GINZBURG, D.M.; MITKEVICH, N.D.

Theory of the commervial production of sodium hydrosulfide from gaseous mixtures. Ukr.khim.zhur. 25 no.1:129-133 '59.

(MIRA 12:4)

1. Khar'kovskiy nauchno-issledovatel'skiy institut osnovnoy khimii.
(Sodium sulfides)

5(4)

AUTHOR: Ginzburg, D. M. (Khar'kov) SOV/76-33-5-20/33

TITLE: Heat Capacity and Integral Solution Heats in the System NaOH - H_2O (Teployemkost' i integral'nyye teploty rastvoreniya v sistemê NaOH - H_2O)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 5, pp 1087 - 1092 (USSR)

ABSTRACT: The author points out that the characteristic values mentioned in the title have hardly been investigated for high concentrations and high temperatures although these data are of importance in technical practice. C_p was measured in the concentration range of from 60 - 70 weight per cent NaOH and at temperatures of from 322 - 750°C. The data are shown in table 1. Hence it appears that the heat capacity of concentrated NaOH solutions is similar to that of NaOH melts. A formula for C_p is derived for high concentrations. On account of the comparable data on heat capacities of dissolved and melted NaOH it may be assumed that the structure of concentrated NaOH solutions is determined by the structure of the melt. The water molecules are distributed within this structure. The

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Heat Capacity and Integral Solution Heats in the System SOV/76-33-5-20/33
NaOH - H_2O

integral solution heats of NaOH - H_2O were calculated for the range of from 50 - 350°C. Figure 1 shows the isothermal lines of the diagram enthalpy - concentration in the system NaOH - H_2O at 25°C, 93.33°C, and 322°C. The integral solution heats are shown in table 2, the temperature coefficients in figure 2. The temperature coefficient between 300 and 350° was not computed as there occur phase transitions in this temperature interval. The variations of the integral solution heats follow the laws for relatively diluted electrolytes at temperatures up to 75°C found by Yu. M. Kaganovich and K. P. Mishchenko (Ref 8). With a concentration increase of soda lye from 88.68 to 100 mol NaOH/ 1000 g the sign of the integral solution heats becomes positive. There are 2 figures, 2 tables, and 13 references, 8 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut osnovnoy khimii Khar'kov (Scientific Research Institute of Fundamental Chemistry, Khar'kov)

SUBMITTED: July 10, 1957

Card 2/2

5(1) 06222

AUTHOR: Ginzburg, D. M., Candidate of Chemical Sciences SOV/64-59-6-14/28

TITLE: The Thermal Conductivity of Lime Obtained by Roasting Limestone at Different Temperatures

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 6, pp 510 - 513 (USSR)

ABSTRACT: In a paper published in 1954 (Ref 1) it was pointed out that rocks of similar specific gravities coming from different deposits possess also similar coefficients of thermal conductivity. Limestone from the Golubovskoye deposit and chalk from the Golosnikovskoye and Raygorodskoye deposits as well as lime obtained by roasting Golosnikovskiy chalk were investigated. The thermal conductivity coefficients of lime obtained by roasting chalk, however, are different from those obtained by roasting limestone. In order to complement the data given in (Ref 1) the thermal conductivity coefficients of lime obtained from Gdubovskiy limestone were investigated in the present case. Lime was obtained at different roasting temperatures and had been left in the furnace at the same

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temperature for varying lengths of time after roasting. The thermal conductivity coefficient of lump lime was determined according to a method previously used (Ref 1), which had been developed by the fiziko-khimicheskaya laboratoriya Nauchno-issledovatel'skogo instituta ogneuporov (Laboratory of Physical Chemistry of the Scientific Research Institute of Refractories). A description of the apparatus is given in references 1 and 2. The lime samples were obtained by roasting (at 925, 1025, 1125, 1200, 1250, and 1350°) cylindrical samples produced by turning limestone. A laboratory shaft kiln (Fig 1) was used. The temperature was controlled by means of a platinum/platinum-rhodium thermocouple connected with the apparatus ERM-47. On the basis of the experimental values obtained equations for the calculation of the true thermal conductivity coefficients of the samples under investigation are given and the following generalized equation derived:

$\lambda_t = -1.011 - 0.066 \cdot 10^{-2} t + 1.513 \cdot 10^{-3} \gamma$, (where λ_t = true thermal conductivity coefficient of lump lime obtained from limestone at temperature t, γ = specific gravity of the lime).

The Thermal Conductivity of Lime Obtained by Roasting Limestone at Different Temperatures

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SOV/64-59-6-14/28

It is recommended to assume $\gamma = 1600$ kg/m^3 (corresponding to a volume shrinkage of about 10%) in calculating the heat of lime production from limestone on the basis of the above equation, while formula $\gamma = 0.79 - 0.00049$ t (Ref 1) should be used when lime is obtained from chalk. The thermal conductivity coefficients of lime obtained from limestone of four different specific gravities were calculated and the following tables given: Table 1, characteristic data of the roasting process, table 2, temperature dependence of the thermal conductivity of lime from Golubovka limestone, table 3, comparison of the results obtained for limestone samples from the above deposits, table 4, thermal conductivity coefficients of the Golubovskiy limestone at various temperatures, table 5, coefficients of the thermal conductivity of lump lime. There are 2 figures, 5 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut osnovnoy khimii, NIOkhim (Scientific Research Institute of Fundamental Chemistry, NIOkhim)

GINZBURG, D.M. (Khar'kov)

Thermal properties of NaOH and H_2O in concentrated sodium hydroxide solutions. Zhur. fiz. khim. 36 no.4:747-751 Ap '62. (MIRA 15:6)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii.
(Sodium hydroxide—Thermal properties)

[illegible]BURG, [illegible]; [illegible], [illegible]; [illegible], [illegible].

Density of potassium carbonate solutions. [illegible]
37 no.11: 353-2397 N '64 [illegible]

1. Nauchno-issledovatel'skiy institut [illegible]

[illegible], [illegible]; [illegible], N.S.; [illegible], V.[illegible].

Density of sodium carbonate solutions. Zhur. [illegible] 37 no. [illegible] 749-750 D '64. (MIRA 18:3)

1. Ia [illegible]-Issledovatel'skiy institut [illegible] Khar'kov.

GINZBURG, D.M.

Density of soda-potash solutions and the vapor pressure over them. Zhur. prikl. khim. 38 no.1:55-58 Ja '65.

(MIRA 18:3)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii, Khar'kova.

GINZBURG, D.M.; PIKULINA, N.S.; LITVIN, V.P.

System NH_3 - H_2S - H_2O. Zhur.prikl.khim. 38 no.9:2117-2119 S '65. (MIRA 18:11)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii, Khar'kov.

GINZBURG, D.M.

System NH_3 - CO_2 - H_2O. Zhur. prikl. khim. 38 no.10:2197-2210 O '65. (MIRA 18:12)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii, Khar'kov. Submitted May 27, 1963.

GINZBURG, D.S.

Erythema nodosa as a trichophytid. Vest.derm. i ven. 32 no.5:73 S-O '58 (MIRA 11:11)

1. Iz Vologodskogo oblastnogo vendispansera.
(ERYTHEMA)

GINZBURG, D.S.

Clinical and histological aspects of Darier's disease. Vest. derm. i ven. 33 no.2:25-28 Mr-Ap '59. (MIRA 12:7)

1. Iz Vologodskogo oblastnogo vendispansera (glavnyy vrach Ye.K. Savashkevich).
(KERATOSIS FOLLICULARIS, case reports, (Rus))

GINZBURG, D. S.

Trichomycoses and their pathogens in Vologda Province during 1949-1958. Vest. derm. i ven. no.3:71-74 '62.
(MIRA 15:6)

1. Iz Vologodskogo oblastnogo kozhno-venerologicheskogo dispansera (glavnyy vrach Ye. K. Savashkevich)

(VOLOGDA PROVINCE—HAIR—DISEASES)

GINZBURG, D.E.

Utilization of peat in the socialist agriculture. Minsk Drukarnia Zakhodskai akademii nevuk 1953. 17 p.

