Experimental Determination of the Enthalpy of Corundum (Al_2O_3) at Temperatures of 500° to 2000°C

S/170/61/004/002/001/018
B019/B060

up to 1318°C with a Pt-PtRh thermocouple). The measuring instruments were controlled at the VNII Komiteta standartov mer i izmeritel'nykh priborov (VNII of the Committee on Standards, Measures, and Measuring Instruments). The test piece may be allowed to drop from the furnace into the calorimeter, and the heat content of the test piece is calculated from the temperature changes of the Cu block. The calibration of the system is discussed in detail. In this calibration, the various forms of heating curves of the test pieces were not found to have any effect upon the experimental results. Anhydrous aluminum oxide (α-modification) was the initial material for the preparation of corundum. The test pieces were placed in an ampoule, whose heat capacity was known and which was heated with the test piece in the furnace. The ampoule was designed in a way as to fit precisely into the tapered bore of the Cu block. The enthalpy of 0°C up to a test piece temperature of t_a was calculated by the following formula:

$$i^{t_a}_{0^\circ C} = \frac{1}{G}(H\Delta R + q_l - q_w) + i^{t'_k}_{0^\circ C}$$, where HΔR is the heat introduced

Card 2/3

through the test piece into the calorimeter, G is the weight of the test piece, q_1 is the heat loss of the test piece while falling, and $i_{0°C}^{t'_k}$ is the test-piece enthalpy from 0°C up to temperature t'_k of the calorimeter system after heat compensation. Results are given in Table 1. A comparison with data supplied by other authors gave satisfactory agreement. E. N. Rodigina, K. Z. Gomel'skiy, N. B. Vargaftnik, and O. N. Oleshchuk are mentioned, and reference is made to work carried out at the filial Vsesoyuznogo instituta metrologii (Branch of the All-Union Institute of Metrology) in Sverdlovsk. There are 5 figures, 1 table, and 20 references: 11 Soviet, 1 German, and 1 US.

ASSOCIATION: Energeticheskiy institut, g.Moskva (Institute of Power Engineering, Moscow)

SUBMITTED: August 19, 1960

18.8100
21.2100

25723
S/020/61/139/003/022/025
B127/B206

AUTHORS: Kirillin, V. A., Corresponding Member AS USSR, Sheyndlin, A. Ye., and Chekhovskoy, V. Ya.

TITLE: Experimental determination of the enthalpy of molybdenum at 700-2337°C

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 139, no. 3, 1961, 645-647

TEXT: The enthalpy of molybdenum having been studied only up to 1500°C, the authors continue the investigation by studying the enthalpy at high temperatures with the mixing method, applying a massive calorimeter. Tungsten heaters were used for generating the temperature. The experimental plant was evacuated to a pressure of 10^{-3} mm Hg, or filled with argon to 1.05 atm absolute pressure. The temperature was measured by platinum resistance thermometers connected to a ПМС-48 (PMS-48) potentiometer and an M21/4 (M21/4) mirror galvanometer. Temperature fluctuations were only ±0.001°C. The specimens were taken from molybdenum ingots produced by powder metallurgy, the ingots containing a

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Experimental determination of the...

maximum of 0.04-0.05 % impurities; they had the shape of a truncated cone, the surface of which was carefully polished. Temperatures up to 1327°C were measured by platinum-rhodium-platinum thermocouples, the hot junction of which was inside the specimen. Higher temperatures were measured by a pyrometer, in which case a cavity was made in the specimen in order to produce an ideally black body. The specimens were suspended in a vacuum furnace by means of a graphite ring to prevent sticking at higher temperatures. For thermal stabilization, the specimens were tempered in the vacuum furnace at 2050°C. They were heated for 3 hr, and subsequently cooled for 1.5 hr. The experiments were repeated after this thermal stabilization. Their results are tabulated. One calorie was assumed to equal 4.1840 abs.joules. The maximum error was no more than ± 0.4 % for temperature measurement by thermocouple, and ± 0.9 % by pyrometer at 1300-2000°C, and ± 1.2 % at 2000-2400°C. There are 1 table and 9 references: 4 Soviet-bloc and 5 non-Soviet-bloc. The two references to English-language publications read as follows: T. A. Redfield, J. H. Hill, United State Atomic Energy Commission, ORNL - 1087; Sept. 24, 1951; A. G. Worthyng, Phys. Rev., 28, 195 (1926).

Card 2/3

25723
S/020/61/139/003/022/025
B127/B206

Experimental determination of the...

ASSOCIATION: Laboratoriya vysokikh temperatur Akademii nauk SSSR (Laboratory of High Temperatures; Academy of Sciences USSR)

SUBMITTED: May 3, 1961

Table. Experimental results on the enthalpy of molybdenum.
Legend: (1) Serial number, (2) temperature, °C, (3) $i_t - i_{0°C}$, kcal/kg.

(1) №№ п. п.	(2) Т-ра, °С	(3) $I_t - I_{0°C}$, ккал/кг	(1) №№ п. п.	(2) Т-ра, °С	(3) $I_t - I_{0°C}$, ккал/кг	(1) №№ п. п.	(2) Т-ра, °С	(3) $I_t - I_{0°C}$, ккал/кг
1	699,3	45,58	12	1690	124,45	23	2046	158,72
2	883,3	58,82	13	1739	128,95	24	2077	160,29
3	1010,7	68,53	14	1780	133,01	25	2106	163,47
4	1199,0	83,09	15	1788	133,70	26	2165	170,95
5	1327,4	03,19	16	1854	139,48	27	2172	170,59
6	1432	101,51	17	1900	144;46	28	2235	178,10
7	1446	102,66	18	1942	147,87	29	2241	178;30
8	1536	110,40	19	1954	150,37	30	2250	179,37
9	1600	115,67	20	1970	151,63	31	2257	181,03
10	1629	118,91	21	1985	151,44	32	2337	190,22
11	1657	121,04	22	2036	156,67			

Card 3/3

ZENGER-BREDT, I.[Sanger-Bredt, I.]; SYCHEV, V.V.[translator];
ASINOVSKIY, E.I.[translator]; KIRILLIN, V.A., red.;
SHEYNDLIN, A.Ye., doktor tekhn. nauk, prof., red.;
YAKIMOVICH, M.G., red.; KARPOV, I.I., tekhn. red.;
KOROTEYEVA, Yu.I., tekhn. red.

[Some properties of hydrogen and water as possible working fluids for rockets]Nekotorye svoistva vodoroda i vodianogo para - vozmozhnykh rabochikh tel raket. Moskva, Izd-vo inostr. lit-ry, 1962. 98 p. Translated from the English and the German. (MIRA 16:1)

1. Chlen-korrespondent Akademii nauk SSSR (for Kirillin).
(Rockets (Aeronautics))

34660
S/096/62/000/002/004/008
E111/E414

18.1152

AUTHORS: Kirillin, V.A., Corresponding Member AS USSR, Sheyndlin, A.Ye., Doctor of Technical Sciences, Chekhovskoy, V.Ya., Candidate of Technical Sciences

TITLE: Thermodynamic properties of tungsten in the temperature range 0 to 2400°C

PERIODICAL: Teploenergetika, no.2, 1962, 63-66

TEXT: The authors describe their experimental determination of the enthalpy of tungsten at 2000 to 2340°C. They used the method of mixtures with a massive copper calorimeter with a constant temperature jacket. The apparatus and method were described by the authors in previous papers (Ref.5: DAN SSSR, v.135, no.1, 1960; Ref.6: Inzhenergo-fizicheskiy zhurnal, v.4, no.2, 1951, 3). Tungsten heaters enabled higher specimen purity to be maintained than with graphite heaters. Special measures were taken to prevent sticking of the specimens at temperatures above 2000°C. Specimen temperature was measured with a disappearing-filament optical pyrometer (estimated error ± 0.7%). The surface of specimens was kept polished throughout the series of experiments

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Thermodynamic properties ...

and they were weighed before and after each determination. Experiments were performed in both argon and vacuum. From the present and previous (Ref.3: Inzhenergo-fizicheskiy zhurnal, 1962) work the authors worked out empirical equations for the enthalpy and specific heat of tungsten. The results are:

enthalpy: $i_T - i_{273.15} = 5.556T + 4.935 \times 10^{-4}T^2 + 14.9 \times 10^{-9}T^3 - 1554.8$ cal/g atom (6)

specific heat: $\mu c_p = 5.556 + 9.87 \times 10^{-4}T + 4.47 \times 10^{-3}T^2$ cal/g atom x degree (7)

enthropy: $s_T - s_{273.15} = 12.793 \lg T + 9.87 \times 10^{-4}T + 2.24 \times 10^{-8}T^2 - 31.440$ cal/g atom x degree (9)

From Eq.(6), (7) and (9) the smoothed values were calculated (Table 2). The authors estimate the random error in their

Card 2/4

SHEYNDLIN, A. Ye. (Moskva); GUBAREV, A. V. (Moskva); KOVBASYUK, V. I. (Moskva); PROKUDIN, V. A. (Moskva)

Problem concerning the optimization of the operation of magnetohydrodynamic generators. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.6:34-38 N-D '62. (MIRA 16:1)

(Magnetohydrodynamics)

S/020/62/142/006/016/019
B101/B144

AUTHORS: Kirillin, V. A., Corresponding Member AS USSR, Sheyndlin, A. Ye., and Chekhovskoy, V. Ya.

TITLE: Enthalpy and specific heat of tungsten between 0 and 2400°C

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 6, 1962, 1323-1326

TEXT: The determination of enthalpy and specific heat of tungsten was extended up to 2340°C. The specimen obtained by powder metallurgy techniques was prevented from being soiled by using a furnace with tungsten, not graphite, heater. The impurity content of the specimen was less than 0.05%. The measurements were made in vacuum (10^{-2}-10^{-3} mm Hg) or in argon atmosphere. A cavity bored in the specimen was covered by a tungsten disk with a bore of 2.3 mm in diameter, and a pyrometer was used for the exact temperature measurement (absolute blackbody) between 2000 and 2400°C. The following empirical equations were found for the temperature range 0-2400°C: $i_t - i_{0°C} = 0.03170t + 2.75 \cdot 10^{-6}t^2 + 8.1 \cdot 10^{-11}t^3$ (1); $c_p = 0.03170 + 5.50 \cdot 10^{-6}t + 2.43 \cdot 10^{-10}t^2$;

Card 1/2

Enthalpy and specific heat ...

