"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SOV/153-58-2-16/30

Investigation of the Carbonation Process of the Soda Solution in the Manufacture of Purified Bicarbonate. Communication II. Absorption Kinetics of the Carbonic Acid by Soda Solutions

concentrations of the solution and at a low and high degree of turbulence. According to a mathematical treatment of the results it was evaluated that the CO_2-absorption rate is proportional to $C^{-0,4}$ and $X^{-0,25}$, C being the concentration of the solution and X the degree of transition. The results of the calculations are seen in figure 7. The dispersion of the points does not exceed 5-7%. That means that for a given number of revolutions of the mixer the absorption rate coefficient is kept constant for all degrees of transition and for all concentrations of the solution. It means further that with increasing number of revolutions of the mixer the coefficient mentioned increases as well. It was found that within the range of the concentrations investigated the product $C^{-0,4} \cdot X^{-0,25}$ may be substituted for the chemical parameter in the equation $N_a = K \cdot \beta \Delta P$. The difference $(P_{CO_2} - P'_{CO_2})$ is the motive force of the CO_2-absorption by soda solutions. The student R. O.

Card 4/5

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SOV/153-58-2-16/30

Investigation of the Carbonation Process of the Soda Solution in the Manufacture of Purified Bicarbonate. Communication II. Absorption Kinetics of the Carbonic Acid by Soda Solutions

Koroleva took part in this study. There are 7 figures and 10 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)
Kafedra tekhnologii svyazannogo azota i shchelochey (Chair of Technology of Bound Nitrogen and Alkalies)

SUBMITTED: September 9, 1957

Card 5/5

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

5(2) SOV/153-58-2-17/30

AUTHORS: Shokin, I. N., Ogloblina, I. P.

TITLE: The Carbonation Kinetics of the Ammonia Liquor (Kinetika karbonizatsii ammiachnogo rassola)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 2, pp 96-105 (USSR)

ABSTRACT: The problems under review, treated by several investigators because of their practical importance, were studied the most thoroughly by Professor Belopol'skiy (Ref 1). But the practical use of his equation (1) was complicated by the unknown quantities β and $P'_{A(liqu.)}$ In a previous paper (Ref 7) the authors have demonstrated the ways of overcoming the difficulties regarding the latter quantity. The dimensionless parameter β is expressed by the following equation:

$$\beta = \frac{\sqrt{\frac{K_G}{D_{liqu.}} \cdot X_{liqu.}}}{\mathrm{th}\sqrt{\frac{K_G}{D_{liqu.}} \cdot X_{liqu.}}} = \frac{\gamma}{\mathrm{th}.\gamma}$$

Here, γ was introduced in order to cover the following term:

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$\sqrt{\frac{k_G}{D_{liqu.}} \cdot X_{liqu.}}$. k_G is the rate constant of the direct reaction, multiplied with the corresponding concentrations of compounds reacting with the absorbed substance. $D_{liqu.}$ is the diffusion coefficient in the film of the liquid and $x_{liqu.}$ the thickness of this film. If experimental evidence on the absorption rate of CO_2 by ammonia liquor is available, γ can be computed according to the method of Belopol'skiy (Ref 1). The results obtained by the authors have proved that this value is close to the number 2. Thus, the value thγ is practically equal to 1 and β can be put equal to γ. The modified equation given by Belopol'skiy: $N_A = m \cdot K_a (P_{A(G)} - P^*_{A(liqu.)})$ (2) offers no difficulties in its practical use. In order to check its applicability the authors investigated the CO_2-absorption rate by the ammonia liquor both at the beginning of the carbonation, viz. before the crystallization of the $NaHCO_3$, and in the final stage (at the same time with the crystallization mentioned). For the calculate of m (NH_4OH-concentration), the carbonation degree of the solution

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being always determinable, and that of the total chlorine will be sufficient. Every indication required for the calculation of K_a (constant of the absorption rate) was available. The results of this computation are presented in table 1. It can be seen from it that K_a remains sufficiently constant at a given temperature. Thus, the modified Belopol'skiy equation sufficiently determines the CO_2-absorption kinetics in the initial stage of carbonation of the ammonia liquor. The dependence of K_a upon temperature is represented by the function $\log K_a = f(\frac{1}{T})$ as a straight line. The activation energy calculated from the equation of this straight line is 3430 cal/mol. Since the liquid phase plays an important role in the CO_2-absorption by ammonia liquor (Ref 3), the rate of absorption will be determined in this case by the diffusion rate of free ammonia in the liquid phase towards the area separating the phases. According to the investigation of the kinetics of the 2nd carbonation stage (inclosure Fig 1) the authors come to the conclusion that the values of the absorption rate coefficient increase considerably with an increasing

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mixing intensity. This coefficient remains constant during the entire carbonation process at each temperature investigated and in a constant hydrodynamic treatment. The coefficient mentioned is more varying with a modification of the mixture of the solution than with temperature changes. The modified Belopol'skiy equation (2) can be applied during the whole time of carbonation for any possible temperature and way of hydrodynamic treatment. The hydrolysis of the ammonium carbamate does not form the limiting stage of the carbonation process. The rate of the hydrolysis is dependent upon the crystallization rate of the sodium bicarbonate. There are 3 figures, 2 tables, and 7 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskiy institut imeni D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev) Kafedra tekhnologii svyazannogo azota i shchelochey (Chair of Technology of Bound Nitrogen and Alkalies)

SUBMITTED: September 9, 1957

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHCHIN, I.N.; OGLOBLINA, I.[illegible].

Kinetics of the carbonization of ammonium brines. Trudy MNTI no.35:5-11 '61. (MIRA 14:10)
(Ammonium salts)
(Carbonization)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, I.N.; KIM SEN SIK

Batch process for the production of sodium carbonates and ammonium chloride. Trudy MHTI no.35:12-18 '61. (MIRA 14:10)

(Sodium carbonate)
(Ammonium chloride)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, I.N.; YAKHONTOVA, Ye.L.; TIMOFEYEVA, N.N.

Salting out of NH_4Cl and KCl in the batch process for the production of sodium carbonates and ammonium chloride or potazote. Trudy NKHTI no.35:19-23 '61. (MIRA 14:10)
(Ammonium chloride)
(Potassium chloride)
(Sodium carbonate)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, I.N.; YAMHONTOVA, Ye.L.; TIMOFEYEVA, N.N.

Cosolubility of KCl and NH_4Cl, NaCl and KCl, and NaCl and NH_4Cl in water in the presence of NH_3 and CO_2. Trudy MMMTI no.35:24-33 '61. (MIRA 14:10)

(Alkali metal chlorides)
(Solubility)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, I.N.; YAKHONTOVA, Ye.L.; TIMOFEYEVA, N.N.

Study of the system NaCl - KCl - NH_4Cl - NH_3 CO_2 H O Trudy MKHTI no.35:34-37 '61. (MIRA 14:10)

(Systems(Chemistry))

(Salts)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHORIN, I.M.; [illegible], Ye.L.; TIMOFEYEVA, N.N.

Kinetics of NH_4Cl and KCl crystallization during salting out with sodium chloride. Trudy MKHTI no.35:38-42 '61. (MIRA 14:10)

(Alkali metal chlorides)
(Crystallization)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, I.N.; KRASHENINNIKOV, S.A.; SABATEV, I.Ya.

Use of organic extractive reagents in the production of inorganic acids and salts. Trudy MKHTI no.35:48-59 '61. (MIRA 14:10)

(Extraction(Chemistry))
(Acids, Inorganic)
(Salts)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SABAYEV, I.Ya.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.

Use of organic extractive reagents for the recovery of phosphoric acid from hydrochloric solutions of phosphates. Trudy MHTI no.35:60-66 '61. (MIRA 14:10)

(Extraction(Chemistry))
(Phosphoric acid)
(Phosphates)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SABAYEV, I.Ya.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.

Use of organic extractive reagents for the recovery of phosphoric acid from nitric acid solutions of phosphates. Trudy MKHTI no.35:67-72 '61. (MIRA 14:10)
(Phosphoric acid)
(Phosphates)
(Extraction(Chemistry))

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SALTANOVA, V.P.; PIGNZOVA, L.I.; [illegible], I.F.

Development of a vanadium catalyst for the oxidation of sulfur dioxide in accordance with the conditions of a fluidized bed. Trudy [illegible] no.35:130-133 '61. (MIRA 14:10)

(Vanadium)
(Sulfur dioxide)
(Oxidation)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SYTNIK, A.A.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.

Investigating the process of carbonization of soda solution in the manufacture of refined bicarbonate. Part 3: Investigating the equilibrium and nonequilibrium states of the liquid phase. Izv.vys.ucheb.zav; khim. i khim.tekh. 4 no.5:801-805 '61. (MIRA 14:11)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva, kafedra tekhnologii neorganicheskikh veshchestv.
(Sodium carbonate)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

BEGLOV, B.M.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.; USYUKIN, I.P.

Ammonium bicarbonate production process. Khim.prom. no.10:719-723 O '62. (MIRA 15:12)
(Ammonium carbonate)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, I.N.; SABAYEV, I.Ya.; KRASHENINNIKOV, S.A.

Solubility of phosphoric acid in iso-amyl and n-butyl alcohols. Zhur.prikl.khim. 35 no.1:190-192 Ja '62. (MIRA 15:1)
(Phosphoric acid) (Isopentyl alcohol) (Butyl alcohol)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SABAYEV, I.Ya.; SHOKIN, I.N.

