33462
S/129/62/000/001/005/011
E073/E483

1.1700

AUTHORS: Bernshteyn, M.L., Candidate of Technical Sciences, Demina, E.L. and Safonova, K.E., Engineers

TITLE: Thermomechanical treatment of ball-bearing steel

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no.1, 1962, 23-28

TEXT: The authors investigated the influence of thermo-mechanical treatment on the structure and properties of ball-bearing steel ШХ15 (ShKh15) (1% C, 1.3% Cr, 0.3% Mn, 0.2% Si, 0.01% S, 0.02% P). Cylindrical and flat specimens were deformed by rolling at a temperature above Ac_3, total reductions (estimated by means of a logarithmic formula) of 5, 10, 25, 50 and 80% being attained in a single pass. The cylindrical specimens were tempered at 140, 240 and 440°C for 4 hours. The flat specimens were tempered at 240°C (24 hours), 450, 500 and 550°C (30 min). Air cooling was applied in every case. X-ray investigations were made on specimens cut from the centre of the rolled and quenched specimens that had not been subjected to mechanical tests.

Card 1/3

Thermomechanical treatment ...

320 kg/mm^2 attained in specimens deformed to 90% reduction; in addition, the thermomechanical treatment brought about an almost four-fold increase in ductility, which is particularly important since this steel had a strong tendency to brittle failure. It was found that the properties imparted to steel by thermomechanical treatment were retained at tempering temperatures of 500 and 550°C. The strengthening effect of the work-hardening during thermomechanical treatment is very stable and this is attributed to the fact that plastic deformation produces a particularly fine structure of the austenite which, in turn, ensures high dispersion and submicroscopic nonuniformity of the subsequently formed martensite. It is also possible that some texturing occurs. X-ray structural investigations show that the density of crystal lattice defects increases with increasing degree of deformation during thermomechanical treatment. The actual values after ordinary heat treatment and after thermomechanical treatment with 90% reduction were, respectively: 2.0×10^{11} cm^2/cm^3, 3.35×10^{11} cm^2/cm^3 after

Card 3/5

Thermomechanical treatment ...

tempering for 24 hours at 200°C; 1.49×10^{11} cm^2/cm^3, 3.24×10^{11} cm^2/cm^3 after tempering for 2 hours at 300°C; 7.94×10^{10} cm^2/cm^3 after ordinary heat treatment; 19.3×10^{10} cm^2/cm^3 after tempering at 400°C for 2 hours. The size of the regions of coherent scattering decreases with increasing deformation. Stresses of the second type in thermomechanically treated specimens tempered at 400°C decrease monotonously with increasing deformation. The results obtained indicate that thermomechanical treatment with high degrees of deformation reduces the influence of the tempering temperature on the block dimensions which, in the case of smaller blocks, increase at high tempering temperatures only. It is possible that this explains, to some extent, permanence of the effects of work-hardening and reversibility of the thermomechanical treatment. There are 5 figures, 3 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to an English language publication reads as follows:

33462
S/129/62/000/001/005/011
E073/E483

Thermomechanical treatment ...

Ref.2: J. K. Williamson, R. Smallman. Phil. Mag., 1956.

ASSOCIATION: Moskovskiy institut stali
(Moscow Institute of Steel)

Card 5/5

SAFONOVA, L.

27-2-13/19

AUTHOR: Safonova, L., Foreman of Technical School Nr 2 (Kaliningrad Oblast')

TITLE: Manpower for the Paper Industry (Kadry dlya bumazhnoy promyshlennosti)

PERIODICAL: Professional'no-Tekhnicheskoye Obrazovaniye, 1958, # 2 (153) pp 23-24 (USSR)

ABSTRACT: The author deals with the training activities of Sovetsk Technical School No 2 in preparing highly qualified workers for the cellulose paper industry.

Productional training is carried out in three shifts at the factories of the paper combine. The administration of the paper plant gives the students every possible opportunity to do practical work, to gain knowledge and professional skill. The combine director permits the students to independently operate the paper manufacturing machines. This has considerably increased the interest of the students in their profession and they are confidently performing all their duties.

Card 1/2

Manpower for the Paper Industry 27-2-13/19

ASSOCIATION: Technical School Nr (Kaliningrad Oblast) (Tekhnicheskoye uchilishche No.2, (Kaliningradskaya oblast'))

AVAILABLE: Library of Congress

Card 2/2

LAZAREV, Ye.; SAFONOVA, L.; GODOVKINA, E.; VORZHEVA, L.V., prof., nauchnyy rukovoditel'

Effect of microelements on the growth and development of young birds. Uch.zap.Kuib.gos.ped.inst. no.37:27-32 '62. (MIRA 16:1)

(Trace elements) (Poultry—Feeding and feeds)

SAFONOVA, L. G.

"Chloroethoxy-Derivatives of Divinylacetylene. IV," Zhur. Obshch. Khim., 16, No. 8, 1946.