$\mu c_p = 5.828 + 10.11 \cdot 10^{-4} t + 4.47 \cdot 10^{-8} t^2$. $i_t - i_{0°C}$ denotes the change of enthalpy (kcal/kg); c_p the true specific heat (kcal/kg·deg); μc_p the true atomic heat (cal/g-atom·deg). Basic data: atomic weight of tungsten: 183.86; 1 cal = 4.1840 absolute joules. Maximum deviation of measurements results from values calculated by Eq. (1): 0.4% between 357 and 1200°C; 0.56% between 1000 and 2000°C; 1% between 2000 and 2400°C. Good agreement was found between present results and those of other research workers whose methods are discussed briefly. There are 2 tables and 20 references: 6 Soviet and 14 non-Soviet. The four most recent references to English-language publications read as follows: K. K. Smith, P. W. Bigler, Phys. Rev., 19, 268 (1922); L. I. Bocksthaler, Phys. Rev., 25, 677 (1925); K. K. Kelley, Bureau of Mines Bull., 476 (1949); H. L. Bronson, H. M. Chisholm, S. M. Dockerty, Canad. J. Res., 8, 282 (1933).

ASSOCIATION: Laboratoriya vysokikh temperatur Akademii nauk SSSR (Laboratory of High Temperatures of the Academy of Sciences USSR)

SUBMITTED: November 30, 1961

Card 2/2

KIRILLIN, V.A.; SHEYNDLIN, A.Ye.; CHEKHOVSKOY, V.Ya.; PETROV, V.A.

Experimental study of the enthalpy of tungsten in the range of temperatures from 2400 to 2820°C. Dokl.AN SSSR 144 no.2:390-391 My '62. (MIRA 15:5)

1. Laboratoriya vysokikh temperatur Moskovskogo energeticheskogo instituta. 2. Chlen-korrespondent AN SSSR (for Kirillin).
(Tungsten) (Enthalpy)

KIRILLIN, Vladimir Alekseyevich; SHEYNDLIN, Aleksandr Yefimovich; SYCHEV, V.V., red.; BUL'DYAYEV, N.A., tekhn. red.

[Studies of the thermodynamic properties of substances] Issledovaniia termodinamicheskikh svoistv veshchestv. Moskva, Gosenergoizdat, 1963. 559 p. (MIRA 16:5)
(Matter--Thermodynamic properties)

SHEYNDLIN, A. YE., ASINOVSKIY, E. I.,

"Study of Electric and Optical Properties of Argon in Stabilized Arc,"

report presented at the 6th Inlt. Conf. on Ionization Phenomena in Gases, Paris, France, 8-13 Jul 63

SHEYNDLIN, A. YE., CHEKHOVSKOY, V. Ya., and KIRILLIN, V. A.,

"Zntal'piya i Teploemkoct' Nekotorykh Tverdikh Veschestv pri Vec'ma Vysokikh Temperaturakh. (Enthalpy and Heat Capacity of Some Solid Substances at Very High Temperatures.)"

report presented at the Intl. Symposium on High Temperature Technology held at Asilomar, California, 8-11 Sep 63

KAZAVCHINSKIY, Ya.Z., prof.; KESSEL'MAN, P.M., kand. tekhn. nauk; KIRILLIN, V.A., akademik; RIVKIN, S.L., kand. tekhn. nauk; SYCHEV, V.V., kand. tekhn. nauk; TIMROT, D.L., prof.; SHEYNDLIN, A.Ye., prof.; SHPIL'RAYN, E.E., dots.; BUL'DYAYEV, N.A., tekhn. red.

[Heavy water; its thermophysical properties] Tiazhelaia voda; Teplofizicheskie svoistva. Moskva, Gosenergoizdat, 1963. 255 p. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur pri Moskovskom energeticheskom institute (for Kirillin, Sychev, Timrot, Sheyndlin, Shpil'rayn). 2. Vsesoyuznyy nauchno-issledovatel'skiy teplotekhnicheskiy institut imeni F.E. Dzerzhinskogo (for Rivkin). 3. Odesskiy institut inzhenerov morskogo flota (for Kazavchinskiy). 4. Odesskiy tekhnologicheskiy institut (for Kessel'man).

L 28510-65 EPF(c)-2/EPR/EPA(s)-2/EPA(w)-2/EWT(m)/EWP(b)/T/EWA(d)/EWP(e)/EWP(w)/ ... IJP(c) WH/JW/JD/GS

ACCESSION NR: AT5007727 S/0000/63/000/000/0104/0109

AUTHOR: Sheyndlin, A. Ye.; Chekhovskoy, V. Ya.; Petrov, V. A.

TITLE: Determination of certain thermophysical properties of corundum

SOURCE: AN SSSR. Institut khimii silikatov. Silikaty i okisly v khimii vysokikh temperatur (Silicates and oxides in high-temperature chemistry). Moscow, 1963, 104-109

TOPIC TAGS: corundum, melting point determination, heat of fusion, heat capacity, enthalpy

ABSTRACT: The article describes the experimental determination of the heat of fusion of corundum, its melting point, and the enthalpy of its melt up to 2500C. An experimental calorimetric device was used for the measurements. Molybdenum ampoules in which pieces of corundum were placed were employed in the determination of the enthalpy. On the basis of the experimental data obtained, an empirical equation was derived for the enthalpy of the corundum melt in the range from the melting point to 2500C:

$$H_T - H_{273.15} = 0.4678\ T - 232.6\ \text{kcal/kg},$$

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L [illegible]

ACCESSION NR: AT5007727

where T is in degrees Kelvin. From this equation, the heat of fusion was found to be 254 kcal/kg or 25.8 kcal/mole, the true heat capacity being C_p = 0.4678 kcal/kg·deg. Orig. art. has: 2 figures, 1 table, and 5 formulas.

ASSOCIATION: None

SUBMITTED: 0000063 ENCL: 00 SUB CODE: MT, TD

NO REF SOV: 007 OTHER: 003

Card 2/2

SHEYNDLIN, A. Ye., and CHEKHOVSKOY, V. Ya.

"Experimental determination of integral emissivity and monochromatic emissivity of metals at high temperatures".

Seminar on production methods, physical properties, and electron structure of refractory metals, compounds, and alloys, organized by the Institute of Powder Metallurgy and Special Alloys AS Ukr SSR, Kiev, 25-29 April 1963.
(Teplofizika vysokikh temperatur, No. 1, 1963, p. 156)

PETROV, V.A.; CHEKHOVSKOY, V.Ya.; SHEYNDLIN, A.Ye.

Experimental determination of the integral emissivity of metals and alloys at high temperatures. Teplofiz. vys. temp. 1 no.1:24-29 Jl-Ag '63. (MIRA 16:10)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur.

ACCESSION NR: AP4017727 S/0294/63/001/003/0462/0464

AUTHORS: Petrov, V. A.; Chekhovskoy, V. Ya.; Sheyndlin, A. Ye.

TITLE: Experimental determination of the degree of blackness of niobium in the temperature interval 1200--2500K

SOURCE: Teplofizika vy*sokikh temperatur, v. 1, no. 3, 1963, 462-464

TOPIC TAGS: niobium, blackness, degree of blackness, hemispheric blackness, monochromatic blackness, integral blackness, pyrometry, micropyrometry

ABSTRACT: Results are presented of an experimental determination of the integral hemispheric and monochromatic ($\lambda = 0.66 \times 10^{-6}$ m) degree of blackness of niobium in the temperature interval 1200--2500°K. There are very little published data on its optical properties and particularly the degree of blackness. The measurements were made on a specimen in the form of an electrically-heated thin-

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ACCESSION NR: AP4017727

wall tube with outside diameter 9 mm, wall thickness 0.5 mm and length 300 mm. The experimental setup, the apparatus, and the measurement procedure were described elsewhere (Teplofizika vy*sokikh temperatur v. 1, No. 1, 1963). All experiments were made in a vacuum 10^{-3} N/m^2. The experimental error is estimated at ±4%. In addition, a check was made on the blackness of the tube when viewed from the end, as is sometimes done to determine the true temperature. The results show that the degree of blackness of a hole drilled in a tube is 0.89--0.90 and that to improve the results it is necessary to use a small hole and a micropyrometer. Both the monochromatic degree of blackness and the integral degree of blackness exhibits a noticeable increase in degree of blackness during the initial heating. The accuracy of the measurement of the monochromatic degree of blackness is estimated at ±11% at 1300K and ±7% at 2300K. The data are compared with those by others and the reasons for the discrepancies discussed. Orig. art. has: 2 figures and 4 tables.

Card 2/5

ACCESSION NR: AP4017727

ASSOCIATION: Nauchno-issledovatel'skiy institut vy*sokikh tempera-tur (Scientific Research Institute of High Temperatures)

SUBMITTED: 05Oct63 DATE ACQ: 23Mar64 ENCL: 02

SUB CODE: PH NR REF SOV: 001 OTHER: 004

Card 3/5

S/120/63/000/001/064/072
E032/E314

AUTHORS: Chekhovskoy, B.Ya. and Sheyndlin, A.Ye.

TITLE: Laboratory furnace with a graphite heater for studies above 3 100 °C

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 197 - 199

TEXT: Tungsten furnaces are unsuitable when the materials investigated tend to corrode tungsten at high temperatures. This can be avoided by the use of a graphite heater. Fig. 1 shows a furnace of this type. The furnace is very similar to the TVV (TVV) furnace and, in fact, the tungsten element of existing TVV furnaces can be replaced by the graphite element. The graphite heater 18 is in the form of a tube (25-33 mm in diameter, length of working region 260 mm). The lower end of the heater is in the form of a conical contact attached by means of the nut 22 to the lower current lead 21 . The tube is free to expand in a fixed graphite holder 12 . The upper current lead 8 rests on a fixed cylindrical tube 3 . The heater is surrounded by a system of radial and end screens made of graphite (11, 16, 19)

Card 1/3

Laboratory furnace ....

and by molybdenum and stainless-steel screens (10, 13, 15, 20). Other screens are at 17 and 14 (graphite). The furnace operates in a vacuum of 10^{-2} - 10^{-3} mm Hg or in an argon atmosphere of 1.05 atm up to about 2 000 °C. It is used only in an inert atmosphere at higher temperatures. A maximum temperature of 3100°C was reached at a power consumption of 35 - 36 kW. The heating element is supplied through an autotransformer AOSK-25/0.5 (AOSK-25/0.5) and a step-down transformer OSU-40/0.5 (OSU-40/0.5). The supply voltage is maintained constant to within ± 1% by a single-phase voltage-stabilizer RA-35N-100 (RA-35N-100). There are 3 figures.