PROCESSES AND PROPERTIES INDEX

Adsorption activity of peat and coals. N. F. Ermolenko and D. Z. Ginzburg. *Belaruskaya Akad. Navuk, Inst. Khim. Sbornik Prats.* 1, 143-64(1934).—The adsorption activity of peat, brown and anthracite coals, and coke of 0.25-0.5 mm. was detd. with solns. of I_2 in KI and with oxalic acid. The sample (1 g.) was shaken in a closed 250-cc. vessel contg. 50 cc. of the soln., allowed to stand for 1 hr. and 25 min., shaken again and filtered. The first portions of filtrate were discarded, but the remainder was used for titration. Adsorption follows $x/m = KC^{-}$. K decreases in the following order: peat; brown coal; anthracite. Differences between actual and theoretical results fall within the exptl. errors. B. Z. Kamich

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ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

LIST AND FIND ORDERS

PROCESSES AND PROPERTIES INDEX

Relation between adsorption, solubility and solvent polar properties. N. P. Ermolenko and D. Z. Ginzburg. *Colloid J.* (U. S. S. R.) 3, 831–43(1937). —With anthranilic acid (I) the relations are quite complex. In solvents composed of 2 nonpolar components (C_6H_6-CCl_4) or of 1 polar and 1 nonpolar component ($PhMe$-CCl_4) the adsorption (A) and solv. (L) of I vary inversely. In a pair of solvents like C_6H_6-PhMe, similar in structure and close in the values of their polar consts., the changes in A and L are nearly parallel. The adsorption on charcoal of I from mixed solvents composed of a polar and nonpolar component, the latter affecting the polarity of the first ($EtOH$-C_6H_6), passes through a min. L in such cases increases with increase in the amt. of polar component in the mixt. In a mixt. of 2 strongly polar solvents like $EtOH$-H_2O and Me_2CO-$EtOH$ A and L vary inversely.

John Livak

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GINZBURG, D. Z.

Co

Importance of the constitution of organic acids for their adsorption from mixed media. N. F. Ermolenko and D. Z. Ginzburg. *Colloid J.* (U. S. S. R.) 5, 263-70(1939); cf. C. A. 33, 6112[7].—Adsorption by wood charcoal from nonaq. solvents increases in the series AcOH, chloroacetic, dichloroacetic, trichloroacetic and salicylic acid. For a given acid it increases from EtOH to C_6H_6 and CCl_4. The adsorption from mixed solvents EtOH + C_6H_6 shows a min., whereas there is neither max. nor min. in the curve of adsorption from the mixts. CCl_4 + C_6H_6 and H_2O + EtOH. Salicylic acid was also adsorbed from C_6H_6 + $COMe_2$ (a min.), and so aminobenzoic acid from H_2O + EtOH mixts. I. I. Bikerman

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515120015-1"

Swelling of vulcanized rubber in mixed media N F Ermolenko and D. Z. Gintburg (Acad Sci Byelorussian S S R , Minsk). *Kolloid Zhur* 13, 182 7(1951) Vulcanized rubber made at 143° from natural rubber 100 S 4 "condensate K-1" 1 25, akiol 1, ZnO 25, C black 55, chalk 30, stearic acid 1, and pine tar 2 parts, took up, at 18°, to vol of CCl_4 2 7 C_6H_6, 4 5 $CHCl_3$, 0 010 $HCOH$, or 1 0 vol Me_2CO The dependence of the vol taken up on the vol comp of binary mixts of these solvents was linear only for CCl_4-C_6H_6 In the other mixts , the max swelling was greater the smaller the mol polarization of the mixt The rate of attainment of equil was great in C_6H_6, smaller in CCl_4, and smaller still in $CHCl_3$ and Me_2CO J J B

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[illegible]

R. Wierbicki

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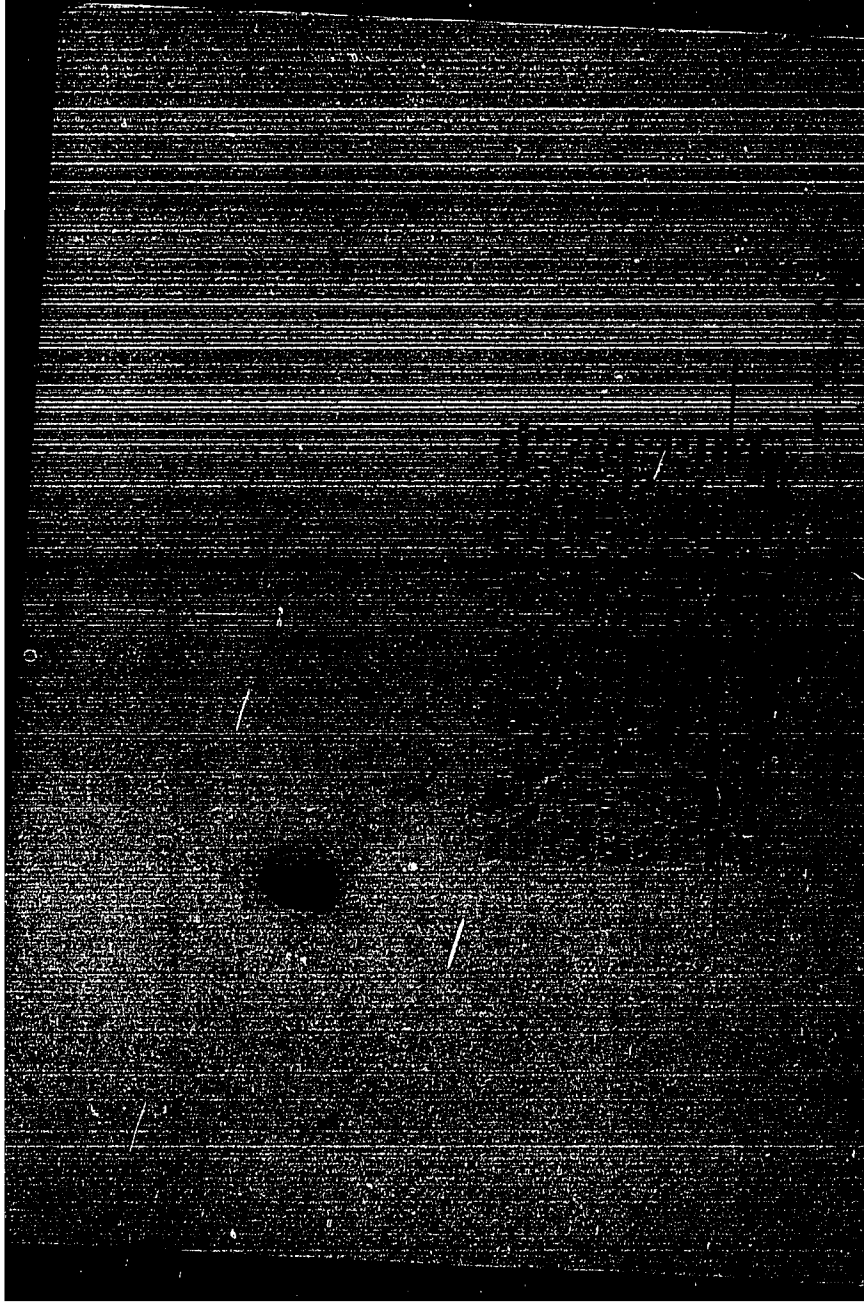
GINZBURG D.Z.

Methods of preparation and properties of the bituminous emulsions from peat tar. N. F. [illegible], B. N. Novikov, and [illegible]. Vestsi Akad. Navuk Belarus. S.S.R. [illegible] Utilization of peat tar (I) (the main waste product of the gas-generating ovens operated in glass-industrial plants of White Russia) as the road-building material, asphalt, is thoroughly discussed. I contain water 4.[illegible], light oils (II) (the fraction distd. at 100-170°) 1.45, intermediary oil (III) (171-270°) [illegible], heavy oil (271-[illegible]) 11.[illegible], anthracene oil (301-360°) 34.[illegible], phenols (IV) 18.1, naphthalene 0, and coke 21.[illegible]%. For the production of the asphalt material the amts. of water, II, III, and IV were reduced to 0.5, 0.[illegible], 10.[illegible], and 2.[illegible]%, resp., by removing the fractions distd. at 100° and 250°. The chem. cocoon and phys. properties of the asphalt material prepd. in this way from I resembled those of the raw material prepd. from coal tar. Applications of alkalies, salts of org. acids, tannides, lecithin, cholesterol, rosin soaps, sulfite pulp-alkali mixts., casein, and sulfitized oils and fats for the prepn. of bituminous emulsions is described also. E. Wierbicki.