Problem of the extraction of phosphoric acid with aliphatic alcohols. Zhur. VKHO 8 no.5:579-580 '63. (MIRA 17:1)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SABAYEV, I.Ya.; SHOKIN, I.N.; KRASHENINNIKOV, S.A.

Equilibrium distribution of components in the systems H_3PO_4 - HCl - $CaCl_2$ - H_2O - isoamyl alcohol and H_3PO_4 - HCl - $CaCl_2$ - H_2O - n-butyl alcohol. Zhur. prikl. khim. 36 no.8:1702-1710 Ag '63. (MIRA 16:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

KUKURECHENKO, I.S.; SHOKIN, I.N.

Decarbonization of sodium bicarbonate suspensions in a column with submerged packing. Trudy MKHTI no.40:182-185 '63. (MIRA 18:12)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

LI TEHYA-SIR; SHOKIN, I.N.

Using the method of liquid extraction in the production of potassium and sodium from corresponding chlorides. Trudy MKHTI no.47:75-79 '64. (MIRA 18:9)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

STARTSEV, V.K.; SHOKIN, I.N.

Use of hexamethylenimine in the production of soda. Part 1. Trudy MKHTI no.47:95-98 '64.

Use of hexamethylenimine in the production of soda. Part 2. Ibid.:99-102 (MIRA 18:9)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, L.

NATO aggression in Algeria. Voen.vest. 40 no.4:111-113 Ap '61. (MIRA 14:7)

(North Atlantic Treaty Organization)
(Algeria--Politics and government)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, N.

Concentration and specialization of chemical production. Vop. ekon. no.3:15-25 Mr '63. (MIRA 16:3)
(Chemical industries)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, N.

Comprehensive use of chemistry in the national economy and the distribution of productive forces. Vop. ekon. no.11:15-26 N '63. (MIRA 17:2)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, N.A.

Economic effectiveness of the development of chemical industries in the central part of Siberia. Izv.Sib. otd. AN SSSR no.2:3-8 '58. (MIRA 11:9)

1.Institut ekonomiki AN SSSR.
(Siberia--Chemical industries)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

FEYGIN, Ya.g., prof., otv. red.; VASIL'YEV, N.V., doktor ekonom. nauk, red.; MOSKVIN, D.D., kand. ekonom. nauk, red.; SHOKIN, N.A., kand. ekonom. nauk, red.; KOMAROV, Ye.I., red.; GERASIMOVA, Ye.S., tekhn. red.

[Problems of the distribution of productive forces durign the period of the large-scale building of communism] Problemy razmeshcheniia proizvoditel'nykh sil v period razvernutogo stroitel'stva kommunizma. Moskva, Gosplanizdat, 1960. 335 p. (MIRA 14:5)

1. Akademiya nauk SSSR. Institut ekonomiki. 2. Institut ekonomiki AN SSSR (for Feygin, Vasil'yev, Moskvin, Shokin)
(Russia--Economic policy)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

KORNEYEV, A.K., doktor ekon. nauk; VILENSKIY, M.A., doktor ekon. nauk; SHOKIN, N.A., kand. ekon. nauk; LIVSHITS, R.S., doktor ekon. nauk; KOZLOV, Yu.K., kand. ekon. nauk; VARANKIN, V.V., kand. ekon. nauk; ROZENFEL'D, Sh.L., doktor ekon. nauk; OPATSKIY, L.V., doktor ekon. nauk; NAKOVETSKAYA, V.S., red.; GALYAYEVA, A.N., red.

[Industry in the administrative complex of the economic regions of the U.S.S.R.] Promyshlennost' v khoziaistvennom komplekse ekonomicheskikh raionov SSSR. Moskva, Nauka, 1964. 566 p. (MIRA 18:1)

1. Akademiya nauk SSSR. Institut ekonomiki.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

FEYGIN, Ya.G., doktor ekon.nauk; VILENSKIY, M.A., kand.ekon.nauk; OMAROVSKIY, A.G., kand.ekon.nauk; LIVSHITS, R.S., doktor ekon.nauk; CHUGUNOV, B.I., kand.ekon.nauk; SHOKIN, N.A., kand.ekon.nauk; IOFFE, Ya.A.; VARANKIN, V.V., kand.ekon.nauk; ROZENFEL'D, Sh.L., kand.ekon.nauk; KORNEYEV, A.M., doktor ekon.nauk; OPATSKIY, L.V., doktor ekon.nauk; VASIL'YEV, N.V., doktor ekon.nauk; RUDENKO, N.A., kand.ekon.nauk; BYSTROZOROV, A.S., kand.geogr.nauk; POPOVA, Ye.I., kand.ekon.nauk; KRUTIKOV, I.P., kand.geogr.nauk; BAKOVETSKAYA, V.S., red.izd-va; SHEVCHENKO, G.N., tekhn.red.

[Special features and factors in the distribution of branches of the national economy of the U.S.S.R.] Osobennosti i faktory razmeshcheniia otraslei narodnogo khoziaistva SSSR. Moskva, 1960. 692 p. (MIRA 14:3)

1. Akademiya nauk SSSR. Institut ekonomiki.
(Economic zoning)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, O. P.

"Smoothness of Operation of the Tractor "Kirovets-D-35'." Sub 27 Apr 51, Moscow Automotive Mechanics Inst

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, P. F.

Akademiya Nauk SSSR. Geofizicheskiy Institut. Tablitsy dlya obrabotki nablyudeniy s kvartsevymi (Tables for working out observations with quartz gravimeters, by) Yu. D. Bulanzhe. Tablitsy i nomogrammy dlya vychisleniya popravok za vliyaniye lunno-solnechnogo prityazheniya pri izmerenii uskoreniya sily tyazhesti (Tables and nomograms for computing corrections for the influence of lunar-solar attraction during measurement of the speeding up of the force of gravity, by) P. F. Shokin. Moskva, Izd-vo Akademii Nauk SSSR, 1952. 101 p. diagrs., tables.

SO: N/5
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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHCKIN, P. F.

"The Expanding of a Network of Gravimetric Reference Points," Tr. Mosk. in-ta inzh. geod., aerofotos'yemki i kartogr., No 19, 1954, pp 9-21

Computation of required density and accuracy of reference points with respect to the specified cross sections of isoanomalies and accuracy of gravimetric relations is presented. Tolerances are computed for noncoincidence of points with respect to height and position with measurement accuracy, slope, and magnitudes of horizontal gradients of gravity varying. (RZhAstr, No 4, 1955)

SC: Sum. No. 568, 6 Jul 55

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

60-29-14/14

AUTHOR: Shokin, P. F.

TITLE: Computing the Drift of Zero-point in Gravimeters (K voprosu ucheta spolzaniya nul'punkta gravimetrov)

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR, 1955, Nr 29, pp. 98-106 (USSR)

ABSTRACT: The article cites results obtained in applying mathematical-statistical methods in determining variations in zero-point drift in quartz gravimeters with liquid temperature damping. Conclusions are based on correlation coefficients and linear regression parameters computed for seven gravimeters. The material of the present investigation was based on very precise gravimetric measurements made by the Geophysical Institute of the Academy of Sciences, USSR, in 1951. There are 8 figures. One author is mentioned; Bulanzhe, Yu. D.

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Card 1/1

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, P.F.

Some consistent deviations of the zero point in quartz gravimeters. Trudy Geofiz.inst. no.30:256-271 '55. (MLRA 9:6)
(Gravimeter)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, P.F., kandidat tekhnicheskikh nauk.

Daily graphs of gravimetric corrections for the tidal effect of the moon and the sun. Geod. i kart. no.5:18-22 My '57. (MLRA 10:8)
(Gravity)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

6-58-3-4/16

AUTHOR: Shokin, P. F., Candidate of Technical Sciences

TITLE: On the Nonlinearity of the Scale in the Gravimeter GAK-3M (O nelineynosti shkaly gravimetra GAK-3M)

PERIODICAL: Geodeziya i Kartografiya, 1958, Nr 3, pp 16-23, (USSR)

ABSTRACT: During the calibration by inclination of the gravimeters GAK-3M a nonlinearity of the meter scale was determined in some of them. As this may represent one of the causes for the occurence of systematic errors, formulae for the calculation of the constants and their errors due to the use of a nonlinear scale are described here. Moreover formulae for the utilization of the field observations and the evaluation of the influence of the error of graduation of the scale are given. Such a nonlinearity of the scale was determined in some gravimeters of this type in the Moscow Air-Geodetical Enterprise in spring 1956. The results of the observations during the calibration by inclination of the gravimeter GAK-3M no. 11097 are given here. Finally it is stated that the methods and the program

Card 1/2

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6-58-3-4/16

On the Nonlinearity of the Scale in the Gravimeter GAK-3M

for the observation of such gravimeters has not yet been sufficiently worked out. The articles 85 and 91 of the Instruction for 1-st, 2-nd, 3-rd and 4-th class Triangulations of the year 1956 shall serve as a basis for this. There are 2 figures, 1 table and 2 Soviet references.

AVAILABLE: Library of Congress

1. Gravimeters--Calibration

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SOV/ 43-58-11-14/18

AUTHOR: Shokin, F. F.