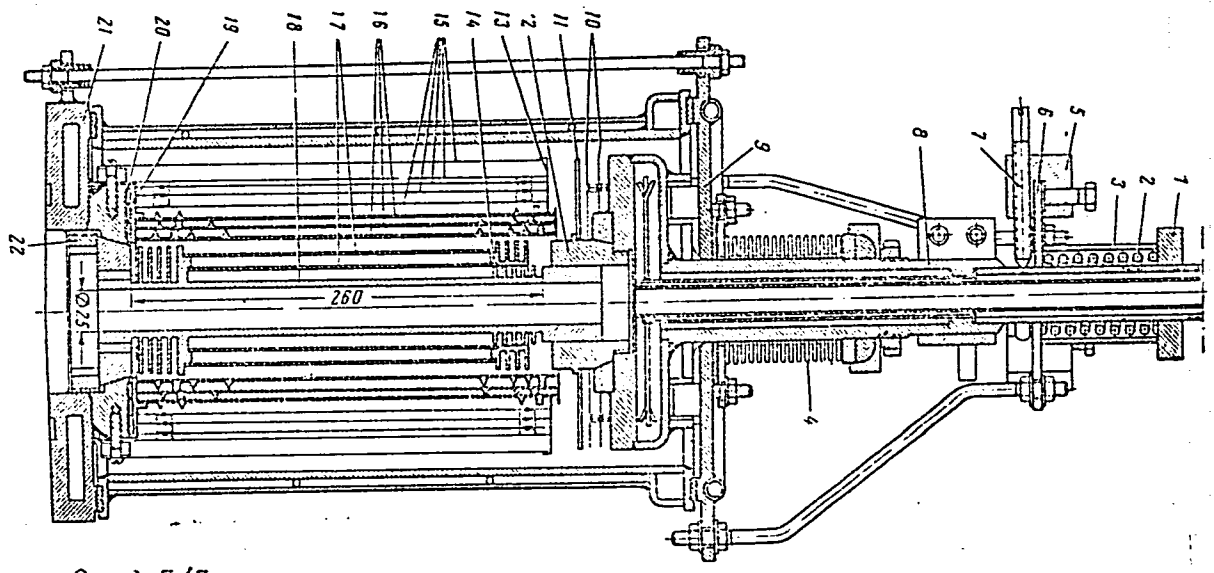
ASSOCIATION: Nauchno-issledovatel'skiy institut vysokikh temperatury (Scientific Research Institute for High Temperatures)

SUBMITTED: January 29, 1962

S/120/63/000/001/064/072
E032/E314

Laboratory furnace ....

Fig. 1:



Card 3/3

L 11388-63 EPR/EPF(c)/EPF(n)-2/EWP(q)/EWT(m)/BDS/T-2/ES(s)-2 AEDC/AFFTC/
ASD/SSD Ps-4/Pr-4/Pu-4/Pt-4 WH/WW/K S/120/63/000/002/032/041

84

AUTHOR: Sheyndlin, A. Ye., Chekhovskoy, V. Ya., and Reshetov, L. A.

TITLE: High-temperature laboratory oven with graphite elements for research at 3000°C

PERIODICAL: Pribory i tekhnika eksperimenta, March-April 1963, v. 8, no. 2, 153-156.

TEXT: The article discusses the design and test results for a high-temperature over with graphite heaters for research on enthalpy and thermal capacity. The heating elements consist of two series-connected tubes; at 3000°C the furnace drawn about 30 kw. The temperature of the heating elements is constant along their length within 10-30°C over the 1100-2700°C range. There are three figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut vysokikh temperatur MEI (High-Temperature Scientific-Research Institute at the Moscow Power Engineering Institute)

SUBMITTED: April 28, 1962

ja/CA
Card 1/1

SHEYNDLIN, A.Ye., doktor tekhn. nauk; SYCHEV, V.V., kand. tekhn. nauk; MUNIR MUKHAMMED KHILAL', kand. tekhn. nauk; GORBUNOVA, N.I., inzh.

Experimental study of the enthalpy of water and steam at temperatures up to 390° C and pressures up to 500 kg./cm^2. Teploenergetika 10 no.9:76-80 S '63. (MIRA 16:10)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur pri Moskovskom energeticheskom institute.
(Water--Thermal properties)

CHEKHOVSKOY, V.Ya.; SHEYNDLIN, A.Ye.

Modified furnace of the TVV type with a tungsten heater for investigations at temperatures up to 2800° C. Zav. lab. 29 no.10:1258-1259 '63. (MIRA 16:12)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur pri Moskovskom energeticheskom institute.

SHEYNDLIN, A.Ye.; ASINOVSKIY, E.I.; BATURIN, V.A.; BATENIN, V.M.

Apparatus for producing plasma and studying its properties.
Zhur. tekh. fiz. 33 no.10:1169-1172 O '63. (MIRA 16:11)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur, Moskva.

KIRILLIN, V.A.; SHEYNDLIN, A.Ye.; CHEKHOVSKOY, V.Ya.; PETROV, V.A.

Thermodynamic properties of tungsten in the temperature range 0 - 3500°K. Zhur.fiz.khim. 37 no.10:2249-2257 O '63. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur pri Moskovskom energeticheskom institute.

SHEYNDLIN, A. Ye.; BATENIN, V. A.; ASINOVSKIY, E. I.

"Experimental Investigation of Non-Equilibrium Ionization in a Mixture of Argon and Potassium."

report submitted for the Intl Symp on Magnetohydrodynamic Electrical Power Generation, Paris, 6-10 Jul 64.

Inst of High Temperatures, Moscow.

KIRILLIN, V.A.; SHEYNDLIN, A.Ye., CHEKHOVSKOY, V.Ya.

Enthalpy and heat capacity of silicon carbide containing 12% of free carbon in the temperature range 1100° - 2850°K. Teplofiz. vys. temp. 2 no.1:9-15 Ja-F '64. (MIRA 17:3)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur.

L 12440-65 EWI(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/EWP(b)/EWP(e) Pc-4/Pr-4/Ps-4/Pl-4/
Pu-4 RPL/AS(mp)-2/AFETR/SSD/AFWL/AEDC(a)/ESD(gs)/ESD(t) JD/NW/JW/JG/AT/RM/MH
ACCESSION NR: AP4047374 S/0294/64/002/005/0710/0715

AUTHORS: Kirillin, V. A.; Sheyndlin, A. Ye.; Chekhovskoy, V. Ya.; Tyukayev, V. I.

TITLE: Enthalpy and specific heat of titanium diboride in the temperature interval of 273.15 to 2600K

SOURCE: Teplofizika vy*sokikh temperatur, v. 2, no. 5, 1964, 710-715

TOPIC TAGS: enthalpy, specific heat, titanium diboride, calorimeter, argon

ABSTRACT: The authors carried out an experimental investigation of the enthalpy and heat capacity of TiB_2 in the temperature range of 273.15 to 2600K by the displacement method. The calorimetric device consisted of a massive calorimeter with isothermal casings. The experimental technique used was the one described by V. A. Kirillin, A. Ye. Sheyndlin and V. Ya. Chekhovskoy (Inzh.-fiz. zh., 4, No. 2, 1961). Each specimen weighed 31 grams and had the form of a cone 34 mm high and 20 or 18 mm in base diameter. The composition of the material was 69.6% Ti, 28% B and 0.97% C. All experiments were conducted in argon at a pressure of 1.05 atm. The following empirical relationships were obtained from the experimental data in the range of 273.15 to 2600K:

Card 1/2

L 12440-65

ACCESSION NR: AP4047374

$$H_T - H_{273,15} = 0{,}3005(T - 273{,}15) - 100{,}67 \lg \frac{T}{273{,}15} + \\ + 504 \exp\left(-\frac{8402}{T}\right) \text{ kcal/kg},$$

$$C_p = 0{,}3005 - \frac{3040}{T} + \frac{294 \cdot 10^6}{T^3} \exp\left(-\frac{8402}{T}\right) \text{ kcal/kg·C}.$$

Orig. art. has: 4 formulas, 3 tables, and 3 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut vy*sokikh temperatur (High-Temperature Scientific Research Institute)

SUBMITTED: 26May64 ENCL: 00

SUB CODE: TD NO REF SOV: 007 OTHER: 003

Card 2/2

ACCESSION NR: AP4037999 S/0170/64/000/005/0063/0065

AUTHOR: Sheyndlin, A. Ye.; Chekhovskoy, V. Ya.; Petrov, V. A.

TITLE: Enthalpy and specific heat of molten corundum at temperatures up to 2800K

SOURCE: Inzhenerno-fizicheskiy zhurnal, no. 5, 1964, 63-65

TOPIC TAGS: corundum, corundum enthalpy, corundum specific heat, synthetic corundum

ABSTRACT: The enthalpy and specific heat of molten synthetic corundum, 99.8—99.9% Ab_2O_3, in the 2350—2800K range have been determined at the Moscow Institute of High Temperatures. Corundum specimens were contained in evacuated thin-walled ampuls made of 99.95% pure molybdenum, and the experiments were conducted in an airtight unit in an atmosphere of pure argon at a pressure of $10.3 \cdot 10^4 n/m^2$. The maximum calculated relative error of the enthalpy measurements was about 1.2%. The obtained enthalpy data, referred to 273.15K, are in Table 1 of the Enclosure. The true specific heat

Card 1/3

53"

ACCESSION NR: AP4037999

of molten corundum from the melting temperature (2313—2323K) to 2800K was found to be the constant c_p = 1.957 j/g·deg.

ASSOCIATION: Institut vy*sokikh temperatur, Moskva (Institute of High Temperatures, Moscow)

SUBMITTED: 06Mar63 DATE ACQ: 09Jun64 ENCL: 01

SUB CODE: MM NO REF SOV: 004 OTHER: 003

Card 2/3

ACCESSION NR: AP4037999 ENCLOSURE: 01

Table 1. Enthalpy data

T (K)	$H_T - H_{273.15}$, j/g	T (K)	$H_T - H_{273.15}$, j/g
2350	3626	2600	4115
2400	3724	2650	4213
2450	3822	2700	4311
2500	3920	2750	4409
2550	4018	2800	4507

Card 3/3

SHEYNDLIN, A.Ye., doktor tekhn. nauk, prof.; GORBUNOVA, N.I., inzh.

Experimental study of the enthalpy of water and water vapor at temperatures up to 460° C and pressures up to 490 bar. Teploenergetika 11 no.5:86-88 My'64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut vysokikh temperatur pri Moskovskom ordena Lenina energeticheskom institute.

SHEYNDLIN, A.Ye., prof.