(2)



GINZBURG, D. Z., and YERMOLENKO, N. F.

"Change of the Asymmetry of Molecules of Vegetable Albumins Under the Influence of Denaturalizing Substances" (Izmeneniye asimmetrii molekul rastitel'nykh belkov pod vliyeniyem denaturiruyushchikh veshchestv) from the book Trudy of the All-Union Conference on Colloid Chemistry, pp 397-405, Iz. AN SSSR, Moscow, 1953

(Report given at above Conference, Minsk, 21-4 Dec 52)

Yermolenko: Inst. Biox. AN BSSR

GINZBURG, D.Z.

Relation between the structure of chemical compounds and their toxic effect on the zoosporangia of Synchytrium endobioticum (Schilb.) Perc. Vestsi AN BSSR. Ser. biial. nav. no.3:31-38 '60. (MIRA 14:1)

(WHITE RUSSIA--POTATO WART) (FUNGICIDES)
(BENZENE)

[illegible], E.J., VASI[illegible], [illegible].S., [illegible], [illegible]. ([illegible])

"The Role of Protein-Lipid Complexes and [illegible] in the [illegible] of Erythrocyte Structure (A [illegible] to the Theory of [illegible] and the [illegible] of [illegible]."

Report presented at the [illegible] Int'l. [illegible], [illegible], [illegible]-[illegible] Aug 1961.

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IZYAGIN, I.V.; GINZBURG, E.Kh.

$\Sigma^+ \to p + e^+ + e^-$ and $\Sigma^- \to p + \mu^+ + \mu^-$ decays. Zhur.eksp.i teor.fiz. 41 no.3:915-918 S '61. (MIRA 14:10)

1. Smolenskiy gosudarstvennyy pedagogicheskiy institut.
(Particles (Nuclear physics))

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515120015-1
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IVANOV, E.A.; VIDINEYEV, L.P.; GINZBURG, E.L.; MAZUK, V.B.

Tectonic development of the lower Paleozoic of the southern part of the Siberian Platform. Neftegaz. geol. i geofiz. no. 10:12-15 '64 (MIRA 18:1)

1. Gosudarstvennyy trest po geologicheskim izyskaniyam na neft' v Vostochnoy Sibiri.

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GINZBURG, E.L., SAMSONOV, V.V.; FUKS, M.A.

Prospecting gas fields in the Irkutsk amphitheater. Neftegaz. geol. i geofiz. no.10:22-25 '64 (MIRA 18:1)

1. Gosudarstvennyy trest po geologicheskim issledovaniyam po neftyu i gazu v Vostochnoy Sibiri.

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515120015-1
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GINZBURG, E.L.

Krivolutskoye swell-shaped uplift is a new zone of possible oil and gas accumulations. Neftegaz. geol. i geofiz. no. 10:3-6 '65. (MIRA 18:12)

1. Trest "Vostsibneftegeologiya".

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3906. **Malignant pancreatic cysts and their X-ray diagnosis (Russian text)** BRAITSEVA N. N. and GINZBURG E. M. *Klin. Med. (Mosk.)* 1958, 36/4 (81-85) Illus. 4

A malignant tumour is found in 9% of benign pancreatic cysts. According to Kennard, about 25 cases of malignant pancreatic cysts have been described up to 1940; 2 reports on this type of tumour were found in the Russian literature (1935 and 1938). The authors give a detailed description of 2 additional cases. In both, the clinical picture, and especially an exact X-ray diagnosis, are presented. Both cysts were examined microscopically and recognized as malignant. A survey of the X-ray symptomatology of pancreatic cysts establishes that the diagnosis of malignant pancreatic cysts is only possible through close cooperation between the clinical physician and the X-ray diagnostician. The greatest attention must be paid to the natural history of the disease, which can give indications as to the malignancy of the process.

Brückner – Ostrava

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GINZBURG, E.M.

Radiography of the temporal bone in a Stenvers projection.
Vest.otorin. 21 no.4:84 Jl-Ag '59. (MIRA 12:10)

1. Iz rentgenologicheskogo otdeleniya (zav. E.M.Ginzburg) Moskovskoy gorodskoy bol'nitsy No.58.
(TEMPORAL BONE--RADIOGRAPHY)

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GINZBURG E.M. (Moskva, Ye-24, 3-ya Kabel'naya, 3. kv.131)

Hemangioma of the diaphysis of the humerus. Vop onk. 8 no. 10: 84-85 '62. (MIRA 17:7)

1. Iz rentgenologicheskogo otdeleniya (zav. - E.M.Ginzburg) Moskovskoy gorodskoy bol'nitsy No. 58 (glavnyy vrach - dotsent Ye.Ya.Khesin).

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GINZBURG, E.M.

Five years experience with the use of an obturator-adapter. Vrach.delo no.1:148-149 Ja '63. (MIRA 16:2)

1. Rentgenologicheskoye otdeleniye (zav. - E.M. Ginzburg) Moskovskoy gorodskoy bol'nitsy No.58.
(ENEMA)

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GINZBURG, E.M.

Excessive development of the mucous membrane of the stomach. Vestn. rentgen. i radiol. 38 no.4:71-73 Jl-Ag'63 (MIRA 17:2)

1. Iz rentgenovskogo otdeleniya (zav. E.M.Ginzburg) Moskovskoy gorodskoy klinicheskoy bol'nitsy No.58 (glavnyy vrach-dotsent Ye.Ya. Khesin).

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TVERDYNIN, M.S., [illegible] E.M.

Osteoblastic hypernephroid cancer of the kidney. Urologiia. 29 no.3 49-50 My-Je [illegible]. [illegible]

1. Urologicheskoye otdeleniye [illegible] Med. [illegible] Lev [illegible] patologoanatomicheskoye otdeleniye [illegible] M.S. Tverdynin), [illegible] gorodskoy bol'nitsy No. [illegible].

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GINZBURG, E.N., ed.

[Processing of liquid media; papers of the Scientific Research Institute for Fertilizers and Insectifuges] Obrabotka zhidkikh sred; trudy NIUIF. Moskva, Laboratorii nauchno-tekhn. informatsii, 1962. 62 p. (MIRA 17:4)

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515120015-1
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GINZBURG, E.N., kand.tekhn.nauk

Comparative technological characteristics of band and trough vacuum filters. Khim.mashinostr. no.2:9-12 Mr-Ap '64. (MIRA 17:4)

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515120015-1
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[illegible], F.N., [illegible]

[illegible]

[illegible]-through capacity of [illegible] Washington.
[illegible] '64.

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PHASE I BOOK EXPLOITATION SOV/4169

Ekspluatatsionnaya nadezhnost' metalla parosilovykh ustanovok; sbornik statey (Operational Reliability of Metal in Steam Power Plants; Collection of Articles) Moscow, Gosenergoizdat, 1959. 126 p. 2,200 copies printed.

Ed. (Title page). I.N. Laguntsov, Candidate of Technical Sciences; Ed. (Inside book). I.K. Korikovskiy; Tech. Ed.: N.I. Borunov.

PURPOSE: This collection of articles is intended for technical personnel of power stations, power machinery plants, and scientific research institutes.

COVERAGE: The articles set forth the results of investigations that were conducted by Otdeleniye metallov, Vsesoyuznyy teplotekhnicheskiy institut imeni F.E. Dzerzhinskogo (Department of Metals of the All-Union Heat Engineering Institute imeni F.E. Dzerzhinskiy) in the years 1955-57. The articles deal with the problem of investigating new types of steel and of analyzing the causes of damage to certain parts of power plant equipment. Problems associated with operating dependability of welded joints in steam piping for high and extra-high pressure boilers are discussed. The results of investigations of dry pressure "bonding" of metals under high-temperature conditions are given. The reasons for seizure and "baking" together of threaded joints and methods for preventing these phenomena are explained. No personalities are mentioned. References accompany individual articles.