TITLE: Shifting of Zero Point of the SN-3 Gravimeter under the After-effect of Inclination (Smeshcheniye nul'punkta gravimetra GH-3 pri posledeystvii naklona)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 11, pp 1399-1401 (USSR)

ABSTRACT: It was observed during the determination of the bearing of gravimetric points by means of 8 quartz gravimeters of GAE-type, placed in an aircraft, that the results of measurements were too high during the first 1 or 2 hours. The mean shift of zero point was of the magnitude $\omega = +0.6-0.8$ mgl/hr. When not in use in the aircraft, the gravimeters were stored in an inclined position, so that the quartz thread was situated at an angle of 10 to 12°. In order to establish the cause of the error, two gravimeters SN-3 4338 and 4339 were submitted for checking to the Moscow Institute of Engineers of Geodesy and Aerophotography and Cartography, where tests were carried out on them and on another 4 gravimeters of the same type. The results could be summarised as follows: 1) the shifting of zero point was found to follow the empirical form (Eq. 3) where n is an experimental constant ≤ 1, 2) the effect of inclination was positive and

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SOV/ 49-58-11-14/18

Shifting of Zero Point of the SN-3 Gravimeter under the Influence of Inclination

started at an angle of $\alpha = 2^{\circ}$; 3) the duration of inclination from 2 to 38 hours did not affect the values of parameters a and n . As it was established that these parameters depend on the inclination α , it was possible to find a mean error for a constant α ; 4) an effect of the inclination of 5° and 15° was shown as a sudden increase of reading by 3 to 5 mgl during the first one and a half to two hours. This result was not related to either of the inclinations above-mentioned - sometimes the greater error was obtained for 5°; 5) it was found that the effect of inclination from 3 to 15° could be described by the empirical formulae (1) and (2), which were derived from the data shown in Tables 1 and 2 and Fig. 1 (Δg_c - increase of reading in mgl, h - time in hours, a - constant in mgl). The reason for the error was not discovered but by an interpretation of the correlation between the inclination and the shifting of

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SOV/ 49-58-11-14/18

Shifting of Zero Point of the SN-3 Gravimeter under the Effect of Inclination

zero point, apart from some obvious practical suggestions concerning the methods of reading and maintenance, it was recommended that in future, all the quartz gravimeters should be checked on inclination and the results included in their certification. There are 2 tables, 1 figure and no references.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos'yemki i kartografii (Moscow Institute of Engineers of Geodesy, Aerophotography and Cartography)

SUBMITTED: July 29, 1957.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SOV/154-59-3-1o/19

3(4)

AUTHOR: Shokin, P. F., Candidate of Technical Sciences, Docent

TITLE: Effect of the Inclination of the SN-3 Gravimeter on the Zero Shift (Vliyaniye naklona gravimetra SN-3 na izmeneniye nul'punkta)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"-yemka, 1959, Nr 3, pp 1o9 - 117 (USSR)

ABSTRACT: The zero shift is caused by the fact that the deformation of the elastic system of the gravimeter is irreversible and changes continually. This is due to the imperfect elasticity of the material. On the grounds of particulars of observations made in 1957, V. A. Smirnov, an undergraduate degree student of the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers, Head, Yu. D.Bulanzhe, Doctor) of Physico-Mathematical Sciences) was able to establish a diagram shown in figure 1 for the speed of the zero shift of SN-3 gravimeters in dependence on the temperature of the quartz system. Here the results of the research of the zero shift of SN-3 gravimeters, which is caused by a gradual inclination of the gravimeter between the observations, are given as follows: July-August 1955,

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Effect of the Inclination of the SN-3 Gravimeter on the Zero Shift SOV/154-59-3-10/19

expedition of the Geofizicheskiy institut AN SSSR (Geophysical Institute of the AS USSR) in which the author participated. In 1958 investigations were made by two girl students, V. N. Karikova and A. I. Morozova; in 1958 by the girl student S. N. Arakelyan. From the results obtained the following can be stated: 1) By means of experiments the existence of a strongly marked anomaly in the zero shift of the gravimeter had been noticed which was due to an inclination of the instrument of more than 2 to 3°. This effect had been noticed when the inclination lasted for 2 to 15 hours. 2) The effect of the anomaly consisted in a strong and systematic decrease of speed of the zero shift during the inclination period of the gravimeter and also in a strong and systematic increase of this speed after the instrument had returned from its inclined position to its working position. The strongest influence of the after-effect can be noticed during the first 1 or 2 hours. The normal speed of the zero shift is achieved after an inclination of 2 to 5° and as a rule after 4 to 6 hours; and only after 8 to 12 hours an inclination of 15 to 30° is achieved. 3) In the case of an after-effect of an angle wider than 5° the zero shift is determined by the empiric formula

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Effect of the Inclination of the SN-3 Gravimeter on the Zero Shift SOV/154-59-3-10/19

$\Delta g_r = A.h^m$ milli gal (h - period of hours, A and m parameters which are constant for a specific angle of inclination, Δg_r - change of the gravimeter reading at the same observation point). m is nearly 0.5. The increase of A in case of an increasing inclination angle amounts to 7 to 10 times of its normal value (if there is no after-effect caused by inclination). This means an increased speed of the zero shift to the 7 to 10-fold one hour after the instrument has returned from its inclined position to its working position. 4) When the instrument is inclined during the time between the measurements the influence of the discovered effect distorts the results of the field observations considerably by taking up systematic errors which are very hard to find in a direct method of approach. There are 4 figures, 2 tables, and 4 Soviet references.

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Effect of the Inclination of the SN-3 Gravimeter on the Zero Shift SOV/154-59-3-1o/19

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers)

SUBMITTED: July 23, 1958

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

Shokin, P.F.

TITLE: Scientific-technical Conference of the MIIGA i K in 1959 (Nauchno-tekhnicheskaya konferentsiya MIIGA i K 1959 g.)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 5, pp 144 - 146 (USSR)

ABSTRACT: The periodic scientific-technical conference of the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers) was held on April 22-24, 1959, with the participation of 500 persons. 31 lectures were delivered. The introductory speech was held by Professor A. A. Izotov. Candidate of Philosophical Sciences A. I. Ivanov lectured on "The Outstanding Work of Materialistic Philosophy"; Candidate of Technical Sciences A. V. Kondrashkov on "Radioelectronics and Geodesy"; Candidate of Technical Sciences G. V. Bagratuni on "Accuracy of the Solution of the Inverse Position Computation With Coordinates of Different Geodetic Systems"; Candidate of Technical Sciences P. F. Shokin reported on "Gravimetry in Today's Stage of Development"; Candidate of Technical Sciences V. D. Bol'shakov on "Investigation of the Rules Governing the Distribution of Errors When Generalizing the Relief in Photography"; Post-graduate Student Iu. V. Mokhov on "The Influence of the Rounding Error on the Accuracy of Solutions of Linear Equation Systems". Post-graduate Student N. D. Drozdov reported "On the Solution of Linear Systems in the Compensation of Geodetic Nets". Docent V. N. Korolevtsev dealt with "The Experience in the Application of Parallactic Polygonometry With Short Basis and Constant Vertical Basis". Doctor of Physical and Mathematical Sciences A. M. Paynil'berg lectured on "Some Integrals From the Theory of Surfaces and Their Application to the Mechanics of Artificial Earth Satellites"; Candidate of Technical Sciences A. S. Valuyev on "The Stereocomparator With Correctors". Assistant M. I. Burov spoke on "Photogrammetric Method of Determining the Altitudes of Luminous Clouds". Candidate of Technical Sciences N. N. Veselovskiy reported on "The Generalization of the Formulas for the Plane Aerial Survey and the Altitudinal Aerial Survey". Candidate of Technical Sciences B. N. Rodionov and Candidate of Technical Sciences R. P. Zakaznov dealt with "Central Shutters of Band Type Aerial Cameras". Candidate of Technical Sciences B. N. Rodionov spoke on the "Stroboscopic Collimator Visor"; Engineer V. I. Ierkhov reported on a "Computing Gear for the Automatic Entry of the Airplane in the Aerial Photography Path". Post-graduate Student Iu. P. Kusnetsov spoke on the "Application of the Instantaneous Photography for Aerial Camera Testing". Assistant Ye. P. Arzhanov spoke on the "Computation of the Aerial Camera Constants"; Engineer V. I. Gnurkin, Chief Technician of the Geotekhkontora Gosplana RSFSR on "Some Results and Tasks Related to Large-scale Phototheodolite Surveying Operations"; Doctor of Technical Sciences V. I. Sukhov on "The Problem Concerning the Contents of the New Map on the Scale of 1 : 2500000"; Doctor of Technical Sciences A. I. Preobrazhenskiy on "Mineral Deposits in the USSR and Their Reproduction on Economic Maps"; Assistant S. S. Sudakova on the "Method of Geographic Investigation on the Field During the Preparatory Editorial Work on the Cartographing Object (From the Working Experience Acquired by the Meshcherskaya ekspeditsiya (Meshcherskaya Expedition of the MIIGA i K 1958)". Assistant A. S. Tolstoukhov dealt with "The Problem of Improving the Relief Representation of a Flat Inhabited Territory on the Topographic Map on the Scale of 1 : 10000". Candidate of Technical Sciences Iu. S. Bilich spoke on "Maps of Cultivated Areas in the Comprehensive Atlantes of the Oblast'". Candidate of Technical Sciences I. I. Men'shikov dealt with "A. S. Popov - Scientist, Inventor, Pedagogist (On the 100th Birthday of A. S. Popov)". Senior Lecturer N. V. Iakovlev lectured on "Mirror Lens Objectives With Great Luminous Intensity". Professor I. G. Sarkis reported on "The Problem of Compensating the Variations and the Increase of Accuracy in the Measurement of Physical Quantities". Candidate of Technical Sciences V. A. Afanas'yev dealt with "Methods of Measuring Investigations Concerning Optical Main Characteristics of Aerial Camera Objectives With Dropping Atmospheric Pressure and Temperature". Engineer V. M. Nazarov lectured on "Vertical Axis Systems of High-precision Optical Theodolites". Assistant V. S. Ueov spoke on "Sighting by the Aid of Telescopes With Zone Plates". Post-graduate Student P. P. Zakharov dealt with "The Automation of Measurements on a Pair of Stereoscopic Pictures". At the Plenary Session held on April 24 the Chief of the Glavnoye upravleniye geodezii i kartografii MVD SSSR (Chief Administration of Geodesy and Cartography of the Ministry of Internal Affairs of the USSR), A. N. Baranov lectured on "The Seven-year Plan and the Development of Topographic-geodetic and Cartographic Work".