Sixth International Conference on Ionization Effects in Gases.
Vest. AN SSSR 34 no. 1:79-80 Ja '64. (MIRA 17:5)

SHEYNDLIN, A.Ye., prof.

Second International Symposium on High Temperatures. Vest.AN SSSR 34 no. 2:100 F '64. (MIRA 17:5)

KIRILLIN, V. A.; SHEYNDLIN, A. Ye.; CHEKHOVSKIY, V. Ya.; ZHUKOVA, I. A.

"Thermodynamic properties of niobium in the temperature range from 0°K to the melting point, 2740°K."

report submitted for 3rd Symp on Thermophysical Properties, Purdue Univ, Lafayette, Ind.,22-25 Mar 65.

L 8991-66 EWT(l)/EWP(e)/EWT(m)/ETC/EPF(n)-2/EWG(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b)
ACC NR: AP5016695 EWA(h)/ETC(m) SOURCE CODE: UR/0294/65/003/003/0395/0400
IJP(c) JD/WW/JW/JG

115

AUTHOR: Kirillin, V. A.; Sheyndlin, A. Ye.; Chekhovskoy, V. Ya.; Zhukova, I. A. B

ORG: Scientific Research Institute of High Temperatures (Nauchno-issledovatel'skiy institut vysokikh temperatur)

TITLE: Experimental determination of the enthalpy of niobium in the 600 to 2600°K temperature range

SOURCE: Teplofizika vysokikh temperatur, v. 3, no. 3, 1965, 395-400

TOPIC TAGS: enthalpy, high temperature metal, powder metallurgy, heat capacity

ABSTRACT: The method of mixing is used to determine the enthalpy of niobium in the temperature range of 582°K to 2587°K. The calorimeter and oven used in the experiment were placed in a vacuum chamber and it is shown that results obtained at 10^{-2} to 10^{-3} mm Hg pressure agree with those obtained in an argon atmosphere. The measurements were made on samples produced by powder metallurgy and electric arc methods. No difference in the results was found. A detailed description of measurements which were necessary to assure minimum error is presented. The effect of vacancies at high temperatures was observed and its effect on the accuracy is considered. The results are presented in graphical and table form. In addition to the enthalpy measurement, the heat capacity was determined in a temperature range 273.15°K to 2740°K. Orig. art.

Card 1/2 UDC: 536.722:546.882

L 8991-66
ACC NR: AP5016695

has: 1 figure, 4 tables, 2 formulas.

SUB CODE: 11,20/ SUBM DATE: 030ct64/ ORIG REF: 010/ OTH REF: 006

Card 2/2

(A) L 11902-66 EWT(l)/EWT(m)/EWP(w)/ETC(F)/EPF(n)-2/EWG(m)/T/EWP(t)/
ACC NR: AP6001909 EWP(b)/ETC(m) UR/0294/65/003/006/0860/0865
IJP(c) JD/JW/JG

AUTHOR: Kirillin, V.A.; Sheyndlin, A.Ye.; Chekhovskoy, V.Ya.; Zhukova, I.A.

ORG: High Temperature Research Institute (Nauchno-issledovatel'skiy institut vysokikh temperatur)

TITLE: Thermodynamic properties of niobium in the temperature interval

SOURCE: Teplofizika vysokikh temperatur, v.3, no.6, 1965, 860-865

TOPIC TAGS: niobium, thermodynamic property, enthalpy, entropy

ABSTRACT: The enthalpy and entropy of niobium in the temperature interval 0-273°K were calculated on the basis of averaged values of the actual heat capacity, using the following equations:

$$H_T - H_0 = \int_0^T c_p dT = \sum_{i=0}^{n} [1/2 (c_{p,i+1} + c_{p,i})(T_{i+1} - T_i) + \Delta H_{i+1}], \quad (1)$$

$$S_T - S_0 = \int_0^{\ln T} c_p d(\ln T) = \sum_{i=0}^{n} [1/2 (c_{p,i+1} + c_{p,i})(\ln T_{i+1} - \ln T_i) + \Delta S_{i+1}]. \quad (2)$$

Card 1/2 UDC: 546.882:536.63+536.722+536.75+536.77

Here H_0 and S_0 are the enthalpy and entropy at 0°K. The following equations were used for calculation of the enthalpy and entropy in the temperature interval from 273.15 to 2740°K:

$$H_T - H_0 = 5{,}499T + 6{,}328 \cdot 10^{-4} T^2 + + 1354 \cdot 10^3 \exp\left(-\frac{19{,}53 \cdot 10^3}{T}\right) - 440{,}7 \text{ кал/г-ат}, \quad (5)$$

$$S_T - S_0 = 12{,}662 \lg T + 12{,}656 \cdot 10^{-4} T + + 69{,}35\left(1 + \frac{19{,}53 \cdot 10^3}{T}\right)\exp\left(-\frac{19{,}53 \cdot 10^3}{T}\right) - 22{,}995. \quad (6)$$

The results of the calculations are presented in a table and in empirical equations. Orig. art. has: 7 formulas, 3 figures, and 1 table.

SUB CODE: 11,20/ SUBM DATE: 05Nov64/ ORIG REF: 005/ OTH REF: 012

Card 2/2

L 34857-66 JKT

ACC NR: AP6014075 SOURCE CODE: UR/0294/66/004/002/0267/0273

AUTHOR: Kirillin, V. A.; Rossiyevskiy, G. I.; Styrikovich, M. A.; Sheyndlin, A. Ye.

ORG: Scientific Research Institute of High Temperatures (Nauchno-issledovatel'skiy institut vysokikh temperatur); Moscow Engineering-Economics Institute im. S. Ordzhonikidze (Moskovskiy inzhenerno-ekonomicheskiy institut)

TITLE: Prospective efficiency of electric power stations with high-capacity open-type MHD generators [Reported at the Royal Society meeting of 4 Nov 65, England]

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 2, 1966, 267-273

TOPIC TAGS: MHD generator, electric power plant

ABSTRACT: The results are reported of an estimation of the thermal efficiency of MHD power plants; 500-Mw generators and high-temperature heating of

Card 1/2 UDC: 621.313.12:5384

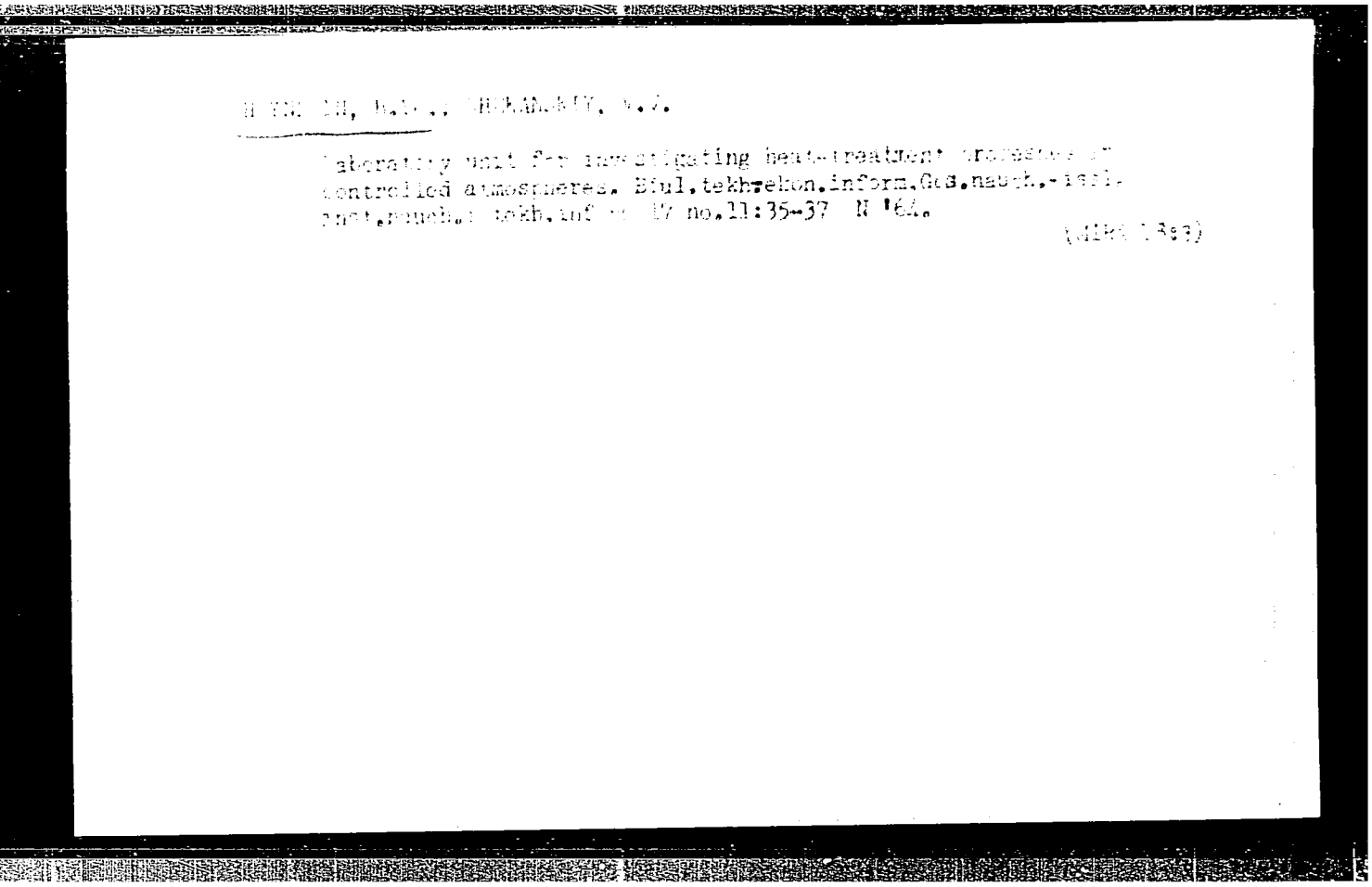
SHEYNDLIN, B.Ye.; CHEKANSKIY, V.V.

Parameters of endothermic controlled atmospheres for the heating for hardening of chromium steels. Metalloved. i term. obr. met. no. 6:37-39 Je '64. (MIRA 17:7)

1. Spetsial'noye konstruktorskoye byuro No. 3 Soveta narodnogo khozyaystva BSSR.

SHNEYDLIN, B. Ye.

Optimum controlled furnace atmosphere for heat treatment.
Metalloved. i term. obr. met. no.12:12-15 D '64.
(MIRA 18:2)



[illegible], M.I., [illegible], V.V.