Vidman, D.N., and R. Ye. Magel'. On Brittle Failures, Structure and Properties of Welded Joints of High-Pressure Steam Piping 49

Laguntsov, I.N. and V.K. Svystoslavov. The Effect of the Complex State of Stress and of Steam Medium on the Creep Strength of Pipes 62

Vontorovskiy, A.I. Investigation of Properties of Commercial-Type 15Kh1M1F Boiler Steel 75

Laguntsov, I.N., and L.I. Fedotova. On the Effect of Temperature Changes on the Creep Strength of 12Kh1MF Steel 83

Vidman, D.N., and E.S. Ginzburg. Dependence of the Damping Decrement of Stainless Chrome Steel on Its Structure and Mechanical Properties 89

Gulyayev, V.N., and I.N. Laguntsov. The Ability of Metals for [Dry Pressure] "Bonding" 97

Gulyayev, V.N. and I.N. Laguntsov. Oxide-Film Bonding of Conjugated Metallic Parts 106

Gulyayev, V.N., Prevention of Threaded Joints From Seizure and Being "Baked" Together 115

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PHASE I BOOK EXPLOITATION SOV/3502

Akademiya nauk SSSR. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, tom 6 (Investigations of Heat-Resistant Alloys, Vol. 6) Moscow, 1960. 319 p. Errata slip inserted. 3,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova. Nauchnyy sovet po probleme zharoprochnykh splavov.

Editorial Board: I. P. Bardin (Deceased) Academician, G. V. Kurdyumov, N. V. Agayev, Corresponding Member, Academy of Sciences USSR (Resp. Ed.), I. A. Oding, L. M. Pavlov, and I. P. Rudin, Candidate of Technical Sciences; Ed. of Publishing House: V. A. Klimov; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This book is intended for research workers in the field of physics of metals and for metallurgists, particularly those working on heat-resistant alloys.

COVERAGE: This collection of 45 articles deals with various problems in the production of heat-resistant alloys. Special attention is paid to the mechanisms of deformation of such metals as aluminum, copper, iron, and nickel. Various defects and failures of metals are analyzed, and means for increasing the heat resistance and plasticity are described. Among the special problems discussed are: electrolytic conductivity of iron-aluminum alloys in the solid state; the mobility of atoms in nickel-iron alloys, depending upon defects of their crystalline structure; the kinetics of change in isolated pores; the irreversible thermal transformation of solid bodies, etc. No personalities are mentioned. References follow each article.

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S/137/62/000/004/097/201
A052/A101

AUTHORS: Vidman, D. N., Ginzburg, E. S.

TITLE: The dependence of the damping decrement of stainless chromium steel on the structure state and mechanical properties

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 26, abstract 41152 (V sb. "Ekspluatats. nadezhnost' metalla parosilovykh ustanovok", Moscow-Leningrad, Gosenergoizdat, 1960, 80-87)

TEXT: The damping decrement was determined by the data of measurement of the amplitude of free oscillations at bending the steam turbine blades. Mechanical oscillations imparted to a cantilever-fastened blade, were then transformed in electric ones by means of an induction pickup and recorded with a loop oscilloscope. Maximum bending stress at the root of the working part was 350 kg/cm^2. More than 200 blades made of material corresponding by the chemical composition to 1 X 13 (1Kh13) and 2 X 13 (2Kh13) grades of steel were investigated. Out of the mentioned blades samples were made which were subjected to mechanical tests. Furthermore, an investigation of microstructure of blades with different damping decrement values was carried out. The presence in the structure of

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excess phases, - free chromium ferrite or free Cr carbides at the boundaries of grains, - reduces the damping decrement. A pertite structure without excess phases secures maximum damping decrement value; σ_t, σ_s, hardness and δ for blades with different damping decrements practically do not change; a_k and ψ increase with an increase of the damping decrement. An increase of the damping decrement by a factor of 1.5 - 2 (from ρ 0.0171 to ρ 0.0301) has just a little effect on σ_w. The obtained data permitted the recommendation of the following optimum composition of stainless Cr steel for working turbine blades: 0.15 - 0.20% C, 11.5 - 13.0% Cr, 0.6 - 0.8% Ni. There are 7 references.

M. Matveyeva

[Abstracter's note: Complete translation]

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81812

26.1000

S/096/60/000/08/012/024
E194/E484

AUTHORS: Lipshteyn, R.A., Khaykina, S.E. and Ginzburg, E.S., Candidates of Technical Sciences

TITLE: The Resistance of Gas Turbine Metals to Vanadium Corrosion

PERIODICAL: Teploenergetika, 1960, Nr 8, pp 57-60 (USSR)

ABSTRACT: The use of sulphurous fuel oil in gas turbines is associated with vanadium corrosion of the blades at temperatures above 625°C. Vanadium is present in the fuel oil in the form of metallo-organic compounds and sodium in the form of sodium chloride. During the process of combustion the vanadium oxidizes to V_2O_5 and the sodium chloride is converted into sodium sulphate. Tests were made in which samples of steel, 6 mm diameter and 30 mm long, were immersed to a third of their height in ash of known composition. Samples that had been treated in this way were placed in an electric furnace where the temperature was maintained constant for periods up to 60 hours with a steady flow of air. After cooling, corrosion products were removed from the samples, either mechanically or by chemical means. Tests were made on

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E194/E484

The Resistance of Gas Turbine Metals to Vanadium Corrosion

austenitic chrome nickel steel grades EYalT,[8] EI-405,[12] EI-612[8] and nickel-base alloys of the Nimonic type, see Table 1. Test results with ash containing various amounts of V_2O_5 and Na_2SO_4 when corroding steel grade EYalT at temperatures of 625, 750 and 800°C, are given in Fig 1. At all temperatures there is a clear maximum in the corrosion corresponding to an ash containing 87% V_2O_5 and 13% Na_2SO_4. Pure vanadium pentoxide causes relatively little corrosion at temperatures below 750°C and pure sodium sulphate causes relatively little corrosion at temperatures up to 800°C. The composition of the most corrosive mixture corresponds to a compound of formula $Na_2O \cdot V_2O_4 \cdot 5V_2O_5$ which has a melting point of 625°C. It is of interest to compare the corrosion of steel EYalT with this artificial mixture of vanadium pentoxide and sodium sulphate with corrosion obtained under practical conditions. Data on corrosion of this steel under practical conditions lies surprisingly close to the corrosion curves with the artificial ash at 750°C, see Fig 1. Tests with the

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E194/E484

The Resistance of Gas Turbine Metals to Vanadium Corrosion

various steels were made within the temperature range of 625 to 800°C and durations of 15 to 60 hours with the most corrosive mixture of artificial ash. As will be seen from the results given in Fig 2, the temperature is a decisive factor and the rate of corrosion greatly increases with the temperature. Fig 3 shows the amount of corrosion products formed also increased with time; there is often an initial induction period followed by an auto-catalytic type of curve. The different grades of steel do not all perform in the same way at different temperatures and the differences are discussed. The corrosion products of different steels also differ in appearance. The low corrosion resistance of steel EI-405 is attributed to its 2.5% content of molybdenum. It is supposed that the molybdenum oxide MoO_3 formed during vanadium corrosion of the steel has a high vapour pressure at a temperature of 750 to 800°C which tends to throw the scale off the metal and to bare the metal surface to further corrosion. It is concluded that the use of molybdenum should be avoided in steels subject to vanadium corrosion.

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E194/E484

The Resistance of Gas Turbine Metals to Vanadium Corrosion

The nickel-base Nimonic alloy behaves better than chrome-nickel austenitic steel but it could not be successfully used in gas turbines burning high sulphur fuel oils at temperatures of 650°C and above since in the presence of the corrosive mixture of vanadium oxide and sodium sulphate, Nimonic alloy has a 12% loss of weight after 60 hours at 750°C and 18% at 800°C. The problem accordingly arose of improving the vanadium corrosion resistance of gas turbine blades of steels EI-405 and EI-612 by chemical-thermal treatment of the surface, saturating them with chromium, aluminium or nitrogen. To this end, samples of these steels were appropriately treated and the corresponding test results are given in Table 2. Treatment of steel EI-612 with chromium plus nitriding gives a considerable improvement in corrosion resistance at 750°C but increasing the temperature to 800°C completely removes this effect and even impairs the resistance of the steel to vanadium corrosion. Additional special investigations are required to elucidate the reason for this effect. It is

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E194/E484

The Resistance of Gas Turbine Metals to Vanadium Corrosion

interesting that platinum[11] porcelain and quartz are also subject to vanadium corrosion at high temperatures. There are 3 figures, 2 tables and 8 references 7 of which are Soviet (4 of these being Russian translations from Proceedings of World Petroleum Congress) and 1 English.