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3(2),3(4)

AUTHOR: None Given

SOV/6-59-6-21/22

TITLE: Chronicle (Khronika)

PERIODICAL: Geodeziya i kartografiya, 1959, Nr 6, pp 74-75 (USSR)

ABSTRACT: At the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers), the Ordinary Scientific Conference took place on April 22-24. A. I. Ivanov, Docent, Candidate of Philosophic Sciences, spoke on "The Outstanding Work of Materialistic Philosophy". A. N. Baranov, Chief of the Glavnoye upravleniye geodezii i kartografii (Main Administration of Geodesy and Cartography) spoke "On the Seven-year Plan for the Development of Topographic-geodetic and Cartographic Work". The following reports were delivered in the geodetic section: A. M. Faynsil'ber, Professor, "Some Integrals of the Surface Theorems and Their Application to the Mechanics of Artificial Satellites of the Earth".- A. V. Kondrashkov, Docent, "Radio-electronics and Geodesy".- G. V. Bagratuni, Docent, "Accuracy in the Solution of Inverse Position Computations by the Coordinates of Different Geodetic Systems".- P. P. Shokin, Docent, "Gravimetry in the Present Stage of Development".- Yu. V. Nekhov, Assistant, reported on the influence of rounding errors on the accuracy of solution of linear equation systems.- V. D. Zolotukhov, Candidate of Technical Sciences, spoke on the "Investigation of the Rules of Distribution of Errors in Generalizing the Relief in Surveys".- N. P. Drozdov, Post-graduate Student, reported on the solution of linear systems for the adjustment of geodetic networks.- V. M. Korolevtsev, Docent, demonstrated an apparatus designed by him for parallactic traversing with a short constant vertical basis.- The following reports were delivered in the aerophotogeodetic section: A. S. Yalnyar, Docent, reported on a parallactic reducer, an additional device to the stereo-comparator.- M. E. Veselovskiy, Docent, spoke on the possibility of generalizing the formulas for the air survey of outlines and altitudes.- B. N. Rodionov and N. P. Zakarnov, Docents, reported on a band-shaped central shutter for aerial cameras. B. N. Rodionov on a stroboscopic collimator sight, B. N. Rodionov and Engineer V. I. Yerkhov on the scheme of a computing device for the automatic entry of the airplane into the route for air surveys.- Ye. P. Arshanov presented some simplifications for the computation of constants of aerial cameras.- Yu. N. Kuznetsov, Post-graduate Student, spoke on the use of rapid film recording for the investigation of aerial-camera shutters.- V. I. Grishin, Engineer of the Geotekhkontora Gosplana RSFSR, spoke "On Some Results and Tasks in the Execution of Large-scale Photo-theodolite Surveys".- The following reports were delivered in the cartographic section: Professor V. I. Sukhov spoke on the content of the new map on a scale of 1 : 2,500,000.- Professor A. I. Preobrazhenskiy spoke on "Mineral Resources of the USSR and Their Representation on Economic Maps".- S. S. Sukhova, Assistant, reported on the method of geographic field research during the preparatory editorial work at the object of cartography.- A. S. Tolstoukhov, Assistant, reported on the improvement of relief representation of wooded flat country on the topographic map on a scale of 1 : 10,000.- Yu. S. Bilich, Assistant, reported on maps of apartment building in the atlases of the oblast'.- In the section of building of apparatus, I. I. Menshikov, Docent, spoke on the life of A. S. Popov.- N. V. Yakovlev, Assistant, reported on reflecting lenses, Professor I. G. Sarkin on the increase in accuracy in measuring physical magnitudes, Engineer V. M. Nazarov on vertical axial systems for highly accurate optic theodolites, V. E. Usov, Assistant, on sighting with telescopes with zone plates, P. P. Zakharov, Assistant, on the automatization of evaluation of image couples.

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PHASE I BOOK EXPLOITATION SOV/4195

Shokin, Panteleymon Fedorovich

Gravimetriya; pribory i metody izmereniya sily tyazhesti (Gravimetry; Apparatus and Ways of Measuring Gravity) Moscow, Geodezizdat, 1960. 315 p. Errata slip inserted. 2,500 copies printed.

Ed.: S. Ye. Aleksandrov; Ed. of Publishing House: V.I. Vasil'yeva; Tech. Ed.: V.V. Romanova.

PURPOSE: The book is intended to serve as a manual on gravimetry for students in geodetic schools.

COVERAGE: The book analyzes basic problems of the theory of gravimetry and of gravimetric field observations. It gives a description of the instruments used and outlines the methods for processing the results of observations and evaluating their accuracy. The text is illustrated by 147 figures and 34 tables. The author thanks Yu. D. Bulanzhe, A.M. Lozinskaya, K. Ye. Veselov, M.Ye. Kheyfets, N.P. Makarov, and S.Ye. Aleksandrov. There are 126 references: 99 Soviet, 19 English, 6 German, and 2 Italian.

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SHOKIN, P.F., dotsent, kand.tekhn.nauk

Results of the work of the Sixth Interdepartmental Conference on Gravimetry. Izv. vys. ucheb. zav.; geod. i aerof. no.5:147-151 '60. (MIRA 13:12)

(Gravity—Congresses)

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B012/B060

9.6160

AUTHOR: Shokin, P. F., Candidate of Technical Sciences

TITLE: Remarks on the Performance of the CH-3 (SN-3) Gravimeter

PERIODICAL: Geodeziya i kartografiya, 1960, No. 9, pp. 64-66

TEXT: Tests made on the CH-3 (SN-3) gravimeter at the gravimetricheskaya laboratoriya Moskovskogo instituta inzhenerov geodezii, aerofotos"yemki i kartografii (Laboratory of Gravimetry of the Moscow Institute of Engineers of Geodesy, Aerial Photography, and Cartography) showed that even a brief (about 15 minutes) inclination of the instrument at an angle of 2-5° gives rise to an anomalous variation of the gravimetric zero (Refs., Footnote on p. 64). The instrument, however, also happens to be inclined during transportation and in the time between two measurements. 120 tests with four such gravimeters were made in the spring of 1959. The results are tabulated. On the strength of observations the following empirical formula was set up for the shift of the gravimetric zero due to inclination: $\Delta = Ah^m$, where Δ is the variation in gravimetric reading, h is the time in hours after initial reading, when the gravimeter

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SHOKIN, P.F.

Computing corrections for zero point shifts of the gravimeter. Sbor st. po geod. no.11:25-27 '60. (MIRA 13:8)
(Gravimeter (Geophysical instrument))

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

ACC NR: [illegible] (A) SOURCE CODE: UR/0006/65/000/012/0003/0017

AUTHOR: Shokin, S.P.

ORG: None

TITLE: Show of modern geodetic and photogrammetric instruments

SOURCE: Geodeziya i kartografiya, no. 12, 1965, 3-17

TOPIC TAGS: mapping, aerial photography, aerial camera, altimeter, photographic lens, stereoscopic map plotter, gravimeter/AFA-TE aerial camera, MKV aerial camera, RVTD-A altimeter, Lamegon photographic lens, SD-3 stereoscopic map plotter, MMP-P gravimeter

ABSTRACT: This paper is a review of the VDNKh show of modern geodetic and aerial mapping instrments, held from Sept. 15 to Oct. 5th, 1965, in Moscow. There were 120 exhibits by Bulgaria, Hungary, GDR (East Germany) and USSR. Exhibits spanned the whole range of instruments for aerial photography, mapping, gravimetry, gyrostabilization and measurements of angles, distances and altitudes. The review includesbrief descriptions of the following instruments. A topographical aerial photography system, in a cockpit mock-up, comprising the AFA-TE aerial camera with its command unit KPT-3, gyro installation N-55, radar altimeter RVTD-A, and barometric level stabilizer altimeter G[illegible]. A precision aerial camera, the AFA-TES, with a film leveling glass in the focal plane of the lens, with coordinate net engravings in contact with the film. The MKV 11.5/

Card 1/2 UDC: [528.5 + 528.7] :061.4(47 + 430.2 + 439.1 + 497.2)

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKIN, Yu.A.