Laboratory unit for investigating heat-treatment processes in controlled atmospheres. Biul.tekh.-ekon.inform.Gos.nauch.-issl. inst.nauch.i tekh.inf. 17 no.11:35-37 N '64.

(MIRA 18:3)

SHEYNDLIN, L.B.

AID P - 5503

Subject : USSR/Aeronautics - radio

Card 1/1 Pub. 135 - 20/26

Authors : Sheyndlin, L. B., Eng.-Captain and Podsvirov, A. S., Sen. Technician-Lt.

Title : Are the safety fuzes necessary?

Periodical : Vest. vozd. flota, 3, 75-76, Mr 1957

Abstract : The authors suggest that in the interest of reliable operation of airborne radio equipment, particularly of such on fighter planes, the safety fuzes should be excluded from the circuit of the radio equipment.

Institution : None

Submitted : No date

BURGOV, V.A., sostavitel', redaktor; ISTOMIN, I.V. [translator]; SHEYNEMAN, M.Kh. [translator]; YAKOBSON, A.Kh., redaktor; SHILINA, Ye.I., tekhnicheskiy redaktor

[Magnetic sound recording; a collection of translated papers] Magnitnaia zapis' zvuka; sbornik perevodnykh materialov. Sost. i red. V.A.Burgov. Moskva, Gos. izd-vo "Iskusstvo," 1956. 397 p. (MLRA 10:2)

(Magnetic recorders and recording)

BURGOV, V.A.; ISTOMIN, I.V. [translator]; SHEYNEMAN, M.Kh. [translator]; EYSYMONT, L.O., red.; MALEK. Z.N., tekhn.red.

[Television broadcasting of motion pictures; a collection of translated materials] Kinotelevizionnaia tekhnika; sbornik perevodnykh materialov. Moskva, Gos.izd-vo "Iskusstvo," 1959. 383 p. (MIRA 12:4)

(Motion pictures and television)

1. SHEYNER, Z. F.

2. SSSR (600)

4. Nervous System-Tumors

7. Diagnosis and surgery of bulbospinal tumors.
Vop. neirokhir. 16 No. 6, 1952

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

SHEYNER, Z.F.

Remote results of late surgical therapy of gunshot wounds of the peripheral nerves. Vop. neirokhir. 18 no.5:27-33 S-O '54.
(MLRA 7:11)

1. Iz neyrokhirurgicheskoy kliniki Ukrainskogo psikhonevrologicheskogo instituta.

(NERVES, PERIPHERAL, wounds and injuries, gunshot, surg.)
(WOUNDS AND INJURIES, gunshot, of peripheral nerves, surg.)

SHEYNER, Z.F., kand. med. nauk.

Diagnosis and therapy of cerebrocranial injuries with fractures of the cranial base. Sov. med. 22 no.12:22-26 D '58. (MIRA 12:1)

1. Iz Dzerzhinskoy gorodskoy bol'nitsy Gor'kovskoy oblasti (glavnyy vrach G.A. Kachan).

(BRAINS, wds. & inj.
cerebrocranial, with fract. of cranial base, diag. & ther. (Rus))
(CRANIUM, fract.
base of cranium in cerebrocranial inj., diag. & ther. (Rus))

SHEYNER, Z.F., kand.med.nauk

Surgical treatment of late sequelae of gunshot wounds of the angioneurotic bundle of the arm. Ortop.travm. i protez. 20 no.1:16-19 Ja '59. (MIRA 12:3)

1. Iz Dzerzhinskogo (Gor'kovskoy oblasti) gospitalya dlya invalidov Otechestvennoy voyny (nach. - G.Z. Kachan).

(ARM, wds. & inj.
gunshot wds. involving angioneurotic bundle, surg. (Rus))

SHEYNER, Z.F.

Clinical course and remote sequelae of acute closed cerebrocranial injuries in children. Vop.neirokhir. 24 no.4:42-44 Je-Ag '60. (MIRA 13:12)

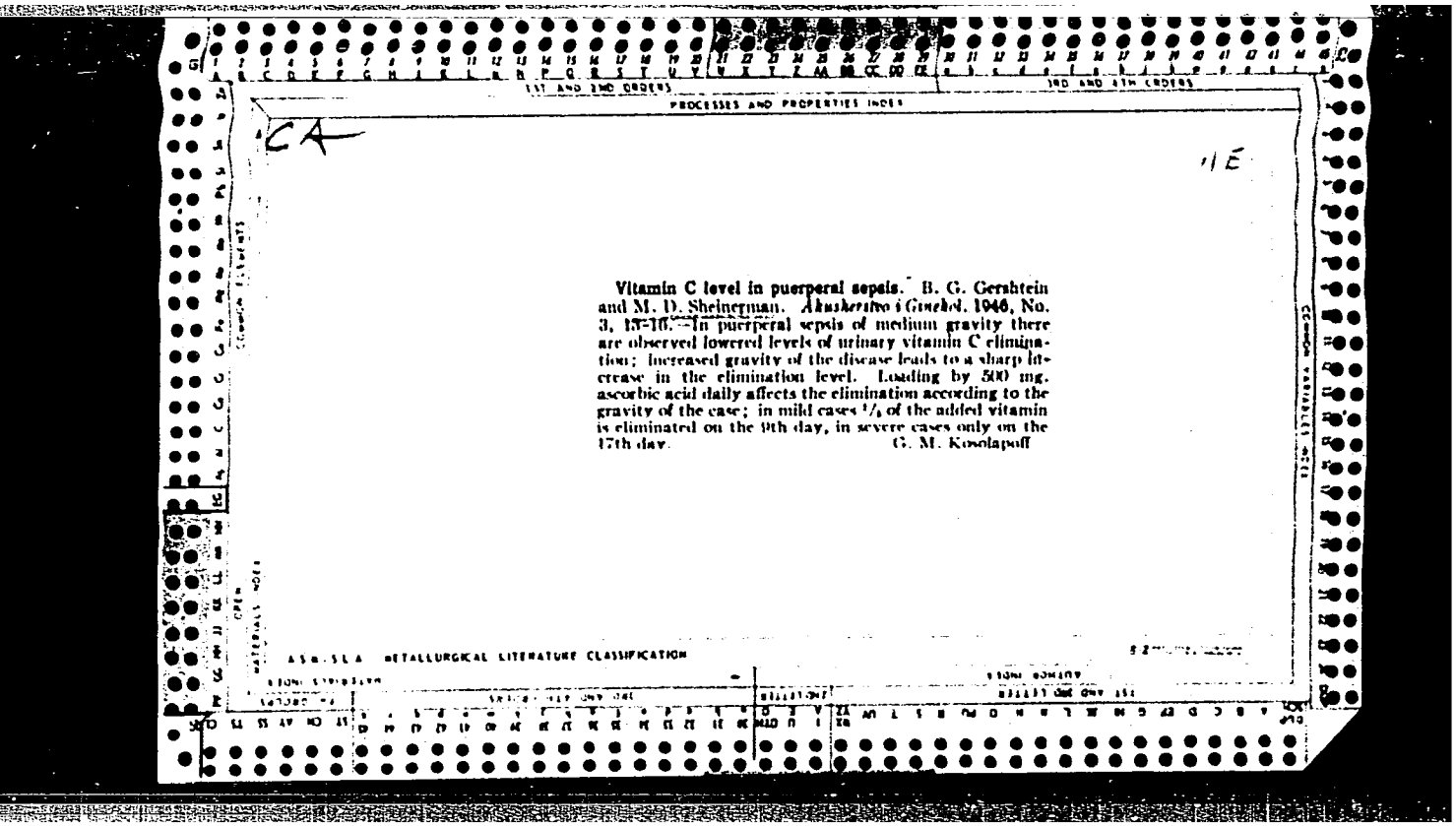
(BRAIN--WOUNDS AND INJURIES)

SHEYNER, Z.F., kand.med.nauk

Clinical aspects and prognosis of subarachnoid hemorrhages.
Sov. med. 25 no.2:105-110 F '62. (MIRA 15:3)

1. Iz Gor'kovskoy 11-y Gorodskoy bol'nitsy (glavnyy vrach N.M. Khaykin).

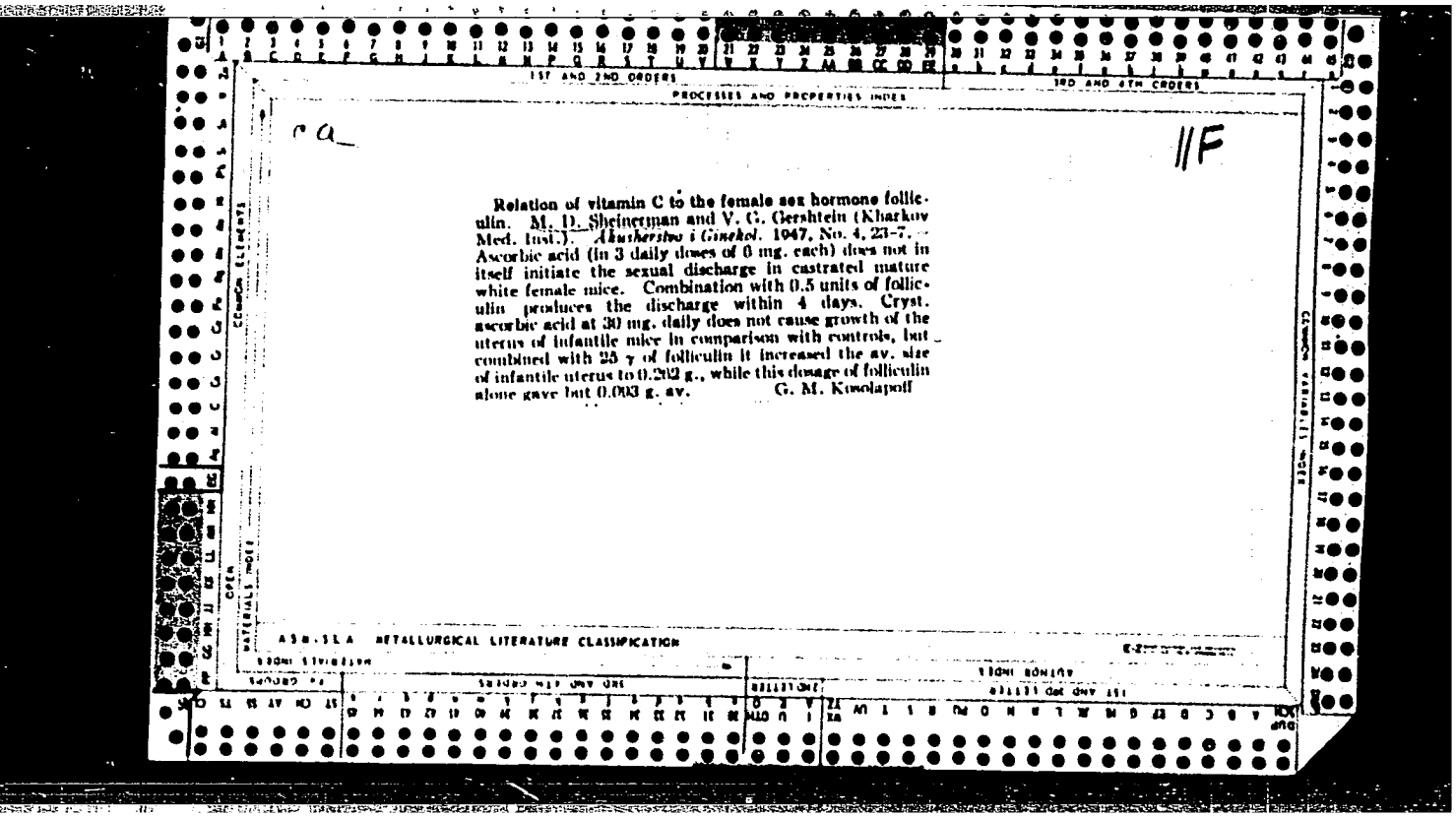
(BRAIN--HEMORRHAGE)



