klinikája.
(BLOOD PROTEINS, determination,
electrophoresis with Pulfrich photometer)
(ELECTROPHORESIS,
of blood proteins, with Pulfrich photometer)

5.3630

78309

SOV/79-30-3-63/69

AUTHORS: Sarycheva, I. K., Vargaftik, M. N., Utkina, O. V.,
Preobrazhenskiy, N. A.

TITLE: Investigations of Lipides. IV. Study of Unsaturated
Glycerides Using Paper Chromatography

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3,
pp 1048-1050 (USSR)

ABSTRACT: Identification and separation of synthetic glycerides
was studied using paper chromatography. A previously
described procedure (H. Schlenk and others, J. Am.
Oil Chem. Soc., 34, 377, 1957) was used. For the
monoglycerides of oleic (A), linoleic (B), and
linolenic (C) acids, the following R_f were obtained:
0.70, 0.81, and 0.91. The R_f values obtained for the
investigated triglycerides are given in Table 1 below.

Card 1/3

Investigations of Lipides. IV

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SOV/79-30-3-63/69

Table 1. R_f values for triglycerides.

Key: (a) Triglyceride; (b) Number of double bonds;
(L) linoleic acid; (S) stearic acid; (O) oleic acid;
(Ln) linolenic acid.

a	b	R_f
LSL (I)	4	0.10
SLL (II)	4	0.12
LOO (III)	4	0.16
SLnO (IV)	4	0.20
LOL (V)	5	0.24
L.LL (VI)	6	0.26
S.LnLn (VII)	6	0.32
LnSLn (VIII)	6	0.40
L.LnL (IX)	7	0.47
LnLL (X)	7	0.49
L.LnLn (XI)	8	0.53
LnLnLn (XII)	9	0.68

Card 2/3

Investigations of Lipids. IV

78309

SOV/79-30-3-63/69

It was shown that the investigated mono- and triglycerides can be separated and identified by the above method. There are 3 figures; 1 table; and 6 references, 2 U.S., 1 U.K., 1 Swiss, 2 Soviet. The U.S. and U.K. references are: D. Chapman, A. C. Davies, J. Chem. Soc., 1502 (1957); J. W. Dieckert, R. Reiser, J. Am. Oil. Soc., 33, 123 (1956); H. Schlenk, I. L. Gellerman, J. A. Tillotson, H. K. Mangold, J. Am. Oil. Chem. Soc., 34, 377 (1957).

ASSOCIATION: Moscow Institute of Fine Chemicals Technology
(Moskovskiy Institut tonkoy khimicheskoy
tekhnologii)

SUBMITTED: January 6, 1959

Card 3/3

VARGAFNIK, M. N.

81862

S/020/60/133/02/35/068
B016/B060

5.3200

AUTHORS: Moiseyev, I. I., Vargafnik, M. N., Syrkin, Ya. K., Corresponding Member of the AS USSR

TITLE: The Mechanism of the Reaction of Palladium Salts With Olefins in Hydroxyl-containing Solvents

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 2, pp. 377-380

TEXT: In the authors' opinion, a participation of the HO^- ions in the reaction mentioned in the title appears to be little probable. Under the conditions mentioned in Ref. 1, the reaction of the π -complex with the HO^- ions is evidently accompanied by another reaction with the halide ions. This reaction leads to the formation of organohalogen compounds which are fairly stable under experimental conditions (the concentration of Br^- or Cl^- was 10^{10} - 10^{12} times higher than the OH^- concentration, Ref. 1). Nevertheless, such a scheme does not explain satisfactorily the high selectivity of the oxidation process in which the yield of the

Card 1/4

81862

The Mechanism of the Reaction of Palladium
Salts With Olefins in Hydroxyl-containing
Solvents

S/020/60/133/02/35/068
B016/B060

carbonyl compound attains 95-99%. It may be rather assumed that the charge of the nucleophilic particle attacking the C-atom of the olefin double bond does not play any essential part, and the addition of the HO⁻ ion takes place by reaction of the π -complex with the solvent molecules (2). Basic data on the mechanism of the decomposition of the π -complex can be obtained by studying the reaction between PdCl₂ and the olefins in nonaqueous solutions. The authors' experiments revealed that the (PdCl₂·C₂H₄)₂ complex synthesized by the method devised by M. S. Kharash (Ref. 3), which reacts instantaneously even with atmospheric moisture, remains unaltered in a glacial acetic solution for even 10 days. This complex is rapidly decomposed in solutions of ethyl- as well as benzoyl alcohol and phenol. Experiments conducted by the authors further revealed that palladium chloride in acetic acid solutions containing sodium acetate is reduced by ethylene according to equation (3). The yield of vinyl acetate is 97% if referred to the reacted ethylene. The (PdCl₂·C₂H₄)₂ complex also reacts with sodium acetate in glacial acetic acid to form vinyl acetate. In the presence of substances capable of *UH*

Card 2/4

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The Mechanism of the Reaction of Palladium Salts S/020/60/133/02/35/068
With Olefins in Hydroxyl-containing Solvents B016/B060

oxidizing the palladium developed in the reaction, reaction (3) can be evidently used for the preparatory stage in the production of vinyl esters. The overall reaction in the presence of benzoquinone (see scheme) shows that also palladium is oxidized besides reaction (3). The authors' experiments further revealed that the above-mentioned complex reacts readily with alcohol and yields acetal as the main product (4). In the presence of p-benzoquinone, the reduction of PdCl_2 is accompanied by an oxidation of metallic Pd by way of ethylene in alcoholic solutions. This makes it possible for this reaction to be utilized in the direct production of acetals from olefins (see scheme). Also copper-salt solutions can be used as oxidizers in alcoholic solutions. The data obtained confirm the opinion that the decomposition of the π -complex in the hydroxyl-containing solvents takes place by way of the intermediate formation of vinyl compounds. The information supplied by the authors does not answer the question as to which of the two reactions (conversion of the π -complex into I or into II) represents the first stage of the decomposition. However, the assumption of conversion of II into a vinyl compound proceeding more quickly than the acidolysis of II, and UK

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The Mechanism of the Reaction of Palladium Salts With Olefins in Hydroxyl-containing Solvents S/020/60/133/02/35/068
B016/B060

the other assumption of reaction (2) representing the first stage of decomposition, are held to be less probable. There are 4 references: 2 Soviet, 1 American, and 1 German.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova (Moscow Institute of Fine Chemical Technology imeni M. V. Lomonosov) 41

SUBMITTED: April 23, 1960

Card 4/4

VARGAFTIK, M.N.; MOISEYEV, I.I.; SYRKIN, Ya.K.

Kinetics of cyclohexane oxidation by palladium salts in aqueous solutions. Dokl. AN SSSR 139 no.6:1396-1399 Ag '61.

(MIRA 14:8)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova. 2. Chlen-korrespondent AN SSSR (for Syrkina).

(Cyclohexane) (Oxidation) (Palladium chloride)

VARGAFTIK, M.N.; MOISEYEV, I.I.; SYRKIN, Ya.K.; YAKSHIN, V.V.

Formation of allyl esters in the reaction of higher olefins with palladium chloride in solutions of anhydrous carboxylic acids.

Izv. AN SSSR. Otd.khim.nauk no.5:930-931 My '62. (MIRA 1:6)

1. Institut tonkoy khimicheskoy te'hnologii im. M.V.Lomonosova.
(Olefins) (Palladium chloride) (Esters)

VARGAFTIK, M.N.; MOISEYEV, I.I.; SYRKIN, Ya.K.