SAFONOVA, L.G.; AYZENSHTAT, I.I., redaktor; KORNEYEVA, V.I., tekhnicheskiy redaktor.

[Catalog of foreign periodical publications subscribed for by the Central Scientific and Technical Library of the Ministry of the Chemical Industry of the U.S.S.R. during1957].Ukazatel' inostrannykh periodicheskikh izdanii, vypisannykh TSentral'noi nauchno-tekhnicheskoi bibliotekoi MKhP na 1957 god. Moskva. Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1957. 29 p. (MLRA 10:6)

1. Russia(1923- U.S.S.R.) Ministerstvo khimicheskoy promyshlennosti. Tsentral'naya nauchno-tekhnicheskaya biblioteka.
2. Starshiy bibliograf TSentral'noy nauchnoy tekhnicheskoy biblioteki Ministerstva khimicheskoy promyshlennosti SSSR(for Safonova).
(Bibliography--Chemistry--Periodicals)

RUBASHKINA, L.I., SAFONOVA, L.G.

Manufacture and finishing of hosiery made from cotton-capron yarn blends. Tekst. prom. 25 no.3:50-51 Mr '65.

(MIRA 18:5)

1. Rukovoditel' gruppy laboratorii proyektno-konstruktorskogo byuro Upravleniya legkoy promyshlennosti Soveta narodnogo khozyaystva Leningradskogo ekonomicheskogo rayona (for Rubashkina). 2. Starshiy inzh. proyektno-konstruktorskogo byuro Upravleniya legkoy promyshlennosti Soveta narodnogo khozyaystva Leningradskogo ekonomicheskogo rayona (for Safonova).

SAFONOVA, L. I.

VASIL'YEV, Ya.V.; URBAN, I.V.; SAFONOVA, L.I.

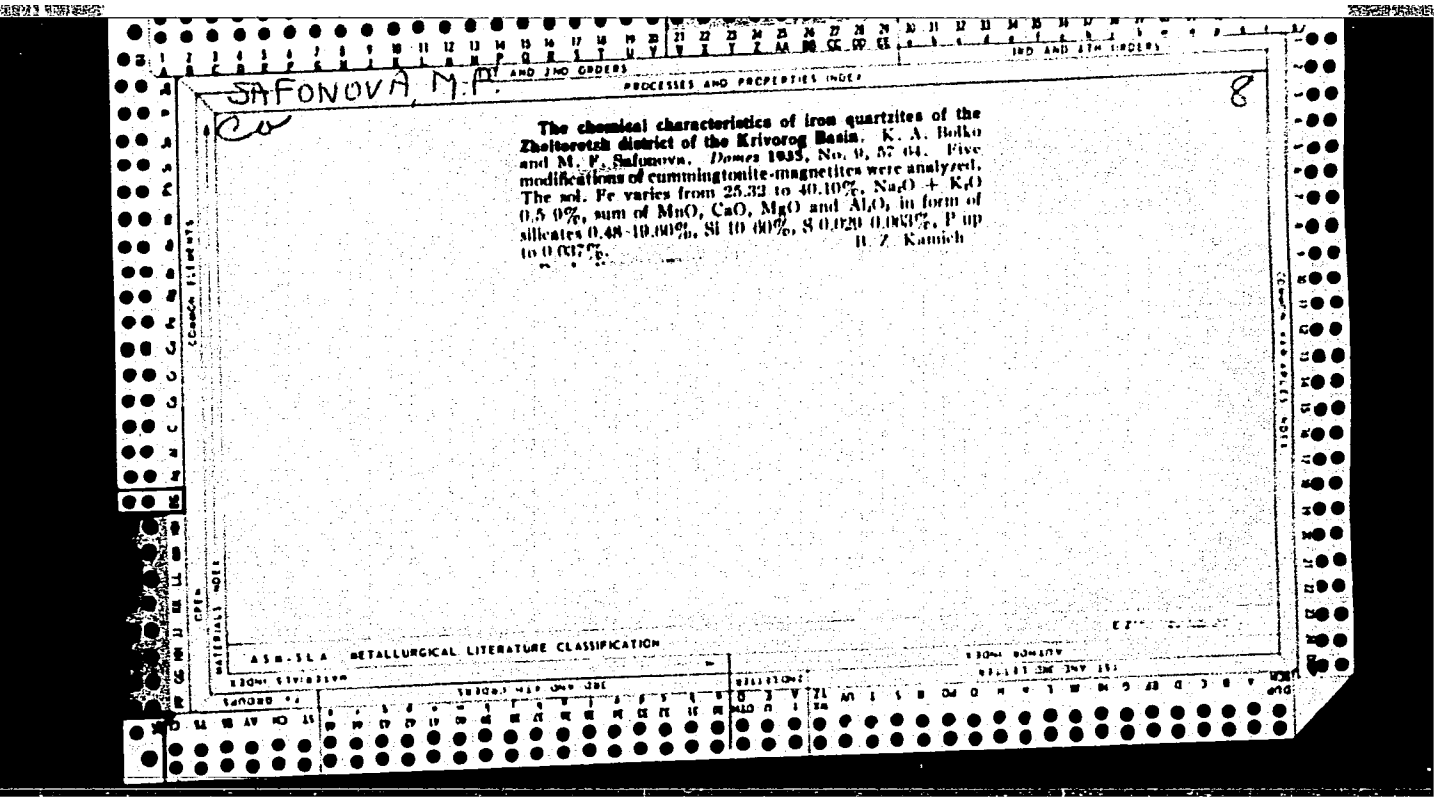
Improvement of insulation board driers. Bum.prom.30 no.7:19-21 Jl'55. (MLRA 8:10)