CA

11E

Vitamin C level in puerperal sepsis. B. G. Gershtein and M. D. Sheinerman. *Akusherstvo i Ginekol.* 1946, No. 3, 15–16.—In puerperal sepsis of medium gravity there are observed lowered levels of urinary vitamin C elimination; increased gravity of the disease leads to a sharp increase in the elimination level. Loading by 500 mg. ascorbic acid daily affects the elimination according to the gravity of the case; in mild cases ½ of the added vitamin is eliminated on the 9th day, in severe cases only on the 17th day. G. M. Kosolapoff



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

ca

11F

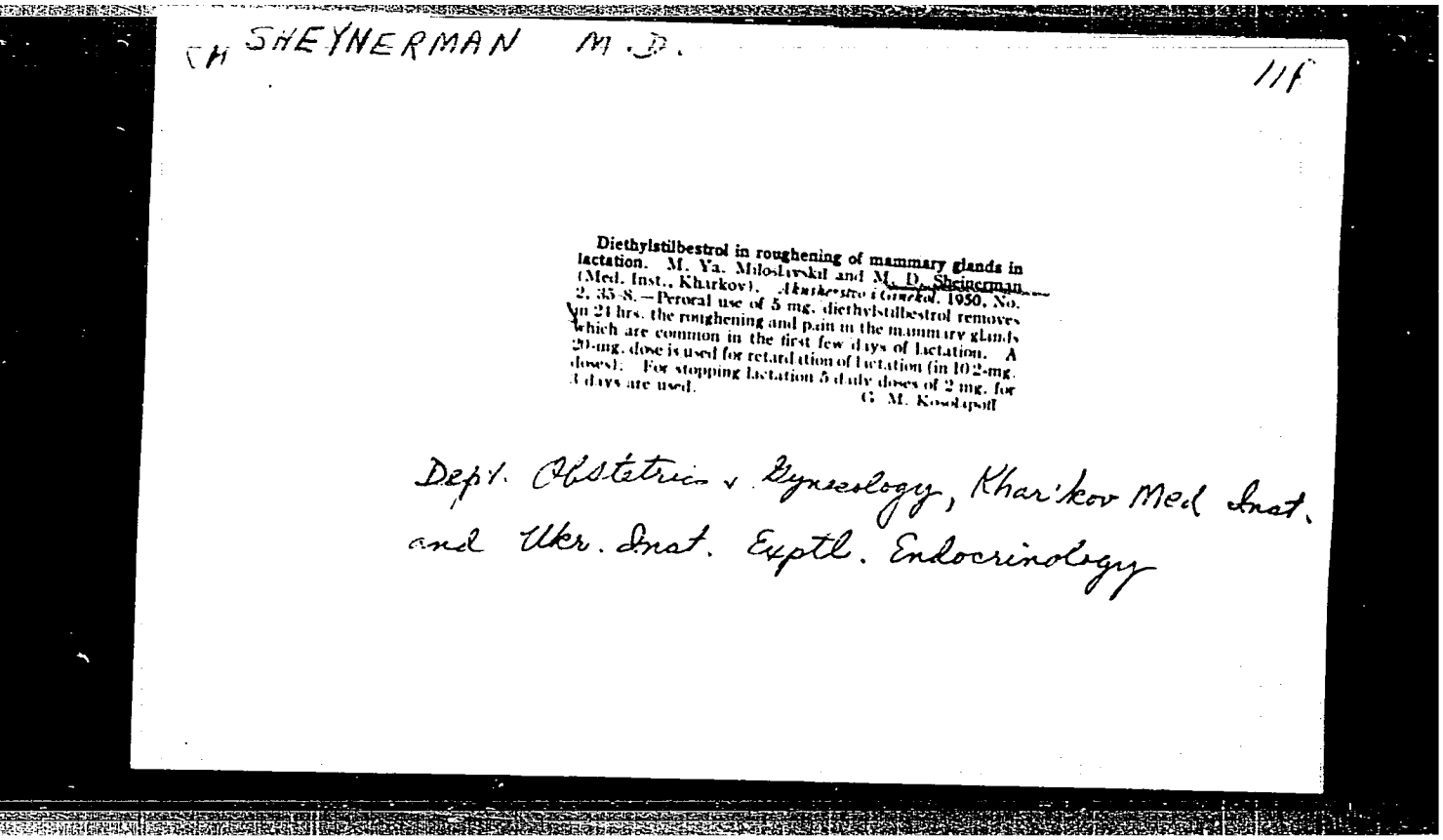
Relation of vitamin C to the female sex hormone folliculin. M. D. Sheinerman and V. G. Gershtein (Kharkov Med. Inst.). *Akusherstvo i Ginekol.* 1947, No. 4, 23–7.—Ascorbic acid (in 3 daily doses of 0 mg. each) does not in itself initiate the sexual discharge in castrated mature white female mice. Combination with 0.5 units of folliculin produces the discharge within 4 days. Cryst. ascorbic acid at 30 mg. daily does not cause growth of the uterus of infantile mice in comparison with controls, but combined with 25 γ of folliculin it increased the av. size of infantile uterus to 0.202 g., while this dosage of folliculin alone gave but 0.093 g. av. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SHEMERLIN, M. D.

Shemerman, M. D.; Vartapetov, B. A.; Novitskiy, L. A.

Mor., Div. Zoogeny, Ukr. Inst. Exptl. Endocrinology, -c1949-. "Biological Method of Early Diagnosis of Pregnancy," Akusher. i Ginekol., No. 6, 1949.



(H SHEYNERMAN M.D.

11f

Diethylstilbestrol in roughening of mammary glands in lactation. M. Ya. Miloslavskii and M. D. Sheinerman (Med. Inst., Kharkov). *Akusherstvo i Ginekol.* 1950, No. 2, 35-8.—Peroral use of 5 mg. diethylstilbestrol removes in 24 hrs. the roughening and pain in the mammary glands which are common in the first few days of lactation. A 20-mg. dose is used for retardation of lactation (in 10 2-mg. doses). For stopping lactation 5 daily doses of 2 mg. for 4 days are used.
G. M. Kosolapoff

Dept. Obstetrics & Gynecology, Khar'kov Med Inst. and Ukr. Inst. Exptl. Endocrinology

VARTAPETOV, B.A.;SHEYNERMAN, M.D.;NOVITSKIY, D.A.

Effect of season and temperature on frog test in early pregnancy. Akush. gin., Moskva no.4:73-75 July-Aug 1952. (CIML 23:2)

1. Candidate Medical Sciences for Vartapetov and Sheynerman; Docent for Novitskiy. 2. Of the Ukrainian Institute of Experimental Endocrinology (Head -- Prof. Z. M. Dinershteyn) and of the Department of Obstetrics and Gynecology (Head -- Prof. D. Ye. Shmundak) of Khar'kov Medical Institute.

SHEYNERMAN, M.D.; OVCHARENKO, Ye.P.; SOF[redacted]

Problem of optimal prophylactic doses of vitamin D; experimental study. Vopr. pediat. 20 no.4:42-44 July-Aug 1952. (CIML 23:2)

1. Docent for Sheynerman; Candidate Medical Sciences for Ovcharenko and Sofiyenko. 2. Of Khar'kov Scientific-Research Institute for the Care of Mother and Child (Director -- Candidate Medical Sciences -- A. G. Lugunova).

MIRSAGATOVA, R.S.; SHEYNERMAN, M.D.; VARTAPETOV, B.A.; KORNILOVA, A.I., direktor; DINERSHTEYN, Z.M., direktor.

Early diagnosis of death of the ovum. Akush. i gin. no.3:29-31 My-Je '53. (MLRA 6:7)

1. Otdel akusherstva i ginekologii Khar'kovskogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva imeni N.K.Krupskoy (for Mirsagatova, Sheynerman, Vartapetov and Kornilova). 2. Otdel vozrastnoy endokrinologii Ukrainskogo instituta eksperimental'noy endokrinologii (for Mirsagatova, Sheynerman, Vartapetov and Dinershteyn). (Abortion)

SHMUNDAK, D.Ye., professor; VARTAPETOV, B.A., kandidat meditsinskikh nauk; SHEYNERMAN, M.D., kandidat meditsinskikh nauk; MILOVSKIY, D.P.; GULYAYEVA, V.I.

A new method for the determination of estrogens in a woman's system. Akush. i gin. no.4:66-69 Jl-Ag '55. (MLRA 8:11)

1. Iz ginekologicheskogo otdeleniya (zav.prof. D. Ye. Shmundak) Oblastnoy bal'neologicheskoy bol'nitsy i fiziologicheskogo otdela (zav.kandidat meditsinskikh nauk B.A.Vartapetov) Ukrainskogo instituta eksperimental'noy endokrinologii.

(ESTROGENS, determ.
method, in etiol.diag. of menstruation disord.)
(MENSTRUATION DISORDERS, diag.
etiol. diag.,estrogen determ. method)

DINERSHTEYN, Z.M. [deceased]; SEMDYUKOVA, O.A.; SHEYNERMAN, M.D.

Effect of the functional state of the central nervous system on vascular reactions in animals of different ages with experimental hypertension. Sbor. nauch.-issl. inst. eksper. endok. 15:200-209 '59.
(MIRA 14:11)

(HYPERTENSION) (AGE) (CEREBRAL CORTEX)

LOBANOVSKAYA, L.I.; SHEYNERMAN, M.D.