Photographic observations of Nova Herculis (1963). Astron. tsir. no. 252:1 Jl '63. (MIRA 17:5)

1. Gosudarstvennyy astronomicheskiy institut imeni Shternberga.

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VEREMEYEV, A.P. [Veremieiev, A.P.], inzh.; SHOKINA, A.I., inzh.

New attachment to SKGK-6B and SKGN-6 planters. Mekh. sil'. hosp. 12 no. 3:12-14 Mr '61. (MIRA 14:4)
(Planters (Agricultural machinery)—Attachments)

SHOKINA, E.M.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

Regeneration of fins on crucians. Est. v shkole no.3:82-83 My-Je '53. (MLRA 6:5)

1. Muzykal'naya shkola desyatiletka Leningradskoy ordena Lenina Gosudarstvennoy konservatorii, imeni N.A. Rimskogo-Korsakova. (Fishes--Anatomy)

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKINA, N.I.

Calcium in the serum, and inorganic phosporus and alkaline phosphatase in whole blood of the Vena Mediana Cubiti of the mother and in the blood of the umbilical cord at the end of labor. Vop. okh. mat. i det. 3 no.1: 48-52 Ja-F '59. (MIRA 12:2)

1. Iz kafedry gospital'noy pediatrii (zav. - deystvitel'nyy chlen AMN SSSR prof. A.F. Tur) Leningradskogo pediatricheskogo meditsinskogo instituta (dir. - prof. N.I. Shutova)
(BLOOD--ANALYSIS AND CHEMISTRY) (PHOSPHORUS IN THE BODY)
(CALCIUM IN THE BODY)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKINA, N.I.

Dependence of the calcium, inorganic phosphorus and alkaline phosphatase content of the blood of premature infants on the features of prevention and treatment of rickets. Pediatriia 37 no.12:15-21 D '59. (MIRA 13:5)

1. Iz kafedry gospital'noy pediatrii (zav. - deystvitel'nyy chlen AMN SSSR, zasluzhennyy deyatel' nauki prof. A.F. Tur) Leningradskogo pediatricheskogo meditsinskogog instituta (dir. - prof. N.T. Shutova).

(INFANTS, PREMATURE diseases)
(RICKETS blood)
(CALCIUM blood)
(PHOSPHORUS blood)
(PHOSPHATASE blood)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

TARASOVA, N.N.; POTANIN, N.V.; SHOKINA, N.I.; GRIN'-YATSENKO, Z.M.; ZINGER, T.I.

Clinical aspects and treatment of coli dyspepsia in infants. Sov. med. 24 no.6:54-59 Je '60. (MIRA 13:9)

1. Iz kafedry gospital'noy pediatrii (zav. - deystvitel'nyy chlen AMN SSSR prof. A.F. Tur) Leningradskogo pediatricheskogo meditsinskogo instituta na baze detskogo otdeleniya Oblastnoy klinicheskoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR A.P. Yegorova).
(ESCHERICHIA COLI) (DYSPEPSIA)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

GRADOVA, M.G.; POPUT'YEVA, V.V.; SHOKINA, N.I.

Some characteristics of the clinical aspects and the content of DNA and RNA in the leucocytes during leukemia in children. Vop. gemat. v pediat. no.3:300-309 '64.

Content of descxyribonucleic and ribonucleic acids in the leucocytes of the peripheral blood in children with hemorrhagic diseases and anemia. Ibid.:390-397

Nucleic acids in blood leucocytes in lymphogranulomatosis and some tumors in children. Ibid.:425-432

(MIRA 18:7)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

PAVLOV, A.V.; Prinimali uchastiye: TETERKINA, L.N.; SHOKHINA, N.K.

Thermophysical properties and thermal balance of the snow cover in the Moscow region. Mat.k uch.o merz.zon.zem.kory no.8:3-35 '62. (MIRA 16:3)

(Moscow region—Snow)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

[illegible]

[illegible]

"Therapy of Ducks During Porrocecoses and Some Observations on the Clinical Aspects and the Epizootology of This Disease." Cand Vet Sci, All-Union Inst of Helminthology, [illegible], [illegible]. (RZhBiol, No [illegible], Apr [illegible])

[illegible] - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOMINA, N. N., Cand Med Sci (diss) -- "The content of calcium, inorganic phosphorus, and basic phosphatase in the blood of young children (The problem of rickets prophylaxis)". Leningrad, 1960. 12 pp (Leningrad Pediatrics Med Inst), 450 copies (KL, No 12, 1960, 131)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKINA, N.P.

Porrocaecum infection in dogs. Trudy VIGIS 6:259-265 '59. (MIRA 15:5)

(Parasites--Ducks) (Georgia--Porrocaecum)
(Anthelmintics)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

USSR/Diseases of Farm Animals. Diseases Caused by Helminths R

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 88290

Author : Shokina N.P.
Inst : Altayskiy Kray Scientific Research Veterinary Station.
Title : Studying the Epizootology of Heterakis gallinae Disease of Hens in Altayskiy Kray

Orig Pub : Sb. nauchn. rabot Altaysk. krayevoy n.-i. vet. st., 1957, vyp. 1, 290-301

Abstract : No abstract

Card : 1/1

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

PROTSENKO, P.I.; SHOKINA, O.N.

Electric conductivity of a ternary system composed of sodium, potassium, and barium nitrates. Zhur.neorg.khim. 5 no.2:437-448 F '60. (MIRA 13:6)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Sodium nitrate) (Potassium nitrate) (Barium nitrate)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

KONOVALOV, G.S.; SHOKINA, O.N.

Molybdenum determination of natural waters. Gidrokhim. mat. 31:204-208 '61. (MIRA 14:3)

1. Gidrokhimicheskiy institut Akademii nauk SSSR, g. Novocherkassk. (Water--Analysis) (Molybdenum)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

PROTSENKO, P.I.; SHOKINA, O.N.

Solubility isotherms of the systems $NaNO_2$ - KNO_2 - H_2O, $NaNO_2$ - $Ba(NO_2)_2$ - H_2O, KNO_2 - $Ba(NO_2)_2$ - H_2O at 25 and 50°C. Zhur.-neorg.khim. 7 no.6:1424-1430 Je '62. (MIRA 15:6)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.
(Systems (Chemistry)) (Solubility)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKINA, O.N.; PROTSENKO, P.I.

Internal friction of melts in the binary systems $NaNO_2$ - $Ba(NO_2)_2$ and KNO_2 - $Ba(NO_2)_2$. Zhur.fiz.khim. 37 no.10:2337-2339 O '63. (MIRA 17:2)

1. Rostovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

PROTSENKO, P.I.; SHOKINA, O.N.; CHEKHUNOVA, N.P.

Electric conductivity and dissociation constants of alkali metal nitrites. Zhur. fiz. khim. 38 no.7:1857-1859 Jl '64. (MIRA 18:3)

1. Rostovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

10

The synthesis of polyene combinations—analog of carotenes. V. V. Shokina, O. V. Kil'disheva and N. A. Preobrazhenskii. *J. Gen. Chem.* (U. S. S. R.) 11, 425-8 (1941).—Previous attempts to synthesize carotenes were not very successful and a new approach has been undertaken: $Me_2C.CH_2.CH_2.CH_2.CMe:CCH:CHCOMe$ + $BrMg(C:C)_nMgBr \rightarrow RCMe(OH)(C:C)_nC(OH)MeR$ (n = 1 and 2); R = $Me_2C.CH_2.CH_2.CH_2.CMe.CCH:CH.CH_2.CH_2.CH_2.CH_2.C(OH)C:]_2$, obtained by adding 7 g. 2-methylcyclohexanone in an equal vol. of ether to the Grignard reagent (6.15 g. EtBr, 1.5 g. Mg, treated for 20–24 hrs. with dry C_5H_5), extg. after 3 days with ether and sepg., crystals, m. 111–13°. The *m-isomer* was prepd. in the same manner, crystals, m. 104°. $[RCMe(OH)C:]_2$, obtained by adding 48 g. RCMe O to the Grignard reagent (6 g. Mg, 27 g. EtBr, treated for 20–24 hrs. with dry C_5H_5), sepg. the oily layer after 10 days and fractionating under 4 mm., crystals, m. 106–10°. $(RCMe:CH)_2$, obtained by the method developed by Kuhn (*C. A.* 32, 137). $[RCMe(OH)C:C]_2$, obtained by carrying out a one-sided condensation of C_5H_5 with RCMe:O and $NaNH_2$, crystals, m. 100–11°. The method of Nieuwland and others (*C. A.* 26, 78) was used in this prepn. Boris L. Rodzianko

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

10

The syntheses of polyene compounds—analogs of carotenes. II. N. A. Preobrazhenskii and V. V. Shokina (Lomonosov Inst. Fine Chem. Technol., Moscow). *J. Gen. Chem.* (U.S.S.R.) 15, 65-9(1945)(English summary); cf. *C.A.* 35, 6575[9].—Gradual addn. of 7.4 g. of tetrahydroionone (b_{12} 124-7°) to the Grignard reagent from 0.95 g. Mg and 4.11 g. EtBr treated with 2.64 g. dry C_2H_2 yielded ethoxy(tetrahydro-α-hydroxyionyl)acetylene, $Me_2C_6H_8CH_2CH_2CMe(OH)C{:}COEt$, which is hydrogenated over Pd to give *1-ethoxy-2-(tetrahydro-α-hydroxyionyl)ethylene* (II), $C_{17}H_{28}O_2$, $b_{0.5}$ 113-14°; d_4^{15} 0.953, n_D^{15} 1.485. With semicarbazide-HCl and KOAc, II gives the *semicarbazone*, $C_{18}H_{31}N_3O_2$, m. 168-85°, of *(tetrahydro-α-hydroxyionyl)-acetaldehyde* (the aldehyde being formed by hydrolysis of II and rearrangement at the double bond). With HCl, II is hydrolyzed and at the same time H_2O is split off to give *tetrahydroionylideneacetaldehyde*, $C_{13}H_{18}O$, b_1 82-5°; *semicarbazone*, m. 159-61°.