1. Sukhonskiy tsellyulozno-bumazhnyy kombinat.
(Paperboard)

SPEKTOR, M.D., inzh.; NIKITIN, S.S., inzh.; SAFONOVA, L.I., inzh.; KOLESNICHENKO, V.V., inzh.

Potentials for increasing labor productivity in the assembly of elements of industrial buildings. Mont. i spets. rab. v stroi. 25 no.1:5-8 Ja '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut Akademii stroitel'stva i arkhitektury SSSR i trest Uralstal'konstruktsiya.
(Industrial buildings--Design and construction)



SAFONOVA, M. P.

Co

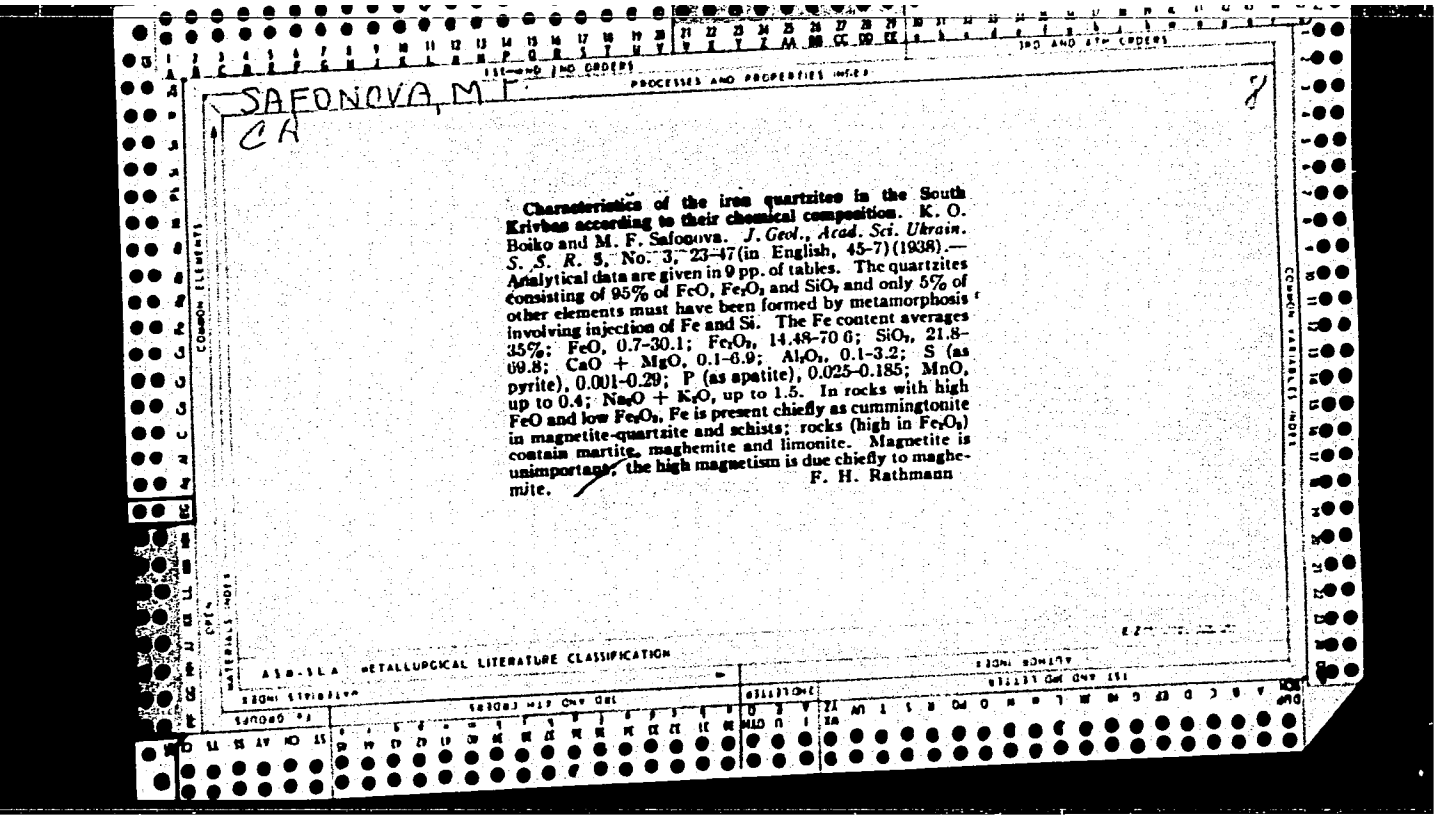
8

PROCESSES AND PROPERTIES INDEX

The chemical characteristics of iron quartzites of the Zheleznyak district of the Krivoy Rog Basin. K. A. Belko and M. P. Safonova. *Domna* 1935, No. 9, 57-64. Five modifications of cummingtonite-magnetites were analyzed. The sol. Fe varies from 25.32 to 40.10%, $Na_2O + K_2O$ 0.5-0%, sum of MnO, CaO, MgO and Al_2O_3 in form of silicates 0.48-10.00%, Si 10-60%, S 0.020-0.185%, P up to 0.017%.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



SAFONOVA, M F
CA

Characteristics of the iron quartzites in the South Krivbas according to their chemical composition. K. O. Boiko and M. F. Safonova. *J. Geol., Acad. Sci. Ukrain. S. S. R.* 5, No. 3, 23–47 (in English, 45–7) (1938).