Reactivity of the sexual tract to the administration of estrogenic substances during inhibition of the central nervous system. Sbor. nauch. trud. Ukr. nauch.-issl. inst. eksper. endok. 15:256-259 '59. (MIRA 14:11)

(ESTROGENS) (SLEEP) (UTERUS)

VYAZOVSKAYA, R.D.; RYABUSHKO, Ye.O.; SHEYNERMAN, M.D. [deceased]

Effect of the extract of raspberry leaves on the gonads and hypophysis. Trudy Ukr. nauch.-issl. inst. eksper. endok. 19:341-352 '64.
(MIRA 18:7)

1. Iz otdela gistofiziologii Ukrainskogo instituta eksperimental'noy endokrinologii.

BOZHKO, O.L.; SHEYNERMAN, M.F.

Poisoning of children by henbane and stramonium. Padiatriia 42 no.6:72-74 Je '63 (MIRA 17:1)

1. Iz Alchevskoy gorodskoy detskoy bol'nitsy (glavnyy vrach O.L.Bozhko).

KOMNOVA, A.V.; SHEYNERMAN, Ye.M.

Grades of fabrics for footwear. Standartizatsiia 24 no.8:47-48 Ag '60. (MIRA 13:9)
(Textile fabrics--Standards) (Shoe manufacture)

SHEYNERMAN, Ye.M.

Technical cotton fabrics. Standartizatsiia 26 no.4:45 Ap '62.
(MIRA 15:3)

(Cotton fabrics--Standards)

DANILYUK, I.A.; RASSIN, L.Ye., inzh.-konstruktor; PRONINA, L.N., mladshiy nauchnyy sotrudnik; SHEYNERMAN, Ye.M., starshiy nauchnyy sotrudnik

Apparatus for determining the permeability to air of textile fabrics. Tekst.prom. 21 no.12:68-69 D '61. (MIRA 15:2)

1. Rukovoditel' gruppy konstruktorskogo byuro zavoda Tekstil'pribor (for Danilyuk). 2. Zavod Tekstil'pribor (for Rassin). 3. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti (for Pronina, Sheynerman).

(Textile fabrics—Testing)
(Manometer)

SHEYNERMAN, Ya.M.; DANILYUK, I.A.; RASSIN, L.Ye.; PRONINA, L.N.

Determining the permeability to air of textile fabrics on the universal "UPV" apparatus. Nauch.-issl.trudy TSNIIKHBI '60 [publ. '62]:209-216. (MIRA 18:2)

L 19286-63 EWT(1)/FCC(w)/BDS AFFTC/ESD-3 Pi-4/Pq-4 GW
ACCESSION NR: AR3006549 S/0169/63/000/008/B007/B007

SOURCE: RZh. Geofizika, Abs. 8B57

AUTHOR: Sheynesson, A. S.

TITLE: On the constant T/cq of effective pyranometers

CITED SOURCE: Sb. nauchn. tr. Kazakhsk. politekhn. in-t, no. 21, 1960, 71-84

TOPIC TAGS: pyranometer constant, pyranometer, instrument sensitivity, effective terrestrial radiation, Gul'nitskiy pyranometer

TRANSLATION: The dependence of the constant of Gul'nitskiy's effective pyranometer on the heating period of the spiral, the speed of the wind and the instrument's sensitivity is examined. It is shown that the instrument's constant depends but slightly (less than 1%) on the degree of heating or on the velocity of the wind. The variation in the sensitivity of the instrument causes a corresponding change in the constant.

DATE ACQ: 06Sep63 SUB CODE: SD ENCL: 00

Card 1/1

SHEYNFAYN, F.I.; SIPYAGIN, L.A.

Cooperation of a state testing laboratory and basic organizations. (MIRA 14:3)
Standartizatsiia 25 no.3:38-39 Mr '61.
(Standardization) (Testing laboratory)

ANDON'YEV, S.M.; CLAZKOV, P.G. [deceased]; KUCHIN, V.A. KONDRAT'YEV, Ye.M.; LEVITASOV, Ya.M.; MAKAROV, K.I.; PANKRATOV, F.V.; PEVNYY, N.I.; POKRAS, L.M.; POCHTMAN, A.M.; TESNER, P.A.; SHEYNFAYN, F.I.; SHKLYAR, T.I.; Prinimali uchastiye: BERMAN, M.N.; VARFALOMEYEV, F.L.; ROBIN, M.A.; MOYSIYEVICH, G.I.; SAPIRO, V.S.; ALEKSEYEV, L.M.; POPOVA, R.S.

Heating Martin furnaces with natural gas using reformers. Gaz. prom. 9 no.11:14-17 '64. (MIRA 17:12)

DOROFEYEV, Vitaliy Mitrofanovich; LEVIN, Veniamin Yakovlevich. Prinimali uchastiye: YEREMIN, S.N., inzh.; KONDRUSEV, V.S., inzh.; LAKSHTOVSKIY, A.A., kand. tekhn. nauk, retsenzent; SKUBACHEVSKIY, L.S., inzh., red.; SHEYNFAYN, L.I., red.; GARNUKHINA, L.A., tekhn. red.

[Testing ram-jet engines] Ispytaniia vozdushno-reaktivnykh dvigatelei. Moskva, Gos. nauchno-tekhn. izd-vo Oborongiz, 1961. 220 p. (MIRA 15:2)
(Airplanes—Ram-jet engines)

RAUSHENBAKH, Boris Viktorovich; BELYY, Sergey Andreyevich; BESPALOV, Ivan Vanifat'yevich; BORODACHEV, Vadim Yakovlevich; VOLYNSKIY, Mark Semenovich; PRUDNIKOV, Aleksandr Grigor'yevich; KHITRIN, L.N., retsenzent; SHEYNFAYN, L.I., red.

[Physical principles of the working process in combustion chambers of ramjet engines] Fizicheskie osnovy rabochego protsessa v kamerakh sgoraniia vozdushno-reaktivnykh dvigatelei. [By] B.V.Raushenbakh i dr. Moskva, Mashinostroenie, 1964. 525 p. (MIRA 17:7)

1. Chlen-korrespondent AN SSSR (for Khitrin).

RASH, Mikhail Samuilovich; SHEYNFAYN, Mikhail Robertovich; SELOVA, A.I., red.

[The transportation financial plan of an automotive transportation enterprise] Transfinplan avtotransportnogo predpriiatiia. Moskva, Transport, 1964. 106 p. (MIRA 17:7)

SHEYNFAYN, R.A., inzhener.

Subway stations of the column type. Transp.stroi. 6 no.5:11-14 My '56. (MLRA 9:8)

(Moscow--Subways)

SHEINFAYN, R. YU.

PA 35/49T4

Aug 48

USSR/Chemistry - Silica, Colloidal, Sorption
Chemistry - Silica, Colloidal, Structure

"The Sorption Properties and Structure of Silica Gels," I. Ye. Neymark, F. I. Khatset, R. YU. Sheynfayn, Inst Phys Chem imeni L. V. Pisarzhevskiy, Acad Sci Ukrainian SSR, 4 pp

"Dok Ak Nauk SSSR" Vol LXI, No 6

Studies in authors' laboratory show that conditions of dehydration have decisive influence on gel structure, and pore size of silica gels affects their adsorption capacity. Used samples prepared by previously reported method, based on change in surface tension of the intermicellar liquid of the gel in process of its dehydration. Pore size was estimated from data of adsorption and desorption of methyl alcohol vapors, on evacuated gel samples and of maximum adsorption of aliphatic alcohols from carbon tetrachloride solution. Describes series of samples with increasing pore size. Discusses applicability of M. M. Dubinin's formula to adsorption isotherms for the samples studied. Submitted by Acad M. M. Dubinin, 23 Jun 48

PA 35/49T4

NEYMARK, I.E.; FREYDLIN, L.Kh.; FRIDMAN, G.A.; SHEYNFAYN, R.Yu.

Structural changes of a silica-gel catalyst during its poisoning.
Dop.AN URSR no.5:27-32 '49. (MLRA 9:9)

1.Institut fizichnoi khimii imeni L.V.Pisarzhevs'kogo AN URSR i Institut organichnoi khimii AN URSR. Predstaviv diysniy chlen AN URSR O.I.Brods'kiy.
(Catalysts) (Silica)

USSR/Chemistry - Silica, Colloidal May 49
Chemistry - Catalysts

"Effect of the Porosity of Silica Gel Used as a Catalytic Agent in the Vapor-Phase Hydrolysis of Chlorobenzene," I. Ye. Neymark, R. Yu. Sheynfayn, Acad Sci Ukrainian SSR, Inst Physicochem imeni L. V. Pisarzhevskiy, Kiev, 9 1/2 pp

"Zhur Fiz Khim" Vol XXIII, No 5

Investigation of porous qualities of silica gel at low temperatures and at 500 - 6000 determines that they influence speed of reaction, yield of products, and direction of [redacted]

58/49T38

USSR/Chemistry - Silica, Colloidal (Contd) May 49

flow of the process. Coarse pores make for fewer secondary processes than fine pores, confirming calculations of Boreskov. Gives a hypothesis for irreversible thermal deactivation by silica gels which results in water escaping and a change in porosity during heating. Submitted 8 Jul 48.

[redacted]

58/49T38

SHEYNFAYN, R. Yu.

Neymark, I. Ye., and Sheynfayn, R. Yu. - "On the mechanism of thermic deactivation of silica gel", Ukr. khim. zhurnal, Vol. XIV, Issue 2, 1949, p. 24-33, - Bibliog: p. 33.

SO: U-4392, 19 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 21, 1949).

USSR/Chemistry - Adsorption

"Investigation of the Structure of an Adsorbent by Several Independent Methods," N.N. Avgul', O.M. Dzhigit, M.M. Kamakin, A.V. Kiselev, V.M. Luk'yanovich, I.Ye. Neymark, R. Yu. Sheynfayn, Moscow State U imeni M.V. Lomonosov, Inst Phys Chem, Acad Sci Ukranian SSR, Inst Phys Chem, Acad Sci USSR, Groznyy Sci Res Petroleum Inst

"Dok Ak Nauk SSSR" Vol LXXVI, No 6, pp 855, 858, 1949

Adsorption isotherms of benzene, heptane, and MeOH were taken on uniform roughly porous silica gel (structural type2). Found surface of adsorbed film to be equal to surface of the adsorbent and not to depend on nature of vapor. Detd distribution of vol of pores by structure-adsorption method, method of pressing Hg into the pores, and electronic microscope method. Results obtained by the 3 methods checked.