Kinetics of ethylene oxidation by palladium salts in
aqueous solutions. Dokl. AN SSSR 147 no.2:399-402
N '62. (MIRA 15:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii
im. M.V. Lomonosova. 2. Chlen-korrespondent AN SSSR
(for Syrkin).
(Ethylene) (Oxidation) (Palladium salts)

MOISEYEV, I.I.; VARGAFTIK, M.N.; SYRKIN, Ya.K.

Kinetic isotope effect of ethylene oxidation by palladium chloride.
Izv. AN SSSR. Otd.khim.nauk no.6:1144-1145 Je '63. (MIRA 16:7)

1. Institut tonkoy khimicheskoy tekhnologii imeni Lomonosova.
(Ethylene) (Oxidation) (Palladium compounds)

VARGAFTIK, M.N.; MOISEYEV, I.I.; SYRKIN, Ya.K.

Effect of chlorine ions on the rate of oxidation of ethylene by
palladium chloride in aqueous solutions. Izv. AN SSSR. Otd.khim.nauk
no.6:1147 Je '63. (MIRA 16:7)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.
(Ethylene) (Oxidation) (Palladium chlorides)

MOISEYEV, I.I.; VARGAFTIK, M.N.; SYRKIN, Ya.K.

Kinetic stages of ethylene oxidation by palladium chloride
in aqueous solutions. Dokl. AN SSSR 153 no.1:140-143 N '63.
(MIRA 17:1)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.
2. Chlen-korrespondent AN SSSR (for Syrkina).

MOISEYEV, I.I.; VARGAFTIK, M.N.; SYRKIN, Ya.K.

Equilibrium of complex-forming process between palladium chloride
and ethylene in aqueous solutions. Dokl. AN SSSR 152 no.1:147-150
S '63. (MIRA 16:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova
AN SSSR. 2. Chlen-korrespondent AN SSSR (for Syrkin).
(Palladium compounds) (Ethylene)

MOISEYEV, I. I.; VARGAFTIK, M. N.; SYRKIN, Ya. K.

New π -allyl complex of palladium. Izv AN SSSR Ser Khim no. 4:
775 Ap '64. (MIRA 17:5)

π -Complex of palladium with triphenylcyclopropenyl. Ibid.:775-
776.

1. Institut tonkoy khimicheskoy tekhnologii im. M. V. Lomonosova
i Institut obshchey i neorganicheskoy khimii im. N. S.
Kurnakova AN SSSR.

BELOV, A.P.; VARGAFTIK, M.N.; MOISEYEV, I.I.

Bromination of π -allyl complexes of palladium. Izv. AN
SSSR. Ser. khim. no.8:1551-1552 Ag '64. (MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii im. Kurnakova
AN SSSR i Institut tonkoy khimicheskoy tekhnologii im.
Lomonosova.

MOISEYEV, I.I.; VARGAFIK, M.N.

Carbonium ions in the reactions of oxidation of olefins by
palladium chloride. Izv. AN SSSR. Ser. khim. no.4:759-760
'65. (MIRA 18:5)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova
AN SSSR.

1ST AND 2ND EDITIONS PROPERTIES AND PROPERTIES

Bc

A-1

Dependence of the coefficient of thermal conductivity of gases and vapours on the pressure. N. VARGAS (Tech. Phys. U.S.S.R., 1937, 4, 241-260).—Using the hot-wire method, measurements have been made of the thermal conductivity of N₂ up to 90 atm. and of steam up to 30 atm. The coeff. of thermal conductivity, λ , increases with increase of pressure. The val. of λ for steam increases with temp. and the val. of the const. K in the expression $\lambda = K\sqrt{p}$ also increases with temp. K also decreases with increase in pressure. C. R. H.

438.314 METALLURGICAL LITERATURE CLASSIFICATION

CLASSIFICATION	SUBJECT	AUTHOR
438.314	Dependence of the coefficient of thermal conductivity of gases and vapours on the pressure.	N. VARGAS