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

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LAGUNTSOV, I.N., kand.tekhn.nauk; GINZBURG, E.S., kand.tekhn.nauk

Metal for principal models of new power equipment. Teploenergetika 7 no.5:3-12 My '60. (MIRA 13:8)

1. Vsesoyuznyy teplotekhnicheskiy institut.
(Steel) (Power engineering--Equipment and supplies)

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34397
S/695/61/000/000/003/005
B139/B104

18.1151

AUTHOR: Ginzburg, E. S.

TITLE: Metal for turbines with high and supercritical steam parameters

SOURCE: Gorshkov, A. S., V. Ye. Doroshchuk, and N. V. Kuznetsov, eds. Povysheniye parametrov para i moshchnosti agregatov v teploenergetike; sbornik statey. Moscow, Gosenergoizdat, 1961, 112 - 121

TEXT: The housings of the shutoff valves and steam chambers of the СВК-150-1 (SVK-150-1) turbine for 150 Mw, 3000 rpm, 170 at and 550/520°C were originally made from the high-alloy austenitic steel of type ЛА-1 (LA-1). The manufacture of large castings from this steel is difficult. For this reason, welding together of individual forgings from ЭИ-405 (EI-405) steel was introduced at the LMZ Plant in cooperation with the TsNIITMASh and TsKTI. The SVK-150-1 turbine has austenite valve housings in an outer perlite cylinder, and inner perlite cylinders in austenite jet chambers. The ПВК-150 (PVK-150) 150-Mw turbine from the KhTGZ Plant and the ПВК-200 (PVK-200) 200-Mw turbine from the LMZ Plant for the steam

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parameters of 130 at and 565/565°C entirely consist of perlitic steels Titanium alloys (Table 1) are used for the blades of the last stage of the K-300-240 (K-300-240) turbine (length 866 mm) To make possible the use of perlitic steels also for 600-610°C, new heat-resistant steels were developed on the basis of 12 % chrome steels. In order to reduce liquefaction phenomena, the TsNIITMASh is modifying ЦЖ-5(TsZh-5) steel with calcium Austenitic steels, alloyed nickel steels and perlitic steels with cooling are used for the СКР-100 (SKR-100) topping turbine for 100 Mw, 300 at, 650°C. At present, forgings of 3-4 tons are produced from ЭИ-612 (EI-612) steel, and such of up to 13 tons from ЭИ-726 (EI-726) steel Owing to the high coefficients of linear expansion and low thermal conductivity of the austenitic steels, the starting of the SKR-100 turbine is problematic, and additional heating of the flange joints must be provided. For austenitic steels at temperatures of 650 and 750°C, the rate of oxidation of the turbine steels in air lies in the order of magnitude of thousandths and hundredths of millimeters annually There are 7 figures and 3 tables

Table 1 Mechanical properties of titanium alloys. Legend: (1) content

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S/096/61/000/002/009/014
E111/E194

AUTHORS: Lipshteyn, R.A., Candidate of Technical Sciences, Khaykina, S.E., Candidate of Technical Sciences, and Ginzburg, E.S., Candidate of Technical Sciences

TITLE: Vanadium Corrosion in Boiler Installations

PERIODICAL: Teploenergetika, 1961, No.2, pp. 61-62

TEXT: The authors show that vanadium corrosion of boiler tubes working on high sulphur fuel oils is appreciable. Results are shown in Table 1 and give comparative data on corrosion of type ЭЯ1Т (EYalT) steel in 60 hours at 750 °C by artificial and real deposits. Previous work (Ref.1) suggested that corrosion did not occur if there was no oxygen in the gases. The present investigation was undertaken to study the influence of oxygen concentration in the gas. Type ЭИ-405 (EI-405) steel (0.11% C, 0.46% Si, 0.72% Mn, 14.1% Cr, 13.2% Ni, 1.36% Nb and 2.5% Mo) was used. The washed and dried 6 mm diameter, 30 mm long cylindrical specimen was weighed and then, while embedded in an artificial ash (87% V_2O_5, 13% Na_2SO_4) at 800 ± 5 °C, was subjected to the action of a nitrogen-oxygen mixture (up to about 95% O_2).

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S/096/61/000/002/009/014
E111/E194

Vanadium Corrosion in Boiler Installations

The apparatus (figure, page 62) provides for measurement of gas-volume changes produced by reaction with the specimen/ash. Specimen weight changes were also determined. The results (Table 2) show that the higher the oxygen content the greater the corrosion. The results suggest that combustion gases with 3-4% oxygen will produce vanadium corrosion if metal surface temperatures are over 650 °C and the deposits are relatively high in vanadium. Corrosion will start on superheater and radiation tubes.
There are 1 figure, 2 tables and 3 references: 2 Soviet and 1 English.

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

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BOREVSKIY, Ye.I., inzh.; OSTROVSKIY, S.I., inzh.; GINZBURG, E.S., kand. tekhn. nauk

Study of the performance of metal and the construction of the gland when starting a R-100-300 KhTGZ steam turbine. Teploenergetika 10 no.10:13-18 O'63 (MIRA 17:7)

1. Vsesoyuznyy ordena Trudovogo Krasnogo Znameni teplotekhnicheskiy institut imeni Dzerzhinskogo i Khar'kovskiy turbinnyy zavod imeni S.M. Kirova.

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BERMAN, L.D., doktor tekhn. nauk; GINZBURG, E.S., kand. tekhn. nauk; DUBNITSKAYA, L.Ye., inzh.; PROKHOROVA, Ye.I., inzh.

Operational tests of tubes from aluminum alloys in condensers and water heaters. Elek. sta. 34 no.5:28-32 My '63. (MIRA 16:7)

(Pipes, Aluminum—Corrosion)
(Condensers (Steam))

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PROCESSES AND PROPERTIES INDEX

GINZBURG, F. G.

CA

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The use of carotene in therapy. F. G. Ginzburg. *Klin. Med.* (U. S. S. R.) 16, 1242-6(1938); *Chem. Zentr.* 1939, I, 2019.—After a review of the chem. and physiol. properties of carotenoids, the analgesic, epithelizing, and disinfecting action of the carotene-contg. prepns. Vitaderm and Caroton are pointed out.

M. G. Moore

METALLURGICAL LITERATURE CLASSIFICATION

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GINZBURG, E.G.

PROCESSES AND PROPERTIES INDEX

11F

ca

State of potassium in an erythrocyte. Yu. A. Kriger and E. G. Ginzburg (Tsentral. Inst. Hematologii i Pereliyaniya Krovi, Moscow). *Byull. Eksptl. Biol. Med.* 18, No. 4/5, 55-7(1944).—By the method of Poznanskaya (*Byull. Eksptl. Biol. Med.* 17, No. 4/5, 1944) it was shown that in human and rabbit blood in hypotonic hemolysis K ions are liberated from erythrocytes before hemoglobin. G. Lebedeff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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DERVIZ, G.V.; GINZBURG, F.G.

"Methods of chemical blood analysis." S.D. Balakhovskii, I.S. Balakhovskii. Reviewed by G.V. Derviz, F.G. Ginzburg. Biokhimiia 20 no.6:749-752 N-D '55. (MLRA 9:3)

(BLOOD--ANALYSIS AND CHEMISTRY) (BALAKHOVSKII, S.D.) (BALAKHOVSKII, I.S.)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515120015-1
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GINZBURG, F.G.

T-4

USSR/Human and Animal Physiology - Blood. Blood Transfusions and Blood Substitutes.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 45943

Author : Ginzburg, F.G.
Inst : -
Title : Specific Permeability of Erythrocytes and Its Significance for Their Preservation.

Orig Pub : V sb.: Sovrem. probl. gematol. i perelivaniya krovi. Vyp. 32, M., Medgiz, 1956, 62-68.

Abstract : As a 5 percent glucose solution (I) was added to human erythrocytes (E) at a temperature of 6°C, they became enlarged by 37-49 percent (about 43 percent on the average) in their size, while at a temperature of 18° C, they hemolyzed rapidly because of permeability by I. At a temperature of 6° C, E size did not change perceptibly in goats, and at a temperature of 18° C it became only slightly enlarged after 24 hours, a phenomenon

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VINOGRAD-FINKEL', F.R., prof.; GINZBURG, F.G.; FEDOROVA, L.I.; KAUKHCHISHVILI, E.I.