—Analytical data are given in 9 pp. of tables. The quartzites consisting of 95% of FeO, Fe_2O_3 and SiO_2 and only 5% of other elements must have been formed by metamorphosis involving injection of Fe and Si. The Fe content averages 35%; FeO, 0.7–30.1; Fe_2O_3, 14.48–70.6; SiO_2, 21.8–69.8; CaO + MgO, 0.1–6.9; Al_2O_3, 0.1–3.2; S (as pyrite), 0.001–0.29; P (as apatite), 0.025–0.185; MnO, up to 0.4; $Na_2O + K_2O$, up to 1.5. In rocks with high FeO and low Fe_2O_3, Fe is present chiefly as cummingtonite in magnetite-quartzite and schists; rocks (high in Fe_2O_3) contain martite, maghemite and limonite. Magnetite is unimportant; the high magnetism is due chiefly to maghemite.

F. H. Rathmann

SAFONOV, V.I.; SAFONOVA, M.P.

Electrophoresis of plant proteins in a synthetic (polyacrylamide) gel. Fiziol. rast. 11 no.1:147-153 Ja-F '64.
(MIRA 17:2)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, Moskva.

SAFONOV, V.I.; SAFONOVA, M.P.

Improved method for electrophoresis of plant proteins in a polyacrylamide gel. Fiziol. rast. 11 no.6:1105-1109 N-D '64. (MIRA 18:2)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

CHERFAS, A.A.; SAFONOVA, M.F.

Economic effectiveness of the exploitation of strippers.
Trudy AzNII DN no.6:289-305 '57. (MIRA 12:12)
(Oil fields--Production methods)

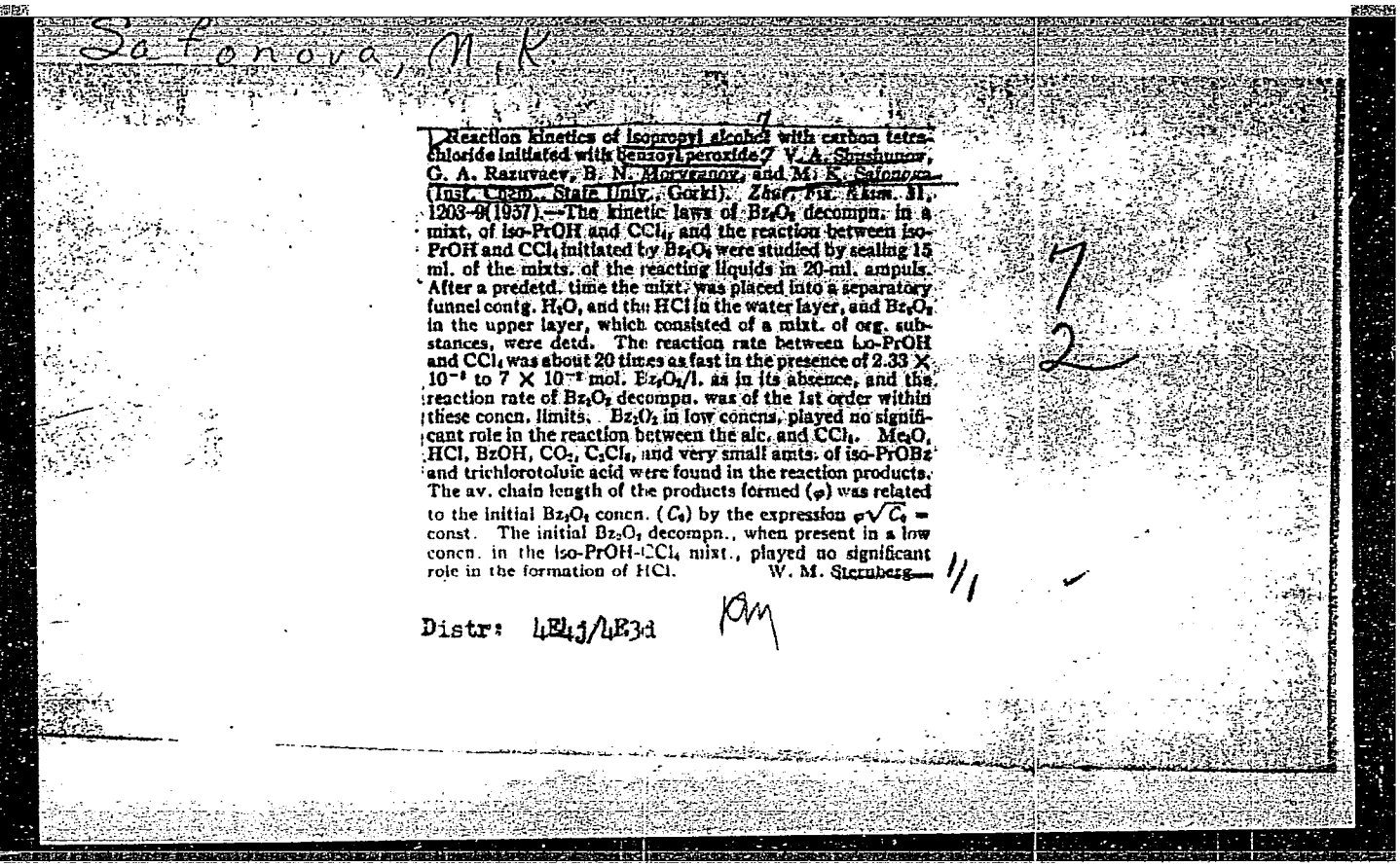
KULIKOV, V.O., inzh.; KHIL'KO, M.M., inzh.; PRILEPSKIY, V.M., inzh.; ZUBKOV, A.P., inzh.; prinimali uchstiye; MERSHCHIY, N.P., inzh.; CHETVERIKOV, V.Ya., inzh.; DUBROV, V.S., inzh.; VOLKOV, I.F., tekhnik; YERSHOV, V.I., tekhnik; SAFONOVA, M.F., tekhnik