B 63
B

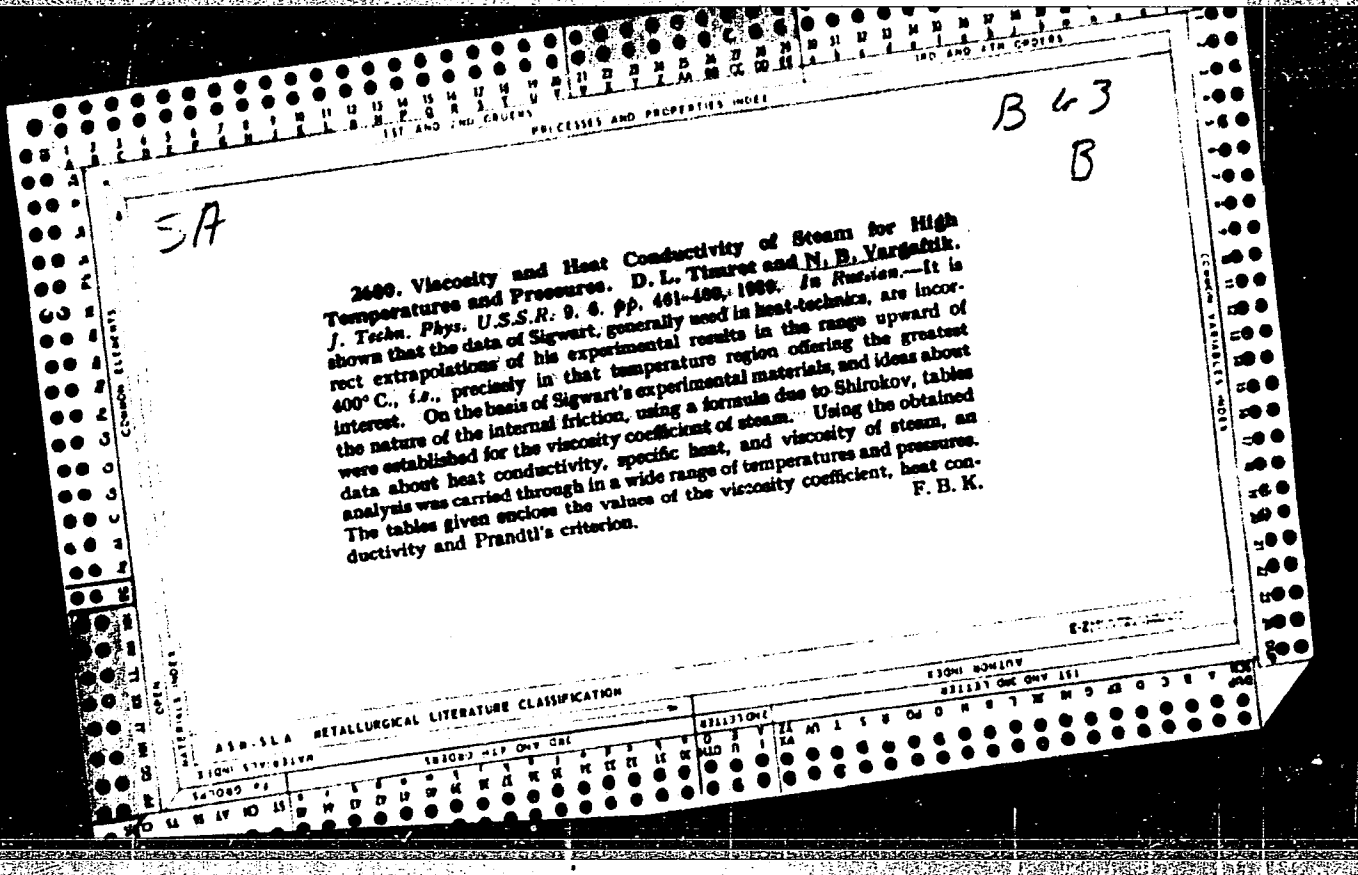
SA

2679. Heat Conductivity of Steam at High Pressures and Temperatures. N. B. Yargafik and D. L. Timrot. *J. Techn. Phys. U.S.S.R.* 9. 1. pp. 62-70, 1969. *In Russian.*—The experimental investigation of the heat conductivity coefficient up to 650° C. and 300 atm. following the method of the heated filament, and using measuring tubes of very small diameter in order to avoid convective losses of heat, showed the incorrectness of the data of Jakob, ten Bosch, and Kennan and Keyes commonly used in heat-technics. The inaccuracy of the mentioned values, especially for high pressures, sometimes reaches 300-400%. The new tables established on the measurements of the authors give the correct values of the coefficient for temperatures up to 650° C. and pressures up to 300 atm. P. B. K.

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

1ND AND 4TH ORDERS

2

CA

Heat conduction of water at high temperatures. D. L. Timrot and N. B. Vargal'ik. *J. Tech. Phys.* (U. S. S. R.) 10, 1063-73 (1940).—The thermal cond. of water was measured by the method of heated filament. The cond. increases with temp. to a max. at 130°. The values obtained for cond. of water at high temp. agree well with the previous measurement of the cond. of water vapor (cf. *C. A.* 33, 7634^b). The thermal cond. of water from 0° to 370° for the pressure interval 1-400 atm. is tabulated. Roksalana Gamow

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

5TH AND 6TH ORDERS

7TH AND 8TH ORDERS

9TH AND 10TH ORDERS

11TH AND 12TH ORDERS

13TH AND 14TH ORDERS

15TH AND 16TH ORDERS

17TH AND 18TH ORDERS

19TH AND 20TH ORDERS

21ST AND 22ND ORDERS

23RD AND 24TH ORDERS

25TH AND 26TH ORDERS

27TH AND 28TH ORDERS

29TH AND 30TH ORDERS

31ST AND 32ND ORDERS

33RD AND 34TH ORDERS

35TH AND 36TH ORDERS

37TH AND 38TH ORDERS

39TH AND 40TH ORDERS

41ST AND 42ND ORDERS

43RD AND 44TH ORDERS

45TH AND 46TH ORDERS

47TH AND 48TH ORDERS

49TH AND 50TH ORDERS

51ST AND 52ND ORDERS

53RD AND 54TH ORDERS

55TH AND 56TH ORDERS

57TH AND 58TH ORDERS

59TH AND 60TH ORDERS

61ST AND 62ND ORDERS

63RD AND 64TH ORDERS

65TH AND 66TH ORDERS

67TH AND 68TH ORDERS

69TH AND 70TH ORDERS

71ST AND 72ND ORDERS

73RD AND 74TH ORDERS

75TH AND 76TH ORDERS

77TH AND 78TH ORDERS

79TH AND 80TH ORDERS

81ST AND 82ND ORDERS

83RD AND 84TH ORDERS

85TH AND 86TH ORDERS

87TH AND 88TH ORDERS

89TH AND 90TH ORDERS

91ST AND 92ND ORDERS

93RD AND 94TH ORDERS

95TH AND 96TH ORDERS

97TH AND 98TH ORDERS

99TH AND 100TH ORDERS

VARGAFK, N. B.

PA 38125

USSR/Engineering
Conductivity, Thermal
Temperature - Measurements

Jun 1946

"Relation of Thermal Conductivity of Gases to Temperature," N. B. Vargafk, O. N. Oleshchuk, Physico-technical Laboratory, 8 $\frac{1}{2}$ pp

"Izvest VTI" No 6 (134)

Brief general description of the formulas which are used to calculate relationship of thermal conductivity to temperature. Discusses methods of measurement and description of experimental equipment, results of the measurements, and evaluation of the experimental results. Experiments are still going on at the Physico-technical Laboratory, All-Union Power Engineering Institute. LC

38125

VARGAFNIK, N.B.; GOLUBTSOV, V.A.; STEPANENKO, N.N.

[Electrical method of determining moisture content in petroleum products] Elektricheskii metod opredelenia vlazhnosti nefteproduktov. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1947.
58 p. (MLRA 7:2)

(Petroleum products)

VARGAFTIK, N. B.

Feb 1947

USSR/Chemistry - Electrolytes
Chemistry - Emulsions

"The Influence of the Concentration of Electrolytes in Water Present in Oil, on the Dielectric Constant of the Latter," N. N. Stepanenko, N. B. Vargaftik, M. S. Aref'yev, Physics Laboratory, Institute of Construction, Moscowet, 2 pp

"Kolloidnyy Zhurnal" Vol IX, No 2

Several scientists, among them Frenkel, have advanced the theory that it might be possible to apply Golubtsov's electrical method for determining the moisture content of petroleum products. As a result, the authors describe the experiments which they conducted to determine the effect of the concentration of electrolytes in water which is found in oil, and the effect this has on the dielectric constant of the oil. In the experiments the dielectric constant determined the capacity of the condenser.

PA 34F11

VARGAFTIK, N. B.

Pa-2136

USSR/Physics

Jan 1947

Gases - Thermodynamics

"An 'Antiscientific' Book on Thermodynamics,"
N B Vargaftik, M A Leontovich and M F Shirocov, 6 pp

"Zhurn Tekh Fiz" Vol XVII, No 1

The author in the revised book formulates a new law of thermal capacities according to which (at 0° centigrade) for gases and vapors $\mu C_v = 2.0075$ cal/degrees. Formula for solid and liquid bodies also given.

2136

CA

2

Thermal conductivity of binary liquid systems. N. B. Vargafik and V. V. Kerzhentsev (MAI im. S. Ordzhonikidze Kafedra Fiz., Moscow). *Zhur. Fiz. Khim.* 24, 718-20 (1950).--The thermal cond. of the system PhNH₂-HOAc was detd. by Frontas'ev's method (C.A. 40, 4284¹). The mol. percentages of HOAc and $K \times 10^{-3}$ are: 0, 41.3; 20, 40.0; 40, 41.1; 60, 41.9; 80, 43.8; and 100, 40.9 cal./cm. sec. degree. .. Paul W. Howerton

VARGAFTIK, H. B.

VARGAFTIK, H. B. -- "THERMAL CONDUCTIVITY OF COMPRESSED GASES AND LIQUIDS." GUE 13
MAR 52, POWER ENGINEERING INST IMEM G. M. KRIZHANSKIY, ACAD SCI USSR (DISSERTATION
FOR THE DEGREE OF DOCTOR IN TECHNICAL SCIENCES)

50: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

VARGAFTIK, N. B.