Blood preservation at temapratures lower than 0° C; preliminary report [with summary in English, p.61-62] Probl.gemat. i perel. krovi 3 no.1:27-34 Ja-F '58. (MIRA 11:3)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A.A.Bagdasarov) Ministerstva zdravookhraneniya SSSR.
(BLOOD PRESERVED,
eff. of cold (Rus))

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VINOGRAD-FINKEL', F.R., prof.; GINZBURG, F.G.; FEDOROVA, L.I.

Preservation of blood in frozen state. Akt.vop.perel.krovi no.7: 91-97 '59. (MIRA 13:1)

1. Laboratoriya konservirovaniya krovi (zav. laboratoriyey - prof. F.R. Vinograd-Finkel') i biokhimicheskaya laboratoriya (zav. laboratoriyey - prof. G.V. Derviz) TSentral'nogo instituta gematologii i perelivaniya krovi.
(BLOOD--COLLECTION AND PRESERVATION)

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VINOGRAD-FINKEL', F.R., professor, kand.biologicheskikh nauk; GINZBURG, F.G.; FEDOROVA, L.I.; KAUKHCHESHVILI, E.I.

Low-temperature preservation of blood. Priroda 49 no.7:88-89 Jl '60. (MIRA 13:7)

1. TSentral'nyy institut gematologii i perelivaniya krovi, Moskva (for Fedorova). 2. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti (for Kaukhcheshvili).

(BLOOD--COLLECTION AND PRESERVATION)

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VINOGRAD-FINKEL', F.K., prof.; KISELEV, A.Ye., dotsent; GINZBURG, F.G.; FEDOROVA, L.I.; KAUKHCHUSHVILI, E.I.

Use of deepfreeze for the prolonged preservation of blood in a frozen state. Probl. gemat. i perel. krovi 8 no.5:3-16 My'63. (MIRA 16:8)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (direktor - dotsent A.Ye.Kiselev) Ministerstva zdravookhraneniya SSSR.
(BLOOD—COLLECTION AND PRESERVATION)

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VINOGRAD-FINKEL', F.R., prof.; KISELEV, A. Ye. dotsent. GINZBURG, F.G., FEDOROVA, L.I.; SEMENOVA, N.V.; KOGOLEK, L.I.; BURDYAGA, F.A. TAL'SKAYA, I.N.; KUDRYAGINOVA, A.N.

Long-term preservation of blood in frozen state. Voen.-med. zhur. no. 1:27-33 Ja '66 (MIRA 19:2)

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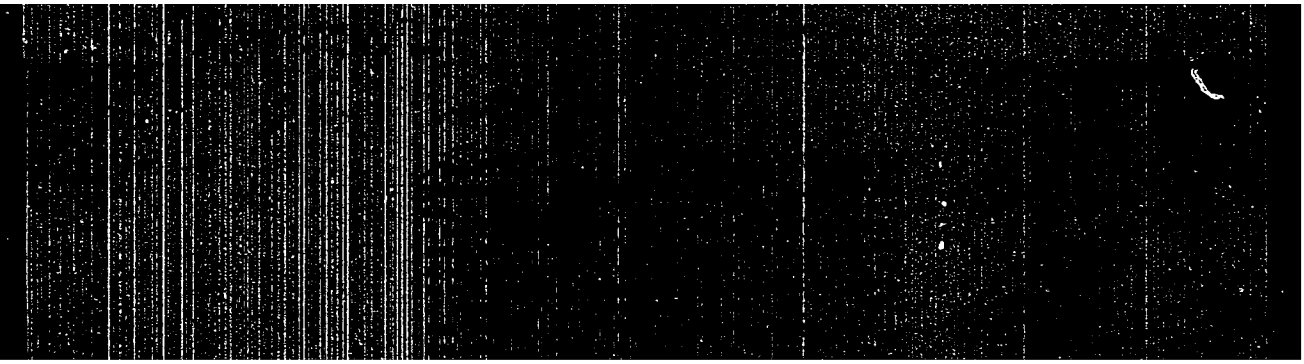
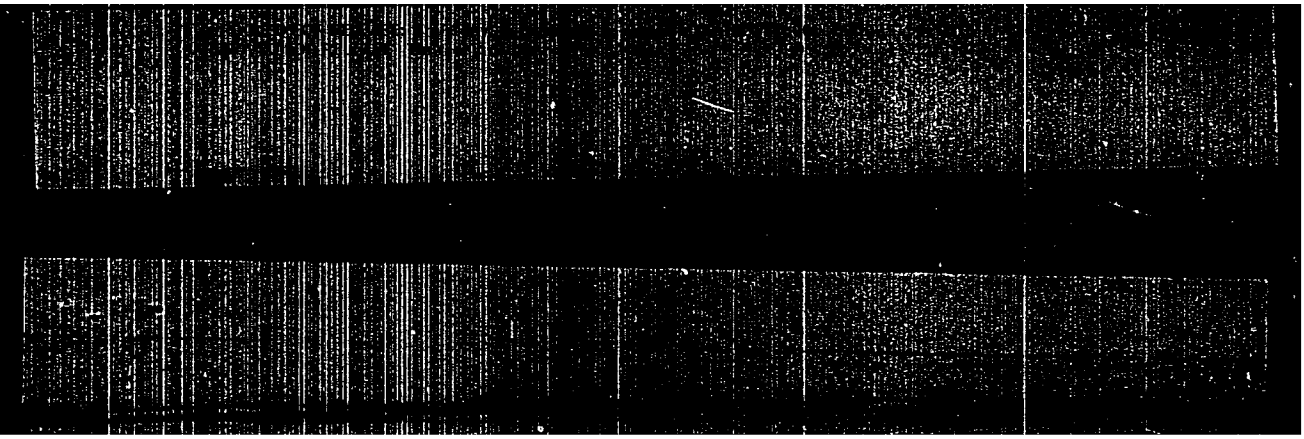
On the Theory of Supraconductivity. V. L. Ginzburg and L. D. Landau (*Zhur. Eksper. Teoret. Fiziki*, 1950, 20, (12), 1064-1082).—(In Russian). The existing phenomenological theory of supraconductivity is unsatisfactory, because it does not enable the surface tension at the boundary between the normal and supraconductive phases to be determined, and because it cannot give a correct description of the destruction of supraconductivity by a magnetic field or by an elect. current. G. and L. attempt to construct a theory free from these defects. Equations are deduced for the Ψ functions of the "supraconductive electrons" introduced into the theory, and for the vector potential. A soln. of the equations is given for the one-dimensional case (a semi-infinite supraconductive region or a supraconductive lamina). The theory enables the surface tension to be expressed in terms of the critical magnetic field and the depth of penetration of a magnetic field into the supraconductor. In a strong field the depth of penetration depends on the strength of the field, and this effect should be clearly discernible in supraconductors of small dimensions. The destruction of supraconductivity in thin laminæ by a magnetic field proceeds by means of a 2nd-order phase transition, while only in laminæ of thickness greater than a certain critical value is the transition of the 1st order. Though the critical external magnetic field increases with decreasing thickness of the lamina, the critical current, which destroys supraconductivity in the lamina, decreases with decreasing thickness.—G. B. H.





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STARIK, I.Ye.; GINZBURG, F.L.

State of microquantities of radioelements in dilute solutions. Part 8: Adsorption of lanthanum on quartz glass and plexiglas. Radiokhimiia 1 no.2:171-173 '59. (MIRA 12:8)
(Lanthanum) (Adsorption)

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STARIK, I.Ye.; GINZBURG, F.L.

State of microquantities of radioelements in solutions. Part 14: Study of the state of americium in aqueous solutions. Radiokhimiia 1 no.4:435-438 '59. (MIRA 13:1)
(Americium)

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STARIK, I.Ye.; RATNER, A.P. [deceased]; PASVIK, M.A. [deceased]; GINZBURG, F.L.

Use of phenylarsonic acid for the separation of neptunium and plutonium. Radiokhimiia 1 no.5:545-547 '59. (MIRA 13:2)
(Benzenearsonic acid) (Neptunium) (Plutonium)

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21(0) SOV/30-59-6-29/40

AUTHORS: Ginzburg, F. L., Rozovskaya, N. G.