Using scale in steelmaking by the scrap and ore process.
Stal' 20 no.8:708-710 Ag '60. (MIRA 13:7)
(Open-hearth process)

BAGDASAR'YAN, S.M., prof.; IVANOV, B.A.; PREOBRAZHENSKAYA, M.M.; RZHANOVICH, P.K.; SHUR, Ye.I.; SAFONOVA, M.I.; SMIRNOV, Z., red.

[Dissertations for the degree of Doctor and Candidate of Medical Sciences defended from 1951 to 1955] Dissertatsii na stepen' doktora i kandidata meditsinskikh nauk, zashchishchennye v 1951-1955 gg. Pod red. S.M.Bagdasar'iana. Moskva. Vol.3. Pt.1. Bibliografiia. 1962. 303 p. (MIRA 17:1)

1. Akademiya meditsinskikh nauk SSSR. Moscow. Otdel nauchnoi meditsinskoy informatsii.



Safonova, M. K.

Reaction kinetics of isopropyl alcohol with carbon tetrachloride initiated with benzoyl peroxide. V. A. Shushunov, G. A. Razuvaev, B. N. Morozanov, and M. K. Safonova. (Inst. Chem., State Univ., Gorki). *Zhur. Fiz. Khim.* 31, 1203-9(1957).—The kinetic laws of Bz_2O_2 decompn. in a mixt. of iso-PrOH and CCl_4, and the reaction between iso-PrOH and CCl_4 initiated by Bz_2O_2 were studied by sealing 15 ml. of the mixts. of the reacting liquids in 20-ml. ampuls. After a predetd. time the mixt. was placed into a separatory funnel contg. H_2O, and the HCl in the water layer, and Bz_2O_2 in the upper layer, which consisted of a mixt. of org. substances, were detd. The reaction rate between iso-PrOH and CCl_4 was about 20 times as fast in the presence of 2.33×10^{-4} to 7×10^{-2} mol. Bz_2O_2/l. as in its absence, and the reaction rate of Bz_2O_2 decompn. was of the 1st order within these concn. limits. Bz_2O_2 in low concns. played no significant role in the reaction between the alc. and CCl_4. Me_2O, HCl, BzOH, CO_2, C_2Cl_6, and very small amts. of iso-PrOBz and trichlorotoluic acid were found in the reaction products. The av. chain length of the products formed (φ) was related to the initial Bz_2O_2 concn. (C_0) by the expression $\varphi\sqrt{C_0} =$ const. The initial Bz_2O_2 decompn., when present in a low concn. in the iso-PrOH-CCl_4 mixt., played no significant role in the formation of HCl. W. M. Sternberg

Distr: 4E4j/4E3d

BRILKINA, T.G.; SAFONOVA, M.K.; SHUSHUNOV, V.A.

Triphenyl lead oxide. Zhur.ob.khim. 32 no.8:2684-2686 Ag '62.
(MIRA 15:9)

(Lead compounds)

APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001446720003-4"

SAFONOV, V.I.; SAFONOVA, M.P.