A. A. Podgorny

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

(3)

Chemical Abstracts
May 25, 1954
Organic Chemistry

Reaction of N. A. Preobrazhenskii and V. V. Shokina. P. I. Gankin. *Zhur. Obshchei Khim.* 23, 710-12(1953).—It is pointed out that the van Dorp and Arens reaction (chain increase by a :CHCHO unit) (*C.A.* 41, 7383*e*; 43, 7413*h*) is a duplication, without proper accreditation, of the reaction discovered and developed by Preobrazhenskii and Shokina (*C.A.* 40, 1703*i*), whose original manuscript was submitted in September of 1940 and publication was delayed by the war. Also cf. *C.A.* 40, 4657; 43, 2570*h*, 2585*g*.

G. M. Kosolapoff

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

KNUNYANTS, I.L.; SHOKINA, V.V.

Conversions of mercapto amino acids. Report no.8. Alkylation and acylation of cysteine and dimethylcysteine with derivatives of α-acylamino- β-halogenopropionic acids. Izv.AN SSSR. Otd. khim.nauk no.3:462-471 My-Je '55. (MLRA 8:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR.

(Cysteine) (Propionic acid)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

Shokina, V.V.

Halides of aldehyde acids. V. V. Shokina and I. T. Kiunyants (N. D. Zelinskii inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 25, 758-60; *J. Gen. Chem. U.S.S.R.* 25, 723-5(1955)(Engl. translation). —To MeONa from 34.5 g. Na and 42 g. MeOH in 500 ml. Et_2O was added at −5° 106 g. HCO_2Me and 133 g. EtOAc; after stirring 6 hrs. and letting the mixt. stand overnight at room temp. there was filtered off 63.8 g. Na deriv. of Et formylacetate; this added at −5° to 350 ml. dry MeOH contg. 80 g. dry HCl, stirred 12 hrs. and neutralized with dry $NaHCO_3$, filtered, washed with MeOH, the filtrate concd. and dild. with ice-H_2O and extd. with Et_2O gave 26 g. $(MeO)_2CHCH_2CO_2Me$, b_{17} 73-4°. This (16.2 g.) in 20 ml. MeOH was treated with ice cooling with 55 ml. MeOH-KOH (2 moles KOH) and kept 20 hrs. at room temp.; half-neutralization with HCl, filtration and evapn. gave a solid which after soln. in H_2O, acidification with HCl and extn. with Et_2O gave 97% $(MeO)_2CHCH_2CO_2H$, a colorless liquid. This (6.5 g.) treated slowly with cooling with 12 g. $SOCl_2$ and kept 3 hrs. at 50° gave 61% $(MeO)_2CHCH_2COCl$, b_{12} 65-7°, d_4^{20} 1.1828, n_D^{20} 1.4378. Reaction of 60 g. HCO_2Me, 108.5 g. $ClCH_2CO_2Me$, and 23 g. Na gave 125 g. Na deriv. of Me formylacetate, which with MeOH-HCl, as above, gave 41% $(MeO)_2CHCHClCO_2Me$, b_{18} 95-7°. This with MeOH-KOH, as above, gave 89% $(MeO)_2CHCHClCO_2H$ (I), a colorless liquid. This (14 g.) treated slowly with 10 g. $SOCl_2$ and kept 3 hrs. at 40-50° gave 1 g. $MeOCH{:}CClCOCl$, b_2 80-3°, while the undistillable residue was treated with heptane, yielding 43% $MeOCH{:}CClCO_2H$ (II), decomp. 172-4° (from H_2O). When 10 g. I is treated with 23.8 g. $SOCl_2$, then kept 3 hrs. on a steam bath there is obtained 6 g. $MeOCH{:}CClCOCl$, b_2 75-8°. II (3.7 g.) with 5.9 g. $SOCl_2$ after 3 hrs. on a steam bath gave 83.5% $MeOCH{:}CClCOCl$, b_2 75-8°, n_D^{20} 1.6727, which with NH_3 in Et_2O gave the corresponding *amide*, m. 77-9° (from C_6H_6). G. M. Kosolapoff

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SHOKINA, V.V.

CH

Preparation of serine. I. L. Knunyants and V. V. Shokina (Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 25, 1228-31(1955).—To 70 g. AcOH, satd. with HBr, was added 20.5 g. $PhCH_2CONHC(:CH_2)CO_2H$; after 1 hr. the soln. was complete and the mixt. was kept overnight and quenched in ice water yielding 90% *$PhCH_2CONHCH(CO_2H)CH_2Br$* (I), m. 163° (from EtOAc); heating with H_2O cleaves HBr, the same occurring with $NaHCO_3$, $AgNO_3$, or pyridine in the cold. Into 2 g. $BzNHC(CH_2)CO_2H$ suspended in 4 ml. AcOH was passed dry HBr (2.4 g.) and the soln. after quenching in ice gave 60% *$BzNHCH(CH_2Br)CO_2H$* (II), decomp. 130-7° (from EtOAc). I (50 g.), 300 ml. H_2O, and 1 ml. 40% HBr were refluxed 3 hrs., cooled, filtered from $PhCH_2CO_2H$, the filtrate being extd. with Et_2O, and the aq. soln. evapd. *in vacuo*, taken up in 80% EtOH, chilled, and treated with NH_4OH, yielding 78.5% *serine*, decomp. 230°, after standing overnight in the cold. II treated similarly gave 75% *O-benzoylserine*, m. 150°. Refluxing this with 20% HCl 2 hrs. gave serine. Also in *J. Gen. Chem. U.S.S.R.* 25, 1175-7(1955) (Engl. translation).

G. M. Kosolapoff

(1)

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5(3) SOV/62-58-12-9/22

AUTHORS: Kil'disheva, O. V., Shokina, V. V., Knunyants, I. L.

TITLE: α,β-Disubstituted α-Acylamino Carboxylic Acids (α,β-Dizameshchennyye-α-atsilaminokarbonovyye kisloty) Communication 3: α,α-Diacylamino-β-Halogen Propionic Acids (Soobshcheniye 3. α,α-Diatsilamino-β-galoidopropionovyye kisloty)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 12, pp 1461-1467 (USSR)

ABSTRACT: Some time ago it was proved (Ref 1) that α,β-dihalogen-α-acylamino propionic acids (I) easily react with water, alcohols, amines and mercaptans, forming the corresponding α-substituted α-acylamino-β-halogen carboxylic acids (II). Unsuccessful attempts were made to obtain the α,α-diacylamino-β-halogen propionic acids (III), where X = NHCOR, by a reaction of α,β-dihalogen-α-acylamino propionic acids with the corresponding amides. Further investigations showed, however, that α,α-diacylamino-β-halogen propionic acids can easily be obtained by the condensation of halogen pyroracemic acids with the corresponding nitriles in the presence of concentrated sulfuric acid in much the same way as in the production of α,α-diacyl-

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amino carboxylic acids (Ref 2). According to this method the α,α-diacylamino-β-halogen propionic acids mentioned in table 1 were obtained. The dehydration of α,α-diacylamino-β-halogen propionic acids on heating led to the saturated oxazolones (VII) (Table 2). The oxazolones obtained were usually crystallized from acetic anhydride as stable, colorless, crystalline compounds. On the action of methyl alcohol on 2-methyl-4-acetylamino-4-chloro-methyl oxazolone-5 in the absence of moisture, the new α-amino-α-acetylamino-β-chloro propionic acid (VIII) with the melting point 135° was easily formed. There are 2 tables and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elementorganic Compounds, Academy of Sciences, USSR)

SUBMITTED: March 29, 1957

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

87124

S/062/60/000/009/017/021
B023/B064

5.3700 1236, 2209, 1282

AUTHORS: Knunyants, I. L., Shokina, V. V., and Kuleshova, N. D.