TITLE: The State of Microquantities of Radioelements in Solutions (Sostoyaniye mikrokolichestv radioelementov v rastvorakh)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 6, pp 122-124 (USSR)

ABSTRACT: These problems were the subject of an All-Union Symposium held in Leningrad from March 3 to March 5. I. Ye. Starik spoke about the lack of interest in the research of the molecular form of elements. I. Ye. Starik, I. A. Skul'skiy, N. I. Ampelogova, L. I. Il'menkova, L. D. Sheydina and F. L. Ginzburg reported on the investigation of the state of the microquantities of zirconium, polonium, protactinium and americium in aqueous solutions. M. N. Yakovleva and M. A. Shushalina delivered reports on the methods of investigating the state of uranium in natural waters. V. M. Vdovenko, L. N. Lazarev and S. Ya. Khvorostin dealt in their report with the investigation of the state of radioelements in nonaqueous phases. V. M. Vdovenko, Ye. A. Smirnova and N. A. Alekseyeva spoke about the degree of hydration of complex compounds of uranyl nitrite and nitric acid in organic solvents. A new method of determining the composition of complex compounds and the calculations of the instability

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constants was recommended by V. M. Vdovenko, A. A. Chaykhorskiy and L. M. Belov. A. K. Lavrukhina showed that the forms of existence of a radioelement depend on its concentration in the solution. V. I. Kuznetsov and P. D. Titov explained the effect of the co-extracting by the formation of mixed polyanions. A. M. Trofimov and L. N. Stepanova recommended a method of determining the degree of ionic charge of radioelements in a solution. S. Ye. Bresler, Yu. D. Sinochkin, A. I. Yegorov and D. A. Perumov showed that the use of specific sorbents on zirconium basis may be of practical value for the investigation of the form of radioelements in solutions. An. N. Nesmeyanov dealt with the substitution of hydrogen in benzene by the atoms P^{32}, As^{76}, Sb^{124}. V. M. Vdovenko emphasized the great interest displayed by the scientific public in this Symposium in the name of the Organization Committee and said that approximately 250 scientific collaborators contributed to the work carried out by it.

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GINZBURG, F.L.

21 (0), 5 (0)

AUTHOR: Shchebetkovskiy, V. N. SOV/89-7-2-17/24

TITLE: All-Union Symposium on Radiochemistry (Vsesoyuznyy simpozium po radiokhimii)

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 2, pp 175-176 (USSR)

ABSTRACT: A symposium was held in Leningrad from 3 to 5 March 1959. More than 200 participants from different institutes in Moscow, Leningrad, Kiyev, Novosibirsk, Tbilisi and Gor'kiy attended it. Twentyeight papers were read. The following are mentioned: I. Ye. Starik: On the problem of the molecular state of micromasses of radioactive elements in solutions: I. Ye. Starik, N. I. Ampelogova, F. L. Ginzburg, L. I. Il'yenkova, I. A. Kuil'eviy, L. D. Zhuritsa: Condition of radioactive elements occurring in microconcentrations of solutions (Zr, Am, Pa, Po). N. N. Yakovlera, M. A. Shurshalina: Application of the dialysis method for examination of uranium carriers in natural bodies of water: I. I. Paramonova, Ye. F. Latyshova: Complex formation of the multivalent ruthenium with chlorine ions. K. B. Zakharenko, A. V. Zeral'skaya, V. V. Fomin: Determination of the composition and the instability constants by ion exchange of the cerium oxalate complexes. A. I. Loskutov: Complex formation of plutonium and americium with the anions of

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ethylene diamine tetra acetic acid (EDTA) and oxalic and phosphoric acid. A. M. Trofimov, L. N. Zhuravova: A new method for the determination of ion charges of radioactive elements in solutions by application of ion exchanging resins of different swelling capacities. E. B. Tyrokostrovskaya, A. M. Trofimov, V. N. Nikol'skiy: Confirmation of the non-existence of complex formation between potassium and EDTA by application of the ion exchange and the potentiometric methods. V. M. Vinnenko, Ye. A. Smirnova: Determination of the conditions of compounds to be extracted in the organic phase (hydration of uranyl nitrate with ester). V. M. Vdovenko, N. F. Lakshina: Degree of hydration of nitric acid in dibutyl ether of the diethylene glycol. V. M. Vdovenko, I. V. Krasnobayevskiy: Degree of solvation of the nitric acid in the dibutyl ether of the diethylene glycol. A. A. Lavrukhina: Determination of the dependency of the distribution coefficients between the organic and the watery phases in order to determine the condition of the substance in the solution and to fixate the concentration range at which complex formation starts. V. I. Kuznetsov, F. D. Tsoy lectured on extraction of hexavalent tungsten with aniline from hydrochloric acids. A. I. Kemeryatsy on substitution of hydrogen in benzol by the recoil atoms P^{32}, As^{76} and Sb^{124}. B. I. Dzantiyev lectured on the recoil atoms from the reactions of $Li^{6}(n,\alpha)T$, $N^{14}(n,p)C^{14}$ in a medium of cyclic hydrocarbons. L. I. Antropov lectured on the influence of the SO_3 and H^+ ions on the reduction velocity

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of hexavalent plutonium under the influence of its own α-radiation. In the course of thorough discussion it was established that the comprehension of the condition of radioactive elements in solution are of eminent importance for the whole range of radio chemistry. More studies have to be made in this field as were made before. A better coordination of all the institutes which are occupied with this problem will yield good results in the future.

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STARIK, I.Ye.; AMPELOGOVA, N.I.; GINZBURG, F.L.; LAMBET, M.S.; SKUL'SKIY, I.A.; SHCHEBETKOVSKIY, V.N.

Molecular state of ultraminute quantities of radioelements in solutions. Radiokhimiia 1 no.4:370-378 '59. (MIRA 13:1)
(Radioactive substances)

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GINZBURG, F.L.; ROZOVSKAYA, N.G.

State of microscopic quantities of radioelements in solutions. Vest. AN SSSR 29 no.6:122-124 Je '59. (MIRA 12:5)
(Radioisotopes) (Solutions (Chemistry))

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S/186/61/003/001/009/010
A051/A129

21.3230

AUTHORS: Starik, I.Ya., Ginzburg, F.L.

TITLE: The state of microquantities of radioelements in diluted solutions XVI. An investigation of the state of americium by the ion-exchange method

PERIODICAL: Radiokhimiya, v 3, no 1, 1961, 45-50

TEXT: The authors conducted a detailed study on the behavior of americium when using ion-exchanging resins and compared the obtained data with previously derived theories of americium behavior in diluted solutions (Ref 10-12). The main considerations were given to the cation exchange from the point of view of improving conditions of separation. The greatest attention was given to the study of HCl media. It was shown that the use of concentrated HCl as a washing-out solution has a great effect in group separation of actinide and rare-earth elements adsorbed on the cationite. The authors used the method of ion-exchange for studying the state of americium in nitrate solutions. The sorption of Am^{241} on resins under static condi-

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tions was investigated depending on the pH of the solution and concentration of HNO_3. The KU-2 (KU-2) and Dowex-50 cationites were used as the absorbents, as well as ionites of the strong-acid type with a mono-functional sulfo-group. AB-17 (AV-17) and Dowex-1 anionites containing strongly dissociated active amino groups of the tetra-ammonium base. The absorption of Am from solutions of various pH was conducted on KU-2 resins in the potassium form and AV-17 in the NO_3^- form. The sorbability of Am on the ionites was determined at room temperature under conditions of achieving an adsorption equilibrium state. The concentration of Am in the water phase was determined according to the activity of an aliquot part of the solution. The results of the experiments were expressed in % of adsorption determined by the formula: percentage of adsorption $= \frac{A_2 - A_1}{A_2} \cdot 100$, where A_2 is the initial activity of the solution (in pulses/min), A_1 - the equilibrium activity of the solution (in pulses/min). The relationship of Am sorption to the pH of solution was studied on the KU-2 cationite and AV-17 anionite. The sorption was conducted from solutions in the presence of 10^{-3}M KNO_3. Fig 1 shows the relationship of Am sorption on KU-2 resin to the pH of the solution. It is seen

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The [illegible]

[illegible]

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[illegible]

[illegible]

The state of [illegible]

by the [illegible] of HNO_3 [illegible] partial dehydration [illegible] It is thought that [illegible] of HNO_3 [illegible] Applying the law of [illegible] tween two [illegible] of A [illegible] resin particle [illegible] relationship [illegible]

[illegible]

concentration of [illegible] the [illegible] ment, [illegible] ion charge [illegible] of the [illegible] charge [illegible] slope of the [illegible] expressing the relationship [illegible]

[illegible]

The ion charge adsorbed by the resin from 0.5 [illegible] HNO_3 solutions is equal to 3. In addition [illegible] there are always [illegible] present in the solution and the determined charge of the Am ion [illegible] in the resin phase is determined by the shift of equilibrium according to sorption of the [illegible] by the resin. The authors draw the following conclusions [illegible] when studying

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the sorption of Am^{241} from nitrate solutions (1-16 M) in solutions of various pH, it is shown that in solutions of pH=4 to 1 M HNO_3 simple Am ions prevail with a charge of 3^+; with an increase of the pH of the solution (pH > 4) the positive charge of the ions decreases due to hydrolysis; 2) in the colloidal state Am is not adsorbed by the cation; the sorption of the colloidal particles of Am by the anionite reaches 80%; 3) the results of investigations of electromigration and sorption of Am on the anionites in nitrate solutions show that positively charged Am complexes are formed in solutions of 1-4 M HNO_3. Neutral complexes of Am are dominant in solutions of 4-16 M HNO_3. There are 6 figures, 1 table and 24 references: 12 Soviet-bloc, 12 non-Soviet-bloc.