Albumins of the endosperm and embryo of the wheat caryopsis; a real heterogeneity of leucosin. Dokl. AN SSSR 165 no.3: 704-707 N '65. (MIRA 18:11)

1. Submitted August 20, 1964.

MATORINA, N.N.; SAFONOVA, N.D.; CHMUTOV, K.V.

Frontal analysis in ion-exchange complex-forming chromatography.
Radiokhimiia 1 no.3:346-352 '59. (MIRA 12:10)
(Chromatographic analysis)

MATORINA, N.N.; SAFONOVA, N.D.

Ethylenediaminotetraacetate complexes of alkaline earth metals, as studied by means of ion exchange. Zhur.neorg.khim. 5 no.2: 313-320 F '60. (MIRA 13:6)
(Alkaline earth compounds)
(Acetic acid)

MATORINA, N.N.; CHMUTOV, K.V.; SAFONOVA, N.D.; SHEPETYUK, L.V.

Kinetics of ion exchange processes in the presence of complex-forming reagents. Dokl. AN SSSR 152 no.4:915-918 O '63. (MIRA 16:11)

1. Institut fizicheskoy khimii AN SSSR. 2. Chlen-korrespondent AN SSSR (for Chmutov).

L 21331-65 EWT(m)/EWP(j) Pc-4 AFWL/AEDC(a)/SSD/AS(mp)-2/AFETR/ESD(gs)/ESD(t) RM

ACCESSION NR: AP4044437 S/0076/64/038/008/1942/1949

AUTHOR: Matorina, N. N. (Moscow); Chmutov, K. V. (Moscow); Safonova, N.D. (Moscow); Shepetyuk, L. V.

TITLE: Effect of kinetic factors on the formation of diffuse zones in the complexation ion-exchange chromatography

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 8, 1964, 1942-1949

TOPIC TAGS: cationite, ion exchange, column chromatography, complexation, diffusion, cerium, europium

ABSTRACT: The article considers the results of the study of separation of rare earths by EDTA and citrate solutions. All studies were carried out at very small adsorption of rare earths on cation exchange resins (less than 1%). Columns were thermostatted to ±1C. Each column contained 2 g of cation exchanger KU-2 (8-10% divinylbenzene). The investigated rare earth elements Ce^{144}-Pr^{144} and $Eu^{152, 154}$ were adsorbed from 0.1 N HCl or HNO_3 solutions in a narrow layer of cationite in H-form in the upper part of the column. The sorbed rare

Card 1/2

L 21331-65
ACCESSION NR: AP4044437

earths were eluted with complexing agent solutions at definite and constant pH values. The concentration of rare earth elements were determined radiometrically. It has been found that diffuse spreading of zones is due to gel and film kinetics. Complexation kinetics in the solution have no appreciable effect. The main reason for the difference in zone spreading during elution of rare earth elements with EDTA and H_3Cit is the difference in the rate of interdiffusion processes. The possibility is considered for using equations of Tumitskiy, Glueckauf and Bressler for the determination of the degree of spreading of zones. It has been shown that in order to compare the experimental and theoretical results, diffusion coefficients must be employed which are determined by an independent method under the same conditions of elution. Orig. art. has: 7 figures and 2 tables

ASSOCIATION: Institut fizicheskoy khimii AN SSSR (Institute of Physical Chemistry, AN SSSR)
SUBMITTED: 20Jul63 ENCL: 00 SUB CODE: GC
NR REF SOV: 004 OTHER: 003