Chemical Abst.
Vol. 48 No. 5
Dec. 10, 1954
Structure, Plant Equipment, and Unit
Operation

5 Physics
Chem (4)

Physical properties of high-temperature heat-transfer medium. N. B. Vargaftik, B. E. Neimark, and O. N. Oleschuk. *Tr. Vsesoyuz. Teplotekh. Inst.* 21, No. 9, 1-7 (1952).—The sp. gr., viscosity, specific heat, and cond. of a mixt. of KNO_3 53, $NaNO_2$ 7, and $NaNO_3$ 40% between 150 and 555° were studied. The method used for the detn. of heat cond. of electrolytes consisted in heating a thin layer of the electrolyte inside an annular space between a thin capillary filled with Hg, and an outside tube, with the tube wound on the outside with a resistance-thermometer coil. A current passing through the Hg in the capillary furnishes the heat, and the Hg itself acts as a resistance thermometer. The heat cond. is measured from the temp. difference recorded by the 2 resistance thermometers, and the amt. of heat introduced through the Hg. The viscosity of the fused salts was measured with a modified Ostwald viscometer. The specific heat was measured in an ice calorimeter.

W. M. Sternberg

VARGAFTIK, N.B.

Dissertation by N.B.Vargaftik "Heat conductivity of compressed gases and liquids." Izv.AN SSSR Otd.tekh.nauk no.5:790-791 My '53. (MIRA 6:8)
(Vargaftik, N.B.) (Heat--Conduction)

Work is the Doctors dissertation at the All-Union Thermal Engineering Institute imeni Dzerzhinskiy in 1951.

VARGAFTIK, N.B., doktor tekhnicheskikh nauk; OLESHCHUK, O.N., inzhener

Heat capacity of slags of different fuels. Teploenergetika 2
no.4:13-17 Ap '55. (MLRA 8:9)

1. Vsesoyuznyy teplotekhnicheskii institut
(Slag)

"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001858620005-6

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001858620005-6"

VARGAFTIK, N.B., professor, redaktor; AYZWNSHPAT, I.I., redaktor; FRIDKIN, A.M., tekhnicheskii redaktor; VORONIN, K.P., tekhnicheskii redaktor; LARIONOV, G.Ye., tekhnicheskii redaktor

[Thermophysical properties of substances; a reference manual] Teplo-fizicheskie svoistva veshchestv; spravochnik. Pod red. N.B. Vargaftika. Moskva, Gos. energ. izd-vo, 1956. 367 p. (MLRA 10:1)

1. Moscow. Vsesoyuznyy teplotekhnicheskii institut.
(Thermodynamics)

VARGAFTIK, N.B.

Subject : USSR/Engineering AID P - 4800
Card 1/2 Pub. 110-a - 3/17
Authors : Vargaftik, N. B., Dr. Tech. Sci., and Yu. P. Os'minin,
Kand. Phys.-Math. Sci.
Title : Thermal conductivity of water solutions of salts, acids
and alkalies.
Periodical : Teploenergetika, 7, 11-16, J1 1956
Abstract : The authors present the results of experimental research
of various solutions for a wide range of concentrations.
Detailed investigations of the thermal conductivity of
electrolytes at different concentrations and temperatures
are described, as well as the experimental equipment and
the methods of measurement. The use of the same equations
for liquids and electrolytes is discussed. Tables,
diagrams, 12 references (9 Russian).

USSR/Fluid Mechanics

Abs Jour: Ref Zhur-Mekhanika, No 5, 1957, 5714

Author : Vargaftik, N. B., Smirnova, Ye. V.

Inst :

Title : On the dependence of the thermal conductivity of steam on temperature.

Orig Pub: Zh. techn. fiziki, 1956, 26, No 6, 1251-1261

Abstract: The thermal conductivity of steam, λ , was determined by the method of a heated filament (1), and by the method of coaxial cylinders (2), in the temperature range of up to 600° and at a pressure of 1 atm. abs. Corrections for extraneous heat flow did not exceed the following magnitudes: 2 percent for loss of heat from the ends of the measuring wire, 3 percent for radiation from platinum wire (at 500°). The results obtained agree very well with data on λ from previous experiments conducted at the All-Union Power Engineering Institute (VTI). Measures were taken to decrease sub-

Card 1/3

USSR/Fluid Mechanics

Abs Jour: Ref Zhur-Mekhanika, No 5, 1957, 5714

Abstract: substantially any extraneous heat flow from the region of measurement; for example, centering devices were removed from the region of measurement itself, and protective heaters were installed at both ends of the region. The internal system of cylinders was centered relative to the external cylinders with the aid of six cones of high-melting glass (clearance between cylinders was approximately 1 mm.). Regulation of the electric heaters in the protective cylinders made it possible to maintain a temperature difference of 0.1-0.2° between the interior and exterior cylinders. Axial flow of heat (loss) in the equipment for method (2) through the rods connecting the cylinders, through the gas layer (5 mm thickness), through the thermocouple wires in porcelain tubes, and through the lead-in wires to the primary heater, totalled 0.04 kcal/m² for $\sigma t = 10^\circ$, or not more than 1 percent of the quantity of heat transmitted radially through the layer of the gas under investigation. Data on λ , pub-

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VARGAFTIK, N. B. (DR., Prof.)
All-Union Thermal Technical Institute, Moscow.

"Thermal Conductivity of Liquids and Compressed Gases."

paper presented at Conf. on Thermodynamic and Transport Properties of Fluids,
held by the Inst. of Mech. Engr., London, 10-12 July 1957.

TIMROT, D.L., doktor tekhn.nauk; RIVKIN, S.L., kand.tekhn.nauk; SIROTA, A.M.,
kand.tekhn.nauk; VARGAFTIK, N.B., doktor tekhn.nauk; NIKOLAYEV, V.V.,
red. MEDVEDEV, L.Ya., tekhn.red.

[Tables of thermodynamic properties of water and steam] Tablitsy
termodinamicheskikh svoistv vody i vodianogo para. Izd. 2-oe, dop.
Moskva, Gos. energ. izd-vo, 1958. 106 p. (MIRA 11:4)

1. Moscow. Vsesoyuznyy teplotekhnicheskii institut.
(Steam--Tables, calculations, etc.)

AUTHOR: Vargaftik, N.B., (Dr. Tech.Sci.)
TITLE: Uteshchuk, O.N. (Engineer) SOV/96-58-12-14/18
TITLE: The thermal conductivity of slags in the solid and molten condition.
(Teploprovodnost' shlakov v tverdom i rasplavlennom sostoyanii)
PERIODICAL: Teploenergetika, 1958, No.12. pp. 79-85 (USSR)
ABSTRACT: There is little published data on the thermal conductivities of solid slag and of porous slags such as are used for heat insulation. This article describes determinations by the method of coaxial cylinders, in which the temperature difference between two cylinders is measured when the space between them is filled with the slag. The necessary formulae are stated and the experimental equipment is illustrated by a sectioned drawing in Fig.1. Tests at temperatures up to 1100°C were made in the thermostatic oven illustrated in Fig.1a. and at higher temperatures in the one in Fig.1b. The ovens were of stainless steel and porcelain respectively. The circuit diagram of the electric thermometer is given in Fig.1c. As the method is a relative one, the instrument was calibrated on substances of known thermal conductivity, such as water and castor oil at room temperature and molten salts at a temperature of 200°C. Before measurements were made on slag, both instruments were used to measure the thermal conductivity of different glasses similar in composition to slag. The analyses of the glasses used, one of which contains 4% cobalt, are recorded in Table.1. The test results with glass are noted in

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The thermal conductivity of slags in the solid and molten condition.