TITLE: Addition of Hydrogen Halides to Fluoro Olefines

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 9, pp. 1693-1695

TEXT: The present investigation proved that it is easier to add hydrogen halides to perfluoro isobutylene than to perfluoro propylene. HF is, e.g., added to perfluoro isobutylene under pressure when heated to 200°. The reaction takes 24 h. Perfluoro propylene must be heated under the same conditions for 100 h at least. HCl and HBr are added in the vapor phase, without pressure, on a catalyst (coal in a mixture with $CaSO_4$). Addition to perfluoro isobutylene takes place at 200°C, while for perfluoro propylene the temperature must be raised to 230°C. The addition process corresponds to the distribution of the electron density in the olefine molecule. Thus, hydrogen is added to the carbon bound to the trifluoro methyl group:

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

87124

S/062/60/000/009/017/021
B023/B064

Addition of Hydrogen Halides to Fluoro Olefines

$$CF_3 - CF{=}CF_2 + HX \longrightarrow CF_3 - CFH - CF_2X$$

$$(CF_3)_2C{=}CF_3 - HX \longrightarrow (CF_3)_2CH - CF_2X,$$

where X = F, Cl, Br. This is confirmed by comparing the spectra of the nuclear magnetic resonance of F^{19} in the compounds obtained with the spectra of compounds obviously containing the same groupings. The table p. 1694 shows the values of the relative chemical displacement for the compounds obtained. All attempts made to add perfluoro propylene to perfluoro isobutylene failed. The monohydro monohalogen perfluoro isobutanes were stable to acid and oxidizing reagents, e.g., to boiling with nitric acid (specific weight 1.52). Under the action of bases ($NaHCO_3$, pyridine, aniline), hydrogen halide is readily split off again. Analogous propane derivatives are more stable. There are 1 table and 7 references: 1 Soviet, 4 US, and 3 British.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

Addition of Hydrogen Halides to Fluoro Olefines

87124
S/062/60/000/009/017/021
B023/B064

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences USSR)

SUBMITTED: July 16, 1959; completed April 25, 1960

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

26403
S/062/61/000/008/007/010
B117/B206

15.8160 2209

AUTHORS: Knunyants, I. L., Li Tjih-yüan, and Shokina, V. V.

TITLE: α,ω-perfluoro diolefins and some of their conversions

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1961, 1462-1466

TEXT: During telomerization of tetrafluoro ethylene with 1,2-dichloro iodine perfluoro ethane by application of benzoyl peroxide as initiator, the authors succeeded in producing lowest telomer homologues and highest telomers with good yield: $CF_2Cl\cdot CFClI + nCF_2=CF_2 \rightarrow CF_2ClCFCl(CF_2CF_2)_nI$ with n=1, 2, 3, 4 (Tables 1 and 2). They are waxy substances. The ratio of telomers in reaction products depends, as always, on the reaction conditions and the amount of Telogen used. In all experiments, benzoyl peroxide amounted to 1 % of the weight of dichloro iodine perfluoro ethane used. Through the effect of metallic zinc on the telomeric solutions in methylene chloride, α,β,ψ,ω-tetrachloro perfluoro alkanes (Table 3) were obtained in the presence of acetic anhydride. They were converted into

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26403
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B117/B206

α,ω-perfluoro diolefins and some...

α,β-perfluoro dienes (Table 4) by dechlorination with zinc in acetic acid. Perfluoro octadiene-1,7, perfluoro dodecadiene-1,11 and perfluoro hexadecadiene-1,15 were produced in this way. Moreover, by doubling the mixtures of various telomers, tetrachlorides were produced. Through their rectification, 1,2,5,6-tetrachloro perfluoro hexane and 1,2,9,10-tetrachloro perfluoro decane were isolated. By dechlorinating 1,2,9,10-tetrachloro perfluoro decane, perfluoro decadiene-1,9 was obtained. By oxidation with potassium permanganate, all the α,ω-perfluoro diolefins in aqueous acetone solution were converted into corresponding perfluorated dicarboxylic acids with good yield: $HOOC(CF_2CF_2)_nCOOH$, n=2, 3, 4 and 6 (Table 5). From perfluoro adipinic- and perfluoro sebacinic acid, chlorides of these acids were produced for the first time under the effect of thionyl chloride in the presence of catalytic amounts of KCl or KOH. From these chlorides, dianilide and diamide were produced. During the polycondensation of perfluoro adipinic- and perfluoro sebacinic acid chlorides with hexamethyl diamine, fluorated polyamides were produced between two media (water-CCl_4). There are 7 tables and 7 references: 1 Soviet and 6 non-Soviet. The three most recent references to English-

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

language publications read as follows: M. Hauptschein, M. Braid, F. E. Lawlor, J. Amer. Chem. Soc. 79, 2549 (1957); A. L. Henne, Wm. Postelneck, J. Amer. Chem. Soc. 77, 2334 (1995); R. A. Guenther, pat. USA 2606206 (1952).

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds, AS USSR)

SUBMITTED: August 1, 1960

Table 1: Reaction conditions and yield of telomer homologs. Legend: 1) Ratio $CF_2ClCFClI$ to $CF_2=CF_2$; 2) reaction temperature, °C; 3) duration of reaction, hr; 4) yield of telomers, %; ж) calculated per reacting 1,2-di chloro iodine perfluoro ethane.

Отношение $CF_2ClCFClJ$ к $CF_2=CF_2$ (1)	Температура реакции, °C (2)	Время реакции, часы (3)	(4) Выход теломеров, %*		
			n=1	n=2	n>3
2 : 1	135	4	62,4	19,8	—
1 : 1	130	5	57,0	24,0	4,5
1 : 2	130	4	39,2	23,0	25

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

KNUNYANTS, I.L., akademik; LI CHZHI-YUAN' [Li Chih-yüan]; SHOKINA, V.V.

Mechanism of the addition of iodine chloride to chlorotrifluoroethylene. Dokl. AN SSR 136 no. 3:610-612 Ja '61. (MIRA 14:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Iodine chloride) (Ethylene)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

ACC NR: AP6027957 SOURCE CODE: UR/0020/66/169/003/0594/0597

AUTHOR: Knunyants, I. L. (Academician); Shokina, V. V.; Tyuleneva, V. V.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences, SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Reactions of perfluoro olefins with nucleophillic reagents. Trifluoropyruvic acid and its derivatives.

SOURCE: AN SSSR. Doklady, v. 169, no. 3, 1966, 594-597

TOPIC TAGS: perfluoroethylene oxide hydrolysis, trifluoropyruvic acid derivatives, ETHYLENE OXIDE, OLEFIN, HYDROLYSIS, AMMONOLYSIS

ABSTRACT: In the presence of H_2O and silica gel at 100°C, perfluoroethylene oxide (I) is easily hydrolyzed to form IV, a stable compound with mp 125—126°C, boils at 156—158°C with decomposition.

Hydrolysis of I in the presence of acetone yields the adduct V (mp 111—112°C):

Alcholysis of I yields the ester III, which is saponified with sulfuric acid in the presence of silica gel at 140°C to yield esters VIa and VIb:

VIa was also obtained by methylation of IV with diazomethane and saponification of the methylation product.

Card 1/2 UDC: 547.484

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

ACC NR: AP6027957

Amonolysis of I at -40°C yields VII (mp 113—114°C): Amonolysis of VIII in dry ether yielded IX (mp 139°C).

[WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 23Dec65/ ORIG REF: 007

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

Arterial thrombosis and aneurysms of septic origin. Akush. gin. 1:62-66 Jan-Feb 1953. (CIML 24:2)

1. Of the First Gynecological Hospital of the Clinical Base of the Department of Obstetrics and Gynecology (Head -- Prof. I. F. Zhordanina) of the Central Institute for the Advanced Training of Physicians and of the Department of Forensic Medicine (Head -- Prof. A. V. Rusakov) of Moscow Medical Institute of the Ministry of Public Health RSFSR.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKL NDER, R. I., [illegible]TOVSKAYA, [illegible]. A.

Thrombosis

Metastatic affections of arterial walls (arterial thrombosis and aneurysms) of septic origin. Akush. i gin. No. 1, 1953.

Monthly List of Russian Accessions, Library of Congress
June 1953. UNCL.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

MUSHKALO, L.K.; SHOKO., Z.I.

Hydrogen bond and solvatochromism of some cyanine dyes. Zhur.ob.khim. 31 no.9:3069-3076 S '61. (MIRA 14:9)

1. Kiyevskiy gosudarstvennyy universitet.
(Dyes and dyeing) (Cyanines)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

KERSHANSKIY, I.I.; VORONIN, I.S.; SAVRAYEVA, K.Ye.; GNATYSHENKO, G.I.; SHCHUROVSKIY, V.G.; SHOKOBAYEV, Sh.D.

Pilot plant testing of the electric smelting of high-silicon copper concentrates without previous roating. TSvet.met. 34 no.9:24-34 S '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh metallov (for Kershanskiy, Voronin, Savrayeva). 2. Institut metallurgii i obogashcheniya AN KazSSR (for Gnatyshenko, Shchurovskiy). 3. Kazakhskiy politekhnicheskiy institut (for Shokobayev).
(Copper--Electrometallurgy)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

YESIRKEGENOV, G.M., dots., otv. red.; LEBEDEV, B.N., prof., red.; SLUTSKIY, I.Z., dots., red.; SHOKOBAYEV, T.D., dots., red.; BEGALIYEVA, Sh.G., dots., red.; FATEYEVA, Z.T., dots., red.

[Full treatment of complex metal ores; transactions of the All-Union Scientific and Technical Conference held in December 1962] Kompleksnaia pererabotka polimetallicheskogo syr'ia; trudy Vsesoiuznoi nauchno-tekhnicheskoi konferentsii, dekabr' 1962 g. Moskva, Metallurgiia, 1965. 423 p. (MIRA 18:6)

1. Alma-Ata. Kazakhskiy politekhnicheskiy institut.
2. Kazakhskiy politekhnicheskiy institut, Alma-Ata (for Shokobayev, Yesirkegenov).