Card 2/2

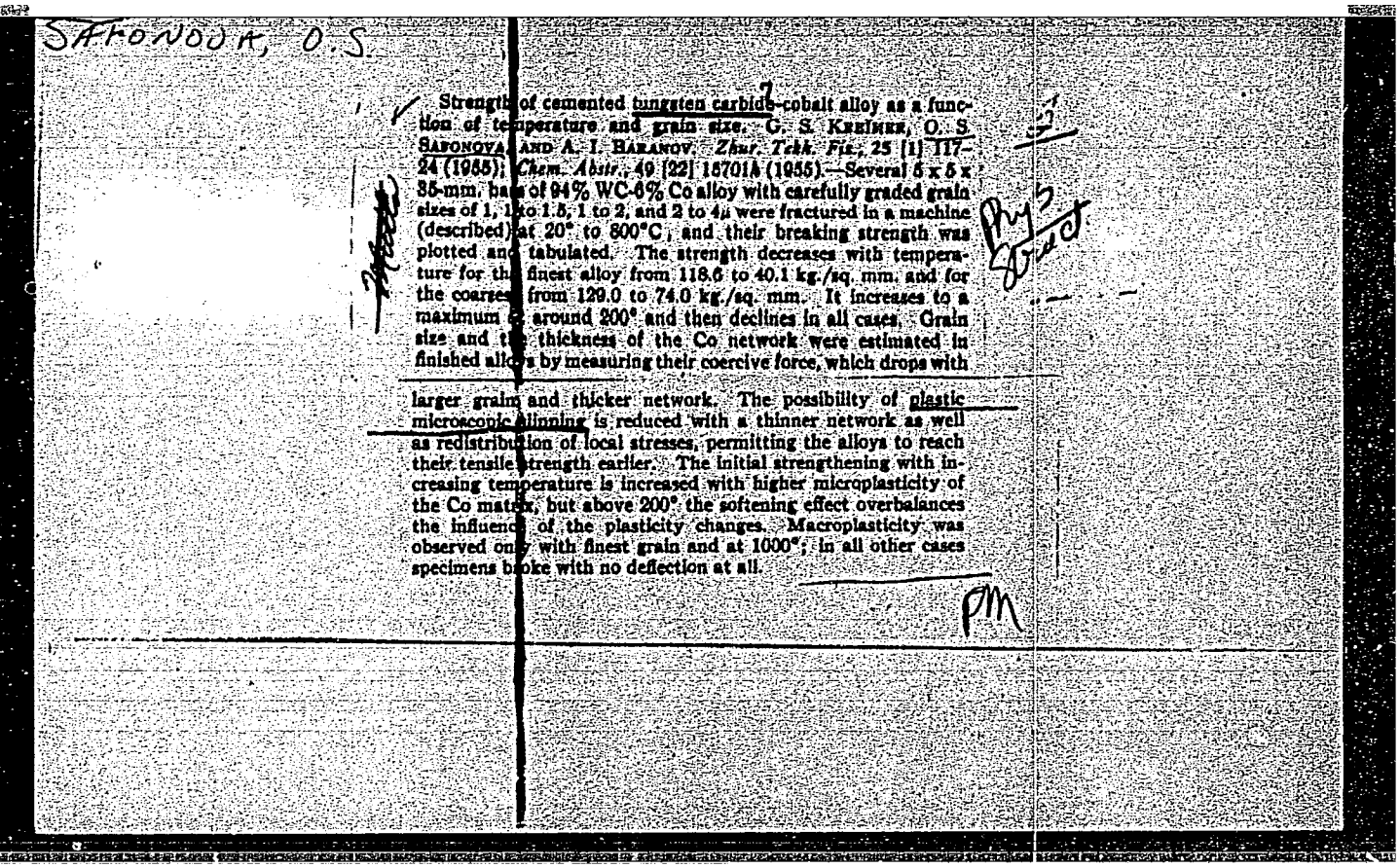
KASPAR'YANTS, S.A., aspirant; SHESTAKOVA, I.S., doktor tekhn. nauk, prof.; SAFONOVA, N.V., inzh.

Effect of some electrolytes and enzymes on the synthetic fibers obtained from the products of the solute of sheepskin derma. Nauch. trudy MTILP no.30:10-17 '64. (MIRA 18:6)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

SAFONOVA, O.F.

Remarks on the determination of the composition of clayey substance in clay rocks using a mixed dye proposed by N.S. Spiro and I.M. Gogoleva. Trudy VSEGEI 72:177-179 '62. (MIRA 15:9)
(Clay--Analysis)



SAFONOVA, O. S.

Strength of cemented tungsten carbide-cobalt alloy as a function of temperature and grain size. G. S. KREINER, O. S. SAFONOVA AND A. I. BARANOV. *Zhur. Tekh. Fiz.*, 25 [1] 117–24 (1955); *Chem. Abstr.*, 49 [22] 15701h (1955).—Several 5 x 5 x 35-mm. bars of 94% WC-6% Co alloy with carefully graded grain sizes of 1, 1 to 1.5, 1 to 2, and 2 to 4μ were fractured in a machine (described) at 20° to 800°C, and their breaking strength was plotted and tabulated. The strength decreases with temperature for the finest alloy from 118.6 to 40.1 kg./sq. mm. and for the coarsest from 129.0 to 74.0 kg./sq. mm. It increases to a maximum at around 200° and then declines in all cases. Grain size and the thickness of the Co network were estimated in finished alloys by measuring their coercive force, which drops with larger grains and thicker network. The possibility of plastic microscopic slipping is reduced with a thinner network as well as redistribution of local stresses, permitting the alloys to reach their tensile strength earlier. The initial strengthening with increasing temperature is increased with higher microplasticity of the Co matrix, but above 200° the softening effect overbalances the influence of the plasticity changes. Macroplasticity was observed only with finest grain and at 1000°; in all other cases specimens broke with no deflection at all.

Safonova, O. S.

126-2-22/35

AUTHORS: Kreymer, G. S., Baranov, A. I., and Safonova, O. S.

TITLE: Static and cyclic strength of metalloceramic hard alloys consisting of tungsten carbide and cobalt. (Staticheskaya i tsiklicheskaya prochnost' metallokeramicheskikh tverdykh splavov karbid vol'frama-kobal't).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.2, pp. 361-364 (USSR).