SOV/96-58-12-14/18

Table 2. and plotted in Fig.2: they agree with published data for glass of comparable composition to within 2% in the temperature range from 0 to 500°C. The first tests with slag were made with slag of lean Donbass coal grade T. The test results show that the thermal conductivity increases with temperature in both the solid and molten conditions. It will be seen from the curves in Fig.3. that the platinum and stainless steel cylinders gave very similar results. As with glass, it was very difficult to remove the slag from the cylinders and they could be used only once. Therefore, for subsequent work on slags, only stainless steel cylinders were used. Further work on slags made use of the combustion products of wastery wastes and shales. The work on the latter was of particular interest because of the high content of CaO. The analyses of the various slags are given in Table 3. and the thermal conductivity results in Table 4. and Fig.3. It will be seen from Fig.3. that the results pertaining to different fuels are very similar, the deviation from the mean line for any slag being $\pm 3\%$. A formula is given that represents the thermal conductivity curve for all the slags over the temperature range 0 - 1000°C and a further formula with different constants for high temperatures. Debye's theory of the

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The thermal conductivity of slags in the solid and molten condition.

SOV/96-58-12-14/13

thermal conductivity of materials of this kind is discussed and his theoretical formula for thermal conductivity in terms of specific heat, velocity of sound and mean free path of phonons is written. It indicates that the thermal conductivity of glasses and slags should increase with temperature; the test results confirm this theoretical idea. Values of thermal conductivity, specific heat and the ratio of thermal conductivity to specific heat for slag in the solid condition over the temperature range 0 - 1000°C, are displayed in Table 6. and Fig.5. It will be seen that the ratio is practically independent of the temperature. The physical concept of thermal conductivity of slag and glass at temperatures above the softening point is much more complex. Above the melting point the thermal conductivity increases sharply with increase of temperature. Theoretical work on this subject has recently been published. (lit.ref.7.). The deposits on boiler surfaces may be of solid or porous slag. The thermal conductivity of porous slag is, of course, lower than that of solids. Previously published experimental data for the former is plotted in Fig.6. and an equation is given that represents the experimental results approximately. Further work requires to be done on the thermal conductivity of porous slag, particularly

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The Thermal Conductivity of Slags in the Solid
and Molten Condition

807/96-53-12-14/18

as a function of temperature. However, an equation is offered for calculating the value at various temperatures in the solid condition. Data required in these calculations are provided in Table 7. There are 6 figures, 7 tables and 13 references, of which 12 are Soviet and 1 English.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskii institut (All-Union Thermo-
Technical Institute)

Card 4/4

SOV/96-59-9-3/22

AUTHORS: ~~Vargaftik~~, N.B. (Doctor of Technical Sciences), and
Tarzimanov, A.A. (Engineer)

TITLE: An Experimental Investigation of the Thermal Conductivity
of Steam at High Temperatures and Pressures

PERIODICAL: Teploenergetika, 1959, Nr 9, pp 15-21 (USSR)

ABSTRACT: Previous work on the thermal conductivity of steam is
briefly reviewed. Existing results at a pressure of 1 atm
are in good agreement at temperatures up to 900 °C. The
influence of pressure on thermal conductivity has been
studied less, and available data at high pressures is
clearly inadequate. It was, therefore, decided to study
further the thermal conductivity of steam at high
pressures and temperatures, particularly at pressures up
to 300 atm and temperatures of the order of 700 °C. The
tests were made by the hot-wire method which has been
previously described; the experimental apparatus is
illustrated diagrammatically in Fig 2. A number of
advantages are claimed for this method of measurement.
Special attention was paid to the risk of formation of
hydrogen from water in the autoclave as a result of
oxidation of the metal. The autoclave was accordingly
lined with seamless tube of pure silver. A number of

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SOV/96-59-9-3/22

An Experimental Investigation of the Thermal Conductivity of Steam at High Temperatures and Pressures

other special features of the equipment are described. One of the measuring tubes used is illustrated in Fig 3 and the leading dimensions and correction for eccentricity are given in Table 1. The coefficient of thermal conductivity was calculated by Eq (3). Corrections were made to allow for the flow of heat from the ends of the heater, the temperature drop in the wall of the measuring tube, linear thermal expansion of the measuring section, and radiant heat exchange. Hitherto in measuring thermal conductivity of gases it has been assumed that radiant heat transfer is independent of conductive transfer. However, as steam at high pressure is an absorbent semi-transparent medium it is necessary to elucidate the conditions under which the effects of radiant and conductive heat transfer may be considered separately. This point is considered and it is found possible to use existing equations for the separate calculation of the two components. The thermal conductivity was calculated by Eq (3) and the radiation from the Stefan-Boltzmann formula. The experimental data and the corrections which

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SOV/96-59-9-3/22

An Experimental Investigation of the Thermal Conductivity of Steam at High Temperatures and Pressures

were used in determining the coefficient of thermal conductivity are given in Table 2. Because of the small diameter of the hot wire the correction for radiation was less than 3% even at temperatures above 700 °C. The correction for loss of heat from the ends of the heater is about 1-2% and that for expansion of the measuring section about 0.3-0.7%. Analysis of possible errors in the determination of thermal conductivity showed that the maximum error did not exceed 1.5% at temperatures up to 600 °C. The error increases to 2% at higher temperatures and in tests on the 350 and 300 kg/cm² isobars at a temperature of 450 °C. The data for the temperature range 350-720 °C and pressures up to 350 kg/cm² cover a region hitherto unstudied. Where comparison with the data of other authors is possible it is shown that the greatest divergence from previous test data of the All-Union Thermo-Technical Institute at 450 °C is 3-4%; at 350 °C up to 100 atm the difference is less than 1.2%. It should be mentioned that the new experimental results are systematically lower than the old ones at high pressures, the difference tending to increase with the pressure.

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SOV/96-59-9-3/22

An Experimental Investigation of the Thermal Conductivity of Steam at High Temperatures and Pressures

The values published by Keyes for the 350 °C isotherm appear to be 5% low. It is of interest to apply Eq (1) to the experimental data; the corresponding curve is plotted in Fig 4. The results show that the change in thermal conductivity from the value corresponding to 1 atm bears a simple relationship to the specific gravity. The new experimental values of thermal conductivity may conveniently be compared with the values quoted in the tables of the All-Union Thermo-Technical Institute by constructing similar curves, as is done in Fig 5. Here the lower curve corresponds to the new test data and the upper curve to existing test data using Eq (2). The greatest difference between the curves is 7%, but there are so few earlier values at high pressure that the coefficients in Eq (2) could not be determined very accurately. The new data fully confirmed the existence of the above-mentioned relationship between the change in thermal conductivity from the value at 1 atm and the specific gravity, which is very important in formulating tables. The tests also showed that the relationship is

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SOV/96-59-9-3/22
An Experimental Investigation of the Thermal Conductivity of Steam
at High Temperatures and Pressures

Card 5/5 somewhat different from that previously assumed. The tests that have been made at pressures up to 500 atm may be used to draw up a table of values of thermal conductivity of steam over a wide range of temperatures and pressures and to correct existing tables. There are 5 figures, 2 tables and 25 references, of which 15 are Soviet, 8 English and 2 German.