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The effect of alkali upon copper catalysts for methanol. D. A. Pospekhov and A. A. Shokol. *Mem. Inst. Chem., Ukrain. Acad. Sci.* 4, 205-12(in German 212-13)(1937); cf. *C. A.* 31, 4265⁶.—The catalysts 60 Cu—35.6 ZnO—4.4 Cr_2O_3 and 16 ZnO—Cr_2O_3—82 Cu contg. 0.1-5 mols. % KOH were used in MeOH synthesis from CO_2 and H. The catalysts showed great activity at pressures up to 100 atm. and at an initial temp. of 200°. The product consisted chiefly of MeOH and EtOH (22.3% by wt.). By increasing the vol. speeds the yield of EtOH is increased and MeOH is decreased. The catalyst 82 Cu—16 ZnO—Cr_2O_3 is more suited for EtOH formation and is more stable.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Shokol, A.A.

4

Chem, Prep

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Organic Chemistry

Molecular compounds of hydrogen peroxide with organic amines and their derivatives. Ya. A. Fialkov and A. A. Shokol. *Ukrain. Khim. Zhur.* 15, 318-31(1949).—The reaction of amines and amine derivs. with H_2O_2 in aq. and Et_2O solns. was examd. and numerous addn. products were isolated. Detns. of the cond. and cryoscopic examns. of solns. of these adducts showed that in aq. solns. they are very considerably dissocd., while in nonaq. solns. they remain in great part undissocd. They appear to be best described as oxonium or ammonium type substances. The following solid adducts were obtained: $CO(NH_2)_2.H_2O_2$, $4CO(NH_2)_2.2HCl.H_2O_2$; $(CH_3NH_2)_2.2HCl.H_2O_2$; $(CH_3CH_2CH_2NH_2)_2.H_2O_2$; p-$MeC_6H_4NH_2.H_2O_2$; 2p-$HO_2CC_6H_4NH_2.H_2O_2$; $3HO_2SC_6H_4NH_2.H_2O_2$; p-$C_6H_4(NH_2)_2.H_2O_2$; p-$(C_6H_4NH_2)_2.H_2O_2$; p-$(C_6H_4NH_2)_2.2H_2O_2$; 2-$C_6H_7NH_2.H_2O_2$; $2(C_5H_5N.HNO_3).H_2O_2$ (pyridine itself failed to yield an adduct); adduct of 3 moles 2-hydroxyquinoline with 2 moles H_2O_2. 17 references. G. M. Kosolapoff

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKOL, A.A.

USSR/Chemistry - Analytical chemistry

Card 1/1 Pub. 116 - 16/25

Authors : Shokol, A. A., and Kacherova, S. A.

Title : Polarographic determination of selenium and tellurium

Periodical : Ukr. khim zhur. 21/1, 89-92, 1955

Abstract : The possibility for polarographic determination of Se and Te during their joint presence in an aluminum thiocyanate and sodium sulfite mixture is discussed. The economical and other advantages of the polarographic method in analytical chemistry are described. Sodium sulfite was observed as acting as a depressant for the anomalous maximum of Te. Some results obtained by the polargraphic analysis method are listed. Four references : 3 USSR and 1 Czech (1935-1953). Table; graphs.

Institution : Acad. of Sc., Ukr-SSR, Institute of General and Inorganic Chemistry

Submitted : March 12, 1954

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

Shokot A.A.

7

2060. Method of analysis of the system sulphuryl chloride, chlorosulphonic acid and sulphur trioxide. E. M. Natanson, A. A. Shokot and A. S. Rabinovich. (Inst. Gen. and Inorg. Chem., Acad. Sci., Ukrain. SSR). *Zavod. Lab.*, 1955, 21 (12), 1439-1443.—The composition of a mixture of SO_2Cl_2, $ClSO_3OH$ and SO_3 can be calculated from the total sulphur and chlorine contents, and the S present as $ClSO_3OH$ and SO_3. *Determination of total S and Cl*—In a cylinder with a ground glass stopper, 200 ml of 0·1 *N* NaOH or 200 ml of warm (40° to 50° C) water and an ampoule containing 2 to 3 g of the ternary mixture are shaken together for 2 to 3 hr. The contents are transferred to a 500-ml calibrated flask, the solution is made up to the mark, and the Cl' and SO_4'' are determined by the usual methods. *Determination of S in the form $ClSO_3OH$ and SO_3*—The ternary mixture (3 to 4 g) in an ampoule and a mixture (1 : 1·5) of NaH_2PO_4 (dried at 130° to 135° C) and KCl in the proportion of 7 to 9 g per 1 g of sample are placed in a 200 to 300-ml cylinder with a ground glass stopper. The ampoule is broken and the mixture is shaken for 15 to 20 min. After 10 to 12 hr. or on the following day the cylinder is opened and kept at 110° to 120° C for 3 hr. The mixture is treated with 50 ml of pure chloroform, then shaken for 10 to 15 min. and kept at 110° to 120° C for 60 min. The contents of the cylinder are then dissolved in water and the solution is transferred to a 500-ml calibrated flask. Sulphur is determined gravimetrically by the usual method.

G. S. Smith

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

AUTHORS: Shokol, A. A., Kacherova, S. A. SOV/78-3-8-9/25

TITLE: On the Interaction of Indium With Selenium and Tellurium in Solutions of Sulfuric Acid (O vzaimodeystvii indiya s selenom i tellurom v sernokislykh rastvorakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1767-1771 (USSR)

ABSTRACT: The interaction of indium with telluric acid in dependence upon the ratio indium : telluric acid and of the pH value of the medium was investigated. In weakly acid solutions the acid salt of indiumtelluride is formed. At a pH ≈1 value the following acid salt is formed: $In_2(TeO_3)_3 \cdot 2TeO_2 \cdot 6H_2O$. With an increasing pH value of the solution, compounds with a composition similar to that of the basic indiumchloride are formed, e.g.: $In_2(TeO_3)_3 \cdot 2In(OH)_3$. The ratio In : Te = 1 : 0,83. In the reduction of the indium sulfate solution which contains selenium and tellurium or tellurium with iron, a part of the indium precipitates in the form of selenite and tellurite. Indium precipitates with hydrogen selenide as indium selenite

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

On the Interaction of Indium With Selenium and Tellurium in Solutions of Sulfuric Acid SOV/78-3-8-9/48

in a yield of no more than 80 % from solutions which contain 50 g/l sulfuric acid. With increasing acidity of the solution the yield decreases. The produced indiumselenite has the formula In_2Se_3, the ratio indium : selenium is 1 : 1,5. The produced indium-(III)-selenite is colored brickred if being heated to more than 300°C. At further increasing temperature, In_2O_3 and Se is formed. A quantitative precipitation of indium in the presence of selenium and tellurium was not possible. There are 3 figures, 5 tables, and 7 references, 3 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute of General and Inorganic Chemistry, AS, Ukrainian SSR)

SUBMITTED: July 8, 1957

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001549820015-6

SHOKOL, A.A.

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27 27

Reactions of indium with ions of arsenic acid. A. A. Shokol and A. D. Pakhomova. *Zhur. Prikład. Khim.* 31, 135-8(1958).—The pptn. of In from solns. contg. H_2SO_4, H_3AsO_4, and 0.01*M* $In_2(SO_4)_3$ was complete when neutralized with 10% NaOH to a pH of 3.5, whereas As pptd. in approx. the same amts. irrespective of the In/As ratio in the soln. The amorphous white ppt. formed at pH 2.2 was analyzed. Its compn. was $InAsO_4.H_2O$. The reaction was represented as $In_2(SO_4)_3 + 2Na_2HAsO_4 = 2InAsO_4 + 2Na_2SO_4 + H_2SO_4$. Neutralization of the same soln. with a suspension of ZnO to a pH = 3.5-3.5 pptd. only 80% of In and the ppt. contained As and Zn as $Zn_3(AsO_4)_2$ formed by the reaction $3ZnSO_4 + 2Na_2HAsO_4 = Zn_3(AsO_4)_2 + 2Na_2SO_4 + H_2SO_4$. I. Bencowitz

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Inst. Gen. & Inorg. Chem AS UkrSSR

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5(2) SOV/78-4-7-40/44

AUTHORS: Shokol, A. A., Kozin, L. F.

TITLE: The Co-precipitation of Indium With Ferric Hydroxide (Soosazhdeniye indiya s gidrookis'yu zheleza)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 7, pp 1687-1691 (USSR)

ABSTRACT: The investigation of the phenomenon mentioned in the title was carried out by the plotting of precipitation curves at various pH-values and temperatures. Precipitation was carried out in a solution of iron-(III)-sulfate and indium sulfate, which was marked with In^{114}, by means of a sodium lye. Tables 1 and 2 as well as figure 3 show the experimental results. From table 4, which gives the results obtained by a precipitation by means of an urea hydrolysis at 90° it follows that a local concentration effect is not responsible for co-precipitation. Table 5 and figure 1 mention the precipitation results obtained by vaccination with $Fe(OH)_3$. The experiments confirm the adsorptive character of co-precipitation. The increasing co-precipitation with increasing temperature, however, also indicates the occurrence of secondary processes such as the

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SOV/78-4-7-40/44

The Co-precipitation of Indium With Ferric Hydroxide

formation of a solid solution of adsorbed indium hydroxide with ferrihydroxide. X-ray examinations proved that the crystal lattices of the two hydroxides are disturbed. There are 3 figures, 5 tables, and 10 references, 6 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii Akademii nauk USSR (Institute for General and Inorganic Chemistry of the Academy of Sciences, UkrSSR)

SUBMITTED: April 24, 1958

Card 2/2

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