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STARIK, I.Ye.; GINZBURG, F.L.

Nature of americium colloid behavior. Radiokhimiia 3 no.6:685-689 '61. (MIRA 14:12)

(Americium)

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STARIK, I.Ye.; GINZBURG, F.L.; SHEYDINA, L.D.

Adsorption of radioisotopes from aqueous and water-ethyl alcohol solutions. Radiokhimiia 6 no. 1:19-26 '64. (MIRA 17:6)

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STARIK, I.Ye. [deceased]; GINZBURG, F.L.; RAYEVSKIY, B.N.

Diffusion method for studying the state of radioisotopes. Part 1: Methods of measuring the diffusion coefficients of radioisotopes in extremely dilute solutions. Radiokhimiia 6 no.4:468-474 '64.

Diffusion method for studying the state of radioisotopes. Part 2: Coefficients of Zr self-diffusion in hydrochloric acid solutions. Ibid.:474-479 (MIRA 18:4)

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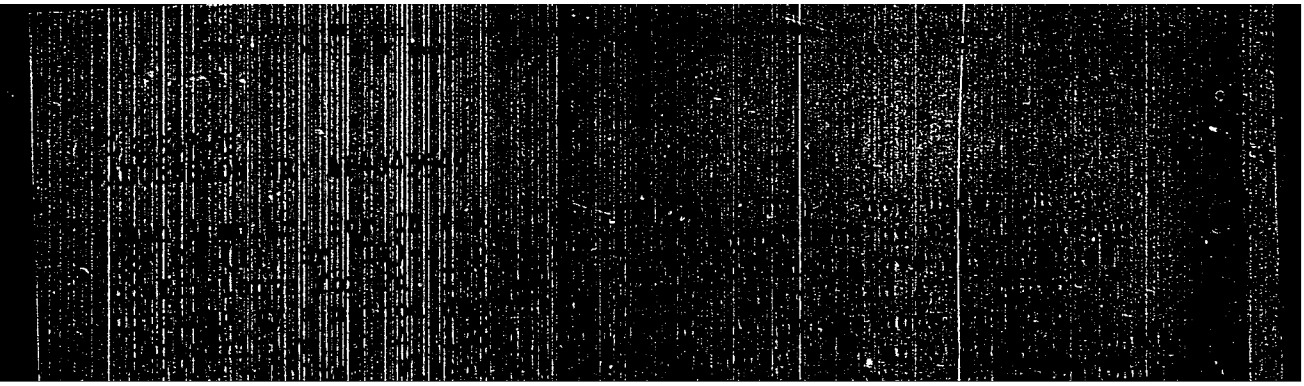
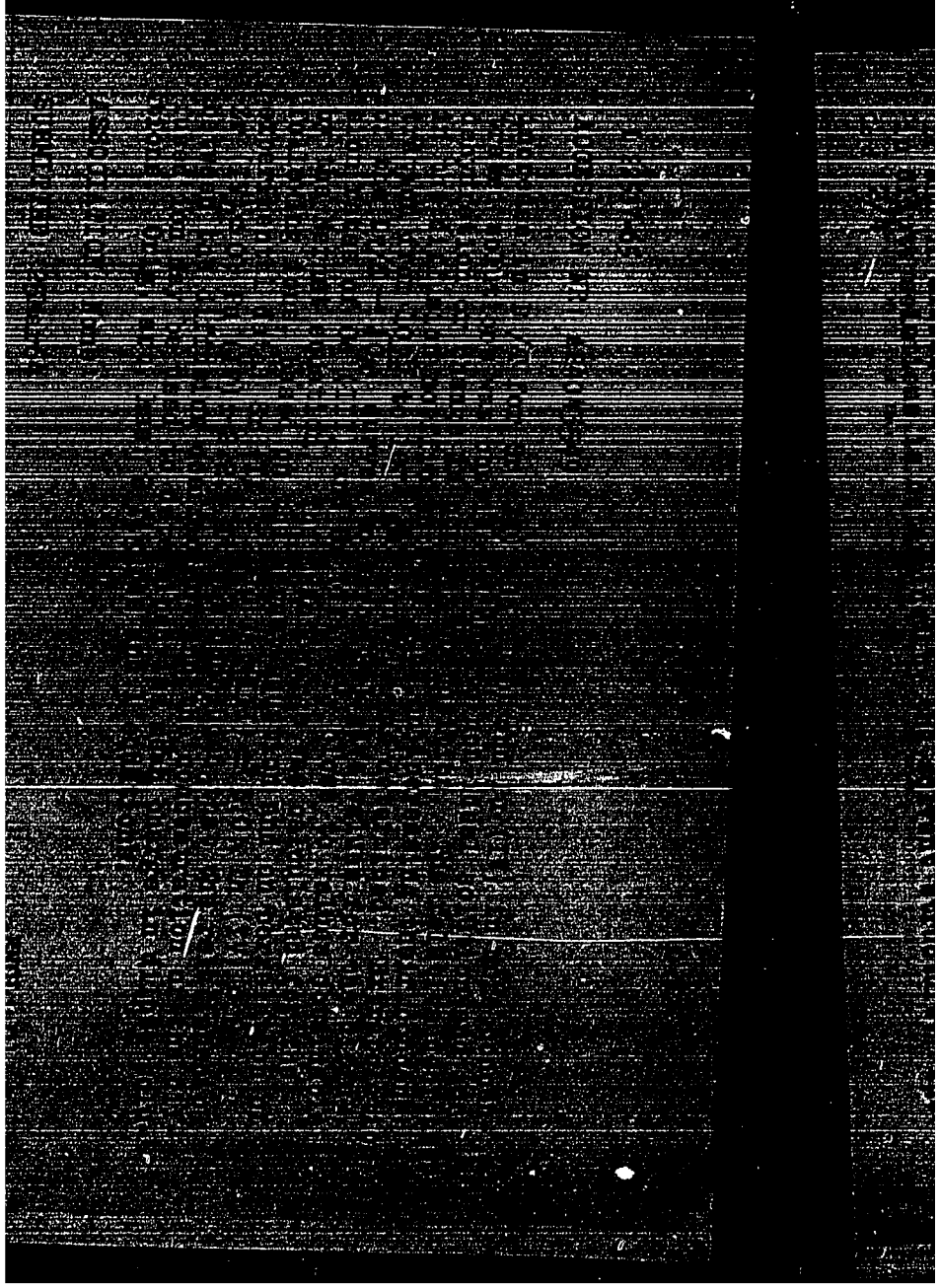
STARIK, I.Ye. [deceased]; GINZBURG, F.L.; RAYEVSKIY, B.N.

Diffusion method for studying radioisotopes. Part 3: Coefficients of diffusion of $Sr^{(II)}$, $Ce^{(III)}$, $Am^{(III)}$, $Th^{(IV)}$, $Pu^{(IV)}$, and $Np^{(V)}$. Radiokhimiia 6 no.4:496-498 '64. (MIRA 18:4)





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LYTKIN, M.I.; GINZBURG, F.L.

Reimplantation of the skin in surgical management of combined wounds of the soft tissue under experimental conditions. Eksper. khir. 5 no. 2:58-59 Mr-Ap '60. (MIRA 14:1)
(SKIN CRAFTING)