ASSOCIATION: All-Union Thermo-Technical Institute (Vsesoyuznyy teplotekhnicheskiy institut)

SOV/96-59-10-13/22

AUTHORS: Vargaftik, N.B. (Dr.Tech.Sci.) and
Oleshchuk, O.N. (Engineer)

TITLE: An Experimental Investigation of the Thermal
Conductivity of Water

PERIODICAL: Teploenergetika, 1959, Nr 10, pp 70-74 (USSR)

ABSTRACT: Earlier determinations of the thermal conductivity of water are briefly reviewed. Previous work has not covered a sufficiently wide range of temperature and it was considered desirable to make conductivity measurements over a wider temperature range, as near to the critical temperature as possible. This is of particular interest in connection with the formulation of unified international steam tables. Thermal conductivity measurements were made by the hot-wire method with a quartz measuring tube of the same construction as was used to measure the thermal conductivity of steam. The experimental set-up was also much the same as before (Zhur.Tekh.Fiz. Nr 13, 1940). The method of calibration is described; the calibration was repeatedly checked during the course of the experiments, and the results are plotted in Fig 1. The experimental results are given in Table 1 and Fig 2. Corrections that were made are

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SOV/96-59-10-13/22

An Experimental Investigation of the Thermal Conductivity of Water described. The maximum relative error of the experimental data is 0.8%. Scatter of experimental points from the mean curve (Fig 2) is mostly within 0.4%. The tests were made over the temperature range from 20 to 350 °C at pressures of 1 to 217 atms. It was not the object of this work to investigate the influence of pressure on the thermal conductivity of water. Table 1 gives the values of the test pressure and of the saturation pressure; in some tests at high temperatures corrections were made for the influence of pressure so that the values of thermal conductivity given in Table 1 relate to the saturation line. The magnitude of the pressure correction is given in Table 2. The new experimental values for the thermal conductivity of water as functions of temperature are plotted in Fig 3 along with data of other authors and values obtained from the tables of the All-Union Thermo-Technical Institute. The data of the various authors is compared and it is pointed out that little information is available about the region near 0 °C. Powell has recently made a careful analysis of all the experimental data available and he recommends the values for the

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SOV/96-59-10-13/22

An Experimental Investigation of the Thermal Conductivity of Water

thermal conductivity of water given in Table 3.

Table 4 gives the authors' recommended values for the thermal conductivity over the temperature range 0 to 350 °C, at intervals of 10 °C. The difference between these recommendations and those of Powell is not greater than 0.4%. The test results given here indicate that the values of conductivity in the Tables of the All-Union Thermo-Technical Institute are somewhat high.

Card
3/3

There are 3 figures, 4 tables and 13 references, of which 7 are Soviet, 4 German and 2 English.

ASSOCIATION: All-Union Thermo-Technical Institute (Vsesoyuznyy teplotekhnicheskii institut)

VARGAFTIK N.B., doktor tekhn.nauk; TARZIMANOV, A.A., inzh.

Experimental investigation of the heat conductance of
steam. Teploenergetika 7 no.7:12-16 JI '60. (MIRA 13:7)

1. Vsesoyuznyy teplotekhnicheskii institut.
(Steam--Thermal properties)

VARGAF'IK, N.B., doktor tekhn.nauk; TARZIMANOV, A.A., kand.tekhn.nauk

Generalization of experimental data on the thermal conductivity of steam. Teploenergetika 8 no.6:5-8 Je '61. (MIRA 14:10)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Steam--Thermal properties)

1:2174
S/096/62/000/012/003/003
E194/E435

11.3800

AUTHORS: Vargaftik, N.B., Doctor of Technical Sciences,
Ol'shchuk, O.N., Engineer

TITLE: The thermal conductivity of heavy water steam

PERIODICAL: Teploenergetika, no.12, 1962, 64-66

TEXT: The thermal conductivity of D₂O in the gas phase was studied at 7 pressures in the range 1 to 250 kg/cm² and temperatures from 145 to 500°C, with amounts of superheat ranging from 5 to 200°C and approaching quite closely the saturation line. The same method was employed as that used in previous tests in the liquid phase, namely the hot wire method (Atomnaya energiya, v.7, no.5, 1959). The results are tabulated and plotted (Fig.2). Tables are also given of the ratio of the thermal conductivity of heavy water to that of ordinary water in the liquid as well as in the gas phase. It is shown that at a pressure of 1 kg/cm² the experimental ratio is in good agreement with the results calculated on the basis of modern statistical physics. There are 6 figures and 4 tables.

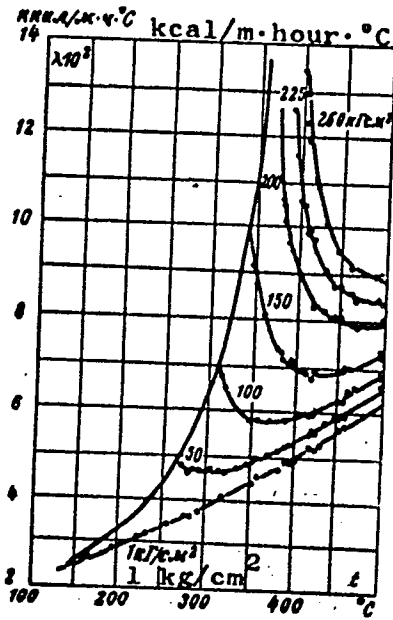
ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut
(All-Union Heat-Engineering Institute)

Card 1/2

The thermal conductivity ...

S/096/62/000/012/003/003
E194/E435

Fig.2.



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YARGAFIK, Natan Borisovich; KOSTIYENKO, A.I., red.; KIVILIS, S.Sh.,
red.; SKURLATOV, V.I., red.; KRYUCHKOVA, V.N., tekhn. red.

[Manual on the thermophysical properties of gases and liquids]
Spravochnik po teplofizicheskim svoistvam gazov i zhidkosti.
Moskva, Fizmatgiz, 1963. 708 p. (MIRA 16:12)
(Gases--Thermodynamics) (Liquids--Thermodynamics)

S/152/63/000/003/004/005
B117/B186

AUTHORS: Vargaftik, N. B., Kopylov, N. I., Lapushkin, S. A.,
Pyatibratov, S. N., Sokolov, S. N.

TITLE: Thermophysical properties of monoisopropyl diphenyl

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Neft' i gaz,
no. 3, 1963, 75-78

TEXT: Results are given of detailed investigations into the thermo-physical properties of monoisopropyl diphenyl in the liquid phase and the pressure of its saturated vapor. Properties of the sample investigated: molecular weight 197, $n_D^{25} = 1.5696$, density at 20°C $\rho = 0.969 \text{ g/cm}^3$, boiling point 286°C (760 mm Hg). Conventional measuring methods were used. The specific heat (c_p) and the density (ρ) were measured with a calorimeter at $20-398^\circ\text{C}$ and 10 atm with a maximum error of 0.3% for the density and 1.5% for the specific heat. The heat conductivity (λ) was measured with a heated wire at $30-209^\circ\text{C}$, under atmospheric pressure, with an accuracy of 1%. The viscosity (η) under the pressure of saturated monoisopropyl
Card 1/3

Thermophysical properties of ...

S/152/63/000/003/004/005
B117/B186

diphenyl vapor was measured at 20-340°C with a maximum error of 1%. The pressure of the saturated vapor (p_s) was measured at 96-309°C. The error was 0.2°C for the temperature determination and 2 mm for the pressure. To determine the thermophysical properties of monoisopropyl diphenyl, the experimental amounts were generalized for smoothed temperature values, as tabulated (Table 2). The table also gives calculated values of the heat of vaporization (r) and the Prandtl numbers required for calculating the heat exchange. There are 2 tables.