185T3

SHEYNFAYN, R. Yu.

USSR/Chemistery-Catalysts Jan/Feb 51

"Promotion of Silica Gels of Different Porosities," L. Kh Freydlin, I. Ye. Neymark, G. A. Fridman, R. Yu. Sheynfayn, Inst Org Chem, Acad Sci USSR, Inst PhysChem imieni L. V. Pisarzhevskiy, Acad Sci Ukrainian SSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1, pp 86-94

Investigates effect cupric chloride on properties of silica gels of different porosities as catalyst in vapor-phase hydrolysis of chloro-benzene. Finds cupric chloride promotes silica gel, regenerates it when it is poisoned by inorg admixt, increases its thermostability and selectivity of action, and reduces diffusion braking of reaction.

PA 174T12

SHEYNFAYN, R. Yu.

USSR/Chemistry - Catalysts May/June 51

"Poisoning of Silica Gel Catalyst by Inorganic Admixtures and Reacting Components," I. Ye. Neymark, L. Kh. Freydlin, R. Yu. Sheynfayn, G. A. Fridman, Inst Phys Chem imeni L. V. Pisarzhevskiy, Acad Sci Ukrainian SSR, Inst Org Chem Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk," No 3, pp 311-316

Finds dependence between modification of character of porosity of silica gels (their sp surface) in poisoning with inorg admixts and their catalytic activity in hydrolysis of bensene in vapor phase. Shows water is practically not absorbed on silica gel at 300 and 450°, while phenyl halides are adsorbed strongly. Energy of adsorption of phenyl halides can be expressed by series RCl>RBr,>RI. Catalyst is poisoned by the strongly adsorbed phenyl halide, not the weakly adsorbed water.

183T12

SHEYNFAYN, R Yu

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USSR

/ Effect of pressing on the character of porosity, catalytic properties, and chromatographic activity of silica gel. L. Kh. Freidlin, L. F. Vereshchagin, I. E. Neimark, I. U. Numanov, and R. Yu. Sheinfain. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1953, 841-5(Engl. translation).—See *C.A.* 48, 4929f. H. L. H.

SHEYNFAYN, R YU

USSR/Chemistry - Catalysts

Card 1/1 : Pub. 40 - 21/22

Authors : Freydlin, L. Kh.; Vereshchagin, L. F.; Neymark, I. E.; Numanov, I. U.; and Sheynfayn, R. Yu.

Title : Effect of compression on the porosity, catalytic properties and chromatographic activity of silica gel

Periodical : Izv. AN SSSR. Otd. khim. nauk 5, 945-950, Sep-Oct 1953

Abstract : The effect of 20,000 atm pressures on the change in porosity, adsorbability and catalytic properties of silica gel was investigated. The chromatographic activity of silica gel compressed at 20,000 atm was found to be about 25% lower than the activity of non-compressed s. g. The greatest reduction (almost 50%) in specific sorption volume of pores (total volume of micro- and transient pores) of large porous silica gel was observed at 5000 atm. but its specific surface area remained unchanged. Maximum reduction in specific sorption volume of pores of micro-porous silica gel was established during compression of latter at 10,000 atm. Five USSR references (1949-1952). Tables, graphs.

Institution : ...

Submitted : December 13, 1952

NEYMARK, I.Ye.; SHEYNFAYN, R.Yu.

The role of capillary forces in the process of structure formation of silica gels. Kolloid.Zhur. 15, 145-51 '53. (MLRA 6:3)
(CA 47 no.16:7859 '53)

1. Acad. Sci.Ukrain. S.S.R., Kiev.

SHEINFAIN, R Yu

USSR

62

The mechanism of formation of secondary amines studied with heavy nitrogen. A. I. Brodskii, B. A. Geller, and R. Yu. Sheinfain. *Doklady Akad. Nauk S.S.S.R.* 95, 273-6 (1954).—Heating together mixts. of primary aromatic amines and their HCl salts yields NH_4Cl and secondary amines. The reaction was studied by means of N^{15}-labeled $PhNH_2$ (prepd. from N^{15}-labeled NH_4Cl, which yielded labeled NH_3, and this with BzCl gave labeled $BzNH_2$, which was converted to $PhN^{15}H_2$ by NaOBr treatment), 1-$C_{10}H_7NH_2$, and $BzNH_2$. The reactions were run at 230–40° and the products exam'd. for N^{15} content with a mass spectrometer. In the formation of 1-$C_{10}H_7NHPh$ the NH_2 group of the naphthylamine is eliminated. In the formation of $BzNHPh$, the NH_2 group of $BzNH_2$ is cleaved. In the formation of Ph_2NH from labeled $PhNH_2$·HCl and ordinary $PhNH_2$, the N^{15} content is equally distributed between both reaction products indicating that direct action of $PhNH_3^+$ ion is excluded; this also shows a relatively rapid transfer of a proton from one amine to another; this transfer occurs very rapidly even at room temp. Thus in a RNH_3^+-$R'NH_2$ mixt. the proton passes rapidly from 1 mol. to the other and in the formation of a secondary amine or substituted amide the primary amines act as bases. The role of the amine salt consists of facilitating proton transfer, catalyzing the reaction according to the usual acid catalysis scheme. No isotope-N exchange occurs in the systems: $PhNH_2$–1-$C_{10}H_7NH_2$, NH_4Cl–$PhNH_2$, NH_4Cl–$BzNH_2$, or $PhNH_2$–$BzNH_2$. Thus the above reactions cannot occur by simultaneous cleavage of both amino groups.

G. M. Kosolapoff

(2)

Inst. Phys. Chem. im L. V. Pisarzhevskiy AS UkrSSR

SHEYNFAYN, R. Yu.

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A009

EFFECTS OF THE NATURE OF THE SURFACE ON THE SORPTION PROPERTIES OF SILICA GELS. I. E. Neimark, R. Yu. Sheinfain, and L. G. Svintsova (Pisarzhevskii Inst. of Physical Chemistry). Doklady Akad. Nauk S.S.S.R. 108, 871-4(1956) June 11. (In Russian)

Investigations were made of the hydrophilic nature of silica gel surfaces, their sorptive properties, and the effects produced by the chemical nature and porosity of silica gel surfaces in adsorption processes. To solve the problem the silica gel hydroxides were replaced by fluorite, the anions of which differ sharply from OH groups in their capacity to form hydrogen complexes. The sorption properties of silica gels with changed surfaces were compared to silica gels of identical structure but with hydroxide coated surfaces. Diagrams are given to show the sorption and desorption isotherms of methyl alcohol and benzoyl vapors on hydrophilic and fluorite silica gels of fine and large porosity. (R.V.J.)

SHEYNFAYN, R. Yu.

Distr: 4E4j

Silica aerogel. I. B. Nelmark, R. Yu. Sheinfain, and L. G. Sylntsover. U.S.S.R. 107,276, Sept. 25, 1957. SiO_2 hydrogel is washed free of electrolytes and dehydrated by heating with tricresol. The resulting cresogel is heated to 300° and then calcined at 800° to complete decoloration.

M. Hosch

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1/1

ШТЕЙНФАЙН, А. Ю.

~~RABUSHKEVICH~~, L.V.

24(6) 3 PHASE I BOOK EXPLOITATION SOV/1408

Soveshchaniye po metodam issledovaniya struktury vysokodispersnykh i poristykh tel. 2d, Leningrad, 1956.

Metody issledovaniya struktury vysokodispersnykh i poristykh tel; trudy vtorogo soveshchaniya (Methods of Investigating the Structure of Highly Disperse and Porous Bodies; Transactions of the Second Conference) Moscow, Izd-vo AN SSSR, 1958. 294 p. 2,000 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut fizicheskoy khimii and Institut khimii silikatov.

Resp. Ed.: Dubinin, M.M., Academician; Ed. of Publishing House: Razumova, L.L.; Tech. Ed.: Markovich, S.M.

PURPOSE: This book is intended for scientists, teachers and advanced students interested in the structural analysis of highly disperse and porous bodies.

COVERAGE: This collection contains reports by members of various Soviet institutions of higher education: Institute of Physical Chemistry, AS UkrSSR; Institute of Chemistry, AS Georgian SSR; Far Eastern Branch, AS USSR; Georgian Scientific Research Institute for Petroleum; State Optical Institute; Leningrad Technological Institute; Moscow and Leningrad State Universities; Far Eastern Polytechnic Institute; "Agrophysical" Institute, and others. Introductory remarks were made by Professor N.A. Toropov, Director of the Institute of Silicate Chemistry. Apart from reports under the four subject divisions (see Table of Contents), the collection includes discussions, considerations and proposals adopted at the close of the conference.

TABLE OF CONTENTS:

Card 4/9

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S/020/60/132/06/37/068
B004/B005

5.4400

AUTHORS: Neymark, I. Ye., Chertov, V. M., Sheynfayn, R. Yu., Kruglikova, N. S.

TITLE: Synthesis of Specific Silica Gels by Modification of Their Surface

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6, pp. 1356-1359

X

TEXT: It was the object of this investigation to give basic properties to silica gel by means of chemical modification, thus increasing its capacity of adsorbing acid substances. Hydrated samples of coarsely porous silica gel were treated with mono-, di-, or triethanolamine: a) at 100 - 160°C in a glass flask with return-flow cooler, or b) in an autoclave at 160 - 250°C. The content of aminoalcohol groups in the modified silica gels was determined by washing with titrated hydrochloric acid and back titration of the extract with lye. The silica gel adsorbed

Card 1/3

81412
S/020/60/132/06/37/068
B004/B005

Synthesis of Specific Silica Gels by Modification of Their Surface

PRESENTED: February 22, 1960, by M. M. Dubinin, Academician

SUBMITTED: February 20, 1960

Card 3/3

SHEYNFAYN, R.Yu.

Part played by the acid treatment of silicic acid hydrogel in the formation of the xerogel porous structure. Koll.zhur. 23 no.6: 756-760 N-D '61. (MIRA 14:12)

1. Institut fizicheskoy khimii AN USSR, Kiyev.
(Silicic acid) (Colloids)

CHERTOV, V.M.; SHEYNFAYN, R. Yu.; KRUGLIKOVA, N.S.; NEYMARK, I.Ye.

Stepwise methosylation of silica gel and its adsorption properties. Ukr. khim. zhur. 27 no.2:190-196 '61. (MIRA 14:3)

1. Institut fizicheskoy khimii im. L.V. Pisarzhevskogo AN USSR. (Methoxylation) (Silica)