ASSOCIATION: Moskovskiy aviatsionnyy institut im. S. Ordzhonikidze
(Moscow Aviation Institute imeni S. Ordzhonikidze)

SUBMITTED: January 17, 1963

Table 2. Smoothed values for the thermophysical properties of monoisopropyl diphenyl.

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Thermophysical properties of...

5/152/63/000/003/004/005
3117/3186

t, °C	$\rho, g/cm^3$	$c_p, cal/g \cdot ^\circ C$	$\lambda \cdot 10^5$	$\eta \cdot 10^6$	ν_s mm Hg	r cal/g	Pr
			cal cm·sec·°C	g/cm·sec			
20	0,969	0,412	303	14,1	—	—	19
40	0,962	0,432	297	6,29	—	—	91,5
60	0,953	0,446	289	3,47	—	—	53,4
80	0,943	0,462	283	2,22	—	—	36,2
100	0,932	0,478	278	1,57	1,5	77,0	27,0
120	0,920	0,494	272	1,17	3,5	75,8	21,3
140	0,907	0,510	266	0,890	5,5	75,0	17,1
160	0,893	0,526	261	0,690	19	74,2	13,9
180	0,878	0,542	255	0,535	39	73,3	11,8
200	0,861	0,560	247	0,456	77	72,5	10,3
220	0,845	0,578	241	0,384	142	71,6	9,22
240	0,827	0,597	236	0,330	219	70,5	8,35
260	0,809	0,616	230	0,289	418	69,2	7,74
280	0,791	0,637	225	0,254	671	67,7	7,19
300	0,773	0,658	216	0,224	1042	65,7	6,76
320	0,753	0,681	211	0,198	1570	63,5	6,39
340	0,734	0,705	205	0,175	2291	60,9	6,02
360	0,714	0,730	200	0,155	3266	57,9	5,66
380	0,694	0,758	192	0,137	4559	54,5	5,41
400	0,674	0,788	183	0,124	6194	50,9	5,34

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ACCESSION NR: AP3000437

S/0170/63/006/005/0003/0006

AUTHOR: Vargaftik, N. B.; Zaytseva, L. S.

TITLE: Heat conductivity of deuterium in the gas phase

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 6, no. 5, 1963, 3-6

TOPIC TAGS: Deuterium; heat conductivity

ABSTRACT: The heat conductivity of D sub 2 O and H sub 2 O vapor was measured by the hot-wire method, using the apparatus shown in Fig. 1 of the Enclosure. Experimental curves (Fig. 2) have been obtained for a pressure $p = 9.8 \times 10^{-4}$ mm Hg and temperatures ranging from 100 to 500C. The experiments have shown that the ratio of the heat conductivity of the two isotopes is a function of temperature (Fig. 3). A theoretical explanation of the results is offered in terms of statistical mechanics. Orig. art. has: 5 equations, 4 figures, 2 tables.

Card 1/5

ACCESSION NR: AP3000437

ASSOCIATION: Aviatsionnyy institut im. Sergo Ordzhonikidze (Aviation
Institute im. Sergo Ordzhonikidze), Moscow

SUBMITTED: 24Sept62 DATE ACQ: 10Jun63

ENCL: 03

SUB CODE: 00

NR REF SOV: 004

OTHER: 004

Card 2/5

ACCESSION NR: AP3000437

ENCLOSURE: 1

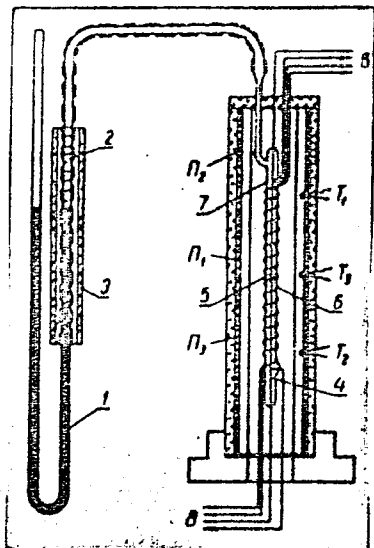


Fig. 1 Experimental apparatus.

1 - mercury, 2 - liquid investigated,
 3 - electric heater, 4 - tungsten spring,
 5 - platinum heater, 6 - external resist-
 ance thermometer, 7 - measuring tube,
 8 - leads to potentiometer, H_1, H_2, H_3 -
 thermostat heaters, T_1, T_2, T_3 - thermo-
 couples.

Card 3/5

ACCESSION NR: AP3000437

ENCLOSURE: 2

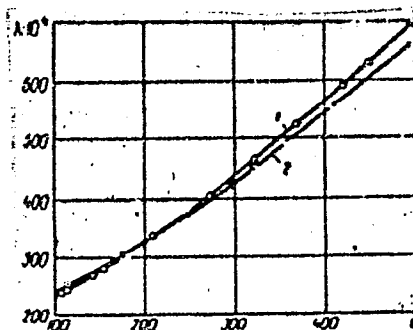


Fig. 2 Heat conductivity λ (J/m·sec·degree) of D_2O and H_2O vapor as a function of the temperature t ($^{\circ}C$) according to experimental data: 1 - D_2O , 2 - H_2O .

Card 4/5

ACCESSION NR: AP3000437

ENCLOSURE: 3

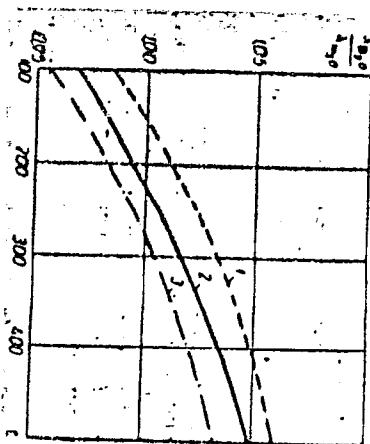


Fig. 3 Ratio $\lambda_{D_2O}/\lambda_{H_2O}$ as a function of temperature t ($^{\circ}C$) according to experimental and calculated data. 1,3 - calculated, 2 - experimental.

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"APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001858620005-6

APPROVED FOR RELEASE: 08/09/2001

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"APPROVED FOR RELEASE: 08/09/2001

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CIA-RDP86-00513R001858620005-6

APPROVED FOR RELEASE: 08/09/2001

CIA-RDP86-00513R001858620005-6"

VARGAFTIK, N.B.; doktor tekhn. nauk., prof.; ZIMINA, N. Kh., inzh., disertant

Heat conductivity of water vapor at high temperatures. Teplo-
energetika 11 no.12:84-86 D '64 (MIRA 18:2)

L 1923-66 EWT(m)/EPF(c)/EWP(t)/EWF(b) IJP(c) JD/JG/CM
ACCESSION NR: APS023778 UR/0089/65/019/003/0300/0303
621.039.534.3

AUTHOR: Vargaftik, N. B.; Zimina, N. Kh.

TITLE: Thermal conductivity of helium at 0-1000C and 1-200 atm

SOURCE: Atomnaya energiya, v. 19, no. 3, 1965, 300-303

TOPIC TAGS: helium, heat conductivity, platinum

ABSTRACT: The thermal conductivity of helium was studied experimentally at 0-1000C at a pressure of 1 atm, and an analysis of the published experimental data on the thermal conductivity of helium at various temperatures and pressures is given. Particular attention was paid to the calculation of the correction for the temperature jump, which at high temperatures is considerable for helium, even at a pressure of 1 atm. Experiments at various temperatures were carried out which enabled the authors to determine the magnitude of the correction for the temperature jump between helium and platinum. The thermal conductivity of helium at various temperatures and pressures is tabulated (see Table 1 of the Enclosure). Orig. art. has: 4 figures, 2 tables, and 7 formulas.

ASSOCIATION: none

SUBMITTED: 21Dec64
1/2 NO REF SOV: 004

ENCL: 01
OTHER: 008

SUB CODE: TD, IC

L 1923-66

ACCESSION NR: AP5023778

ENCLOSURE: 01

Table 1. Values of the thermal conductivity of helium [$\sqrt{10^6}$ cal/(cm sec °C)] for various temperature and pressure intervals.

Pressure interval atm	Temperature interval, °C										
	0	100	200	300	400	500	600	700	800	900	1000
·1	341,0	426,8	506,7	581,8	652,9	720,4	784,4	846,8	906,7	964,3	1022,6
100	351,1	435,6	514,6	588,5	658,5	724,7	788,0	849,3	908,8	966,3	1024,7
200	360,3	444,4	522,5	595,2	664,0	729,0	791,1	851,9	910,8	968,2	1026,7

2/2

VARGAFTIK, N.B.; ZIMINA, N.Kh.

Heat conductivity of helium at a temperature of 0° -- 1000° C and a pressure of 1--200 atm. Atom. energ. 19 no.3:300-303 S '65.
(MIRA 18:9)

VARGAMYAN
USSR/ Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 34/62

Authors : Vargamyán, A. T., and Popkov, A. P.

Title : Electropolishing of zinc

Periodical : Dok. AN SSSR 102/3, 547 - 549, May 21, 1955

Abstract : Certain experimental data are presented regarding the process of zinc polishing in sulfate solutions. These data indicate that the mechanism of zinc electropolishing is entirely different from the mechanism of silver electropolishing. A periodically discontinuous (impulse) current was utilized in studying the comparatively rapid electrode processes occurring during the polishing of zinc. The relation between the anode polarization during the polishing and the surface shine of the zinc is explained. Three USSR references (1936-1955). Graphs.

Institution : Acad. of Sc., USSR, Inst. of Phys. Chem.

Presented by: Academician P. A. Rebinder, December 3, 1954

VARGA-NAGY, I.

DONHOFFER, Sz.; SZEGVARI, Gy.; VARGA-NAGY, I.; JARAI, I.; HAUG-IASZLO, A.

Dynamics of chemical thermoregulation in rats. Acta physiol. hung. 13
no.1:37-56 1957.

1. Pathophysiologisches Institut der Medizinischen Universität, Pécs.
(BODY TEMPERATURE
thermoregulation, chem., dynamics in rats (Ger))

VARGA-NANYI, F.

1962
1962, 1111, v. Institute of Physiology,
of University Lorvostudományi Egyetem Biológiai Intézet.
1962.

"Separation of muscle excitation from contraction."

Abstract, Acta Physiologica Academiae Scientiarum Hungaricae,
Vol 22, No 3-4, 1962, pp 287-291.

Abstract: [English article; authors' English summary]
The gastrocnemius muscle of the Lagen-Frankeburg is
perfusion perfused with hypertonic solution the acti-
vity signifying excitation can be separated from con-
traction. When the muscle is perfused with normal Ringer
solution following prior perfusion with hypertonic so-
lution, contraction follows the appearance of the action
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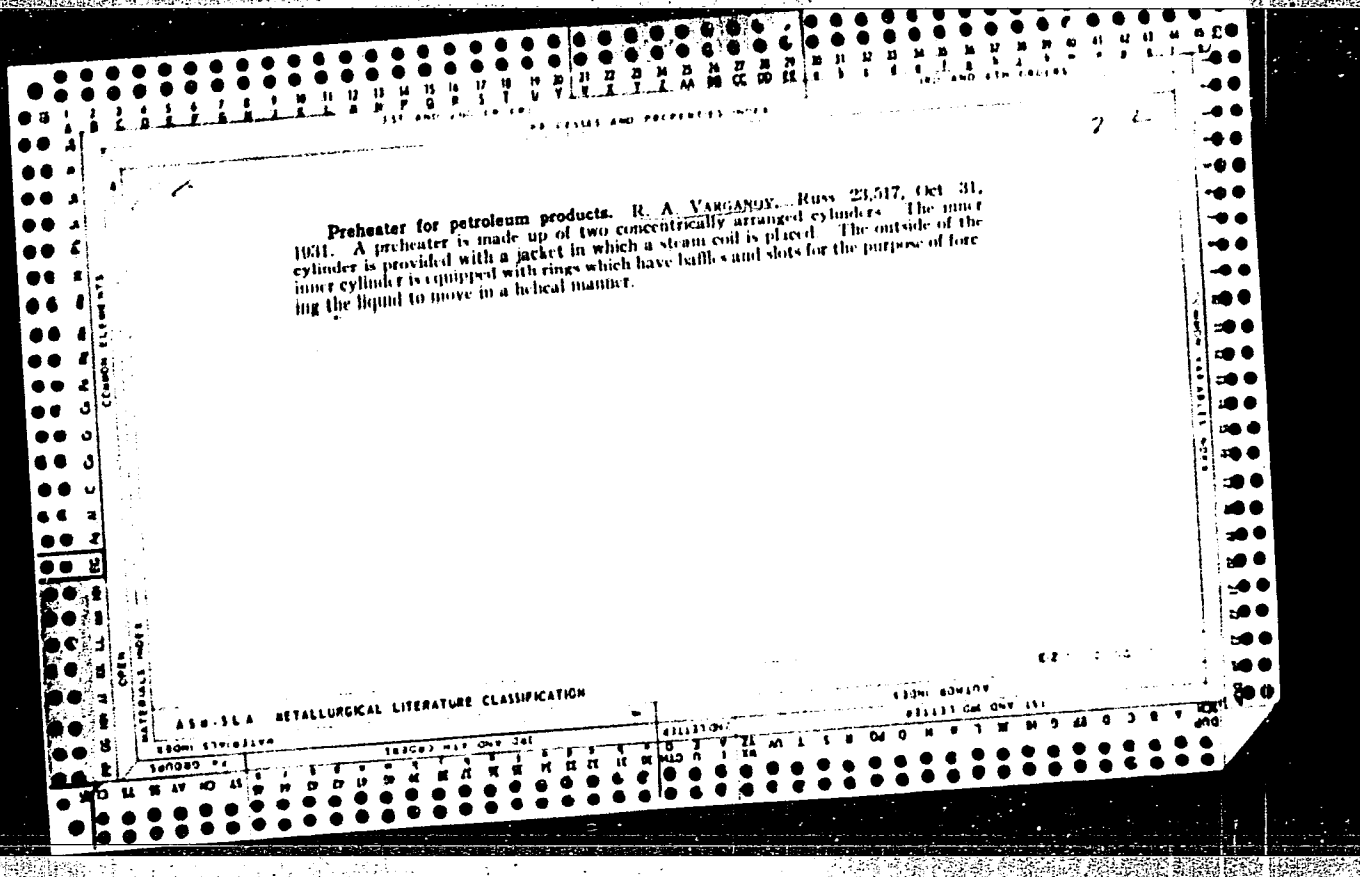
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