ABSTRACT: Thin cobalt layers enclosed between tungsten carbide grains of very high hardness and very high values of the modulus of elasticity are in a blocked state and the ability of such layers to plastic deformation is braked and, consequently, their strength is increased and their plasticity reduced, as was found in earlier work of the authors of this paper (Ref.17). The thinner the cobalt layer the larger will be the degree of blocking and the higher should be the strength and the brittleness. However, with increasing brittleness the local stress concentration increases and this reduces considerably the nominal strength. Experimental proof of this point of view is contained in an earlier paper of the authors (Ref.17) in which the bending strength of the tungsten carbide BK6 containing 6% Co was investigated as a function

Card 1/4

Static and cyclic strength of metalloceramic hard alloys consisting of tungsten carbide and cobalt.

the test temperature and the grain size. It was found that for any of the investigated grain sizes (1 to 4μ) the curves "temperature-strength" had a clearly pronounced maximum at 200°C. Since the only variable factor in the given case was the plasticity of the cobalt inter-layers, the results revealed the influence of plasticity on the strength in the above mentioned sense. Independently of the authors of this paper, V. V. Baron and Savitskiy, Ye. M. (Ref.18) detected a maximum in the "temperature-strength" curves of a number of brittle metals and alloys, particularly of inter-metallic compounds, whereby the hardness decreased monotonously with increasing temperature. The authors of this paper considered it of interest to carry out tests in new directions which would directly or indirectly confirm the here expressed point of view and these comprised the study of the cyclic strength of tungsten carbides with cobalt as a function of the thickness of the cobalt inter-layers and, consequently, as a function of the plasticity. It was anticipated that in the case of cyclic loading the degree of plasticity should have an

Static and cyclic strength of metalloceramic hard alloys consisting of tungsten carbide and cobalt.

influence at least as large on the strength as in the case of static loading since in this case the stress concentration is of greater importance. The tests consisted of bending rotating specimens which were fixed on one side, whereby the specimens consisted of the investigated carbide and mild steel, the shape and dimensions of which are indicated by the sketch, Fig.1, p.362. The tests were based on five million loading cycles. Furthermore, the bending strength and the hardness were measured. The results are entered in a table, p.362, and four photographs of the microstructure of the specimens are reproduced in Fig.2. The obtained data confirm the view that the reduction in plasticity of the cobalt inter-layers with a decrease in thickness leads to a decrease in the strength and thus also to a decrease in the strength of the material as a whole.
There are 2 figures, 1 table and 19 references, 9 of which are Slavic.

Card 3/4

SUBMITTED: June 8, 1956.

ASSOCIATION: All-Union Research Institute for Hard Alloys. (Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Tverdykh Splavov).

126-2-22/35

Static and cyclic strength of metalloceramic hard alloys consisting of tungsten carbide and cobalt.

AVAILABLE: Library of Congress.

Card 4/4

KREYMER, G.S.; KHUDOSOVTSEV, S.A.; SAFONOVA, O.S.; BOGINO, E.M.

Study of new hard alloy brands for air-percussion boring. Sbor. trud. VNIITS no.2:3-14 '60. (MIRA 15:2)
(Rock drills)
(Ceramic metals)

34701
S/137/62/000/002/044/14
A006/A101

15.2410

AUTHORS: Kreymer, G. S., Khudosovtsev, S. A., Safonova, O. S., Bogino, E. M.

TITLE: Research for new sintered carbide grades for pneumatic impact drilling

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 32, abstract 2G258 ("Sb. tr. Vses. n.-i. in-t tverdykh splavov", 1960, no. 2, 3-14)

TEXT: From 4 initial W-powders, 8 series of experimental WC-Co sintered carbides were prepared containing 8, 11, 15 and 20% Co. The W-powders were produced by H_2 reduction at 650 - 820; 720 - 800; 900 and 1,200°C with conventional and intensified grinding of the mixtures. The sintered carbides obtained were subjected to perforating drilling tests on a stand at 7 atm, on rocks of 16 - 18 class strength (according to Protod'yakonov). The absence of breakdowns of the plates and wear resistance were taken as criteria of suitability in selective laboratory-scale tests. Highest strength in pneumatic impact drilling was shown by coarse-grained WC-Co sintered carbides, prepared on the base of tungsten that was reduced at 1,200°C. A decrease of the grain size by intensified grinding of the mixtures, caused a decrease in a_k and the operational

Card 1/2

Research for new sintered carbide grades ...

strength of the sintered carbide, in spite of maintained and even slightly increased σ_b. From sintered carbides BK 8 (VK 8), BK 11 (VK11), BK 11B (VK11V) and standard BK 15 (VK15), tested under industrial conditions, the latter proved unsuitable for drilling on BA 100-P1 (BA100-P1) unit under conditions of the Tyrny-Auz and similar deposits. VK11V showed the best results of all the sintered carbides tested; its operational strength factor was by 1.5 times higher than that of VK15 and the advance per 1 bit was twice as high.

I. Brokhin

[Abstracter's note: Complete translation]

1000 °C, and then through its cold, water-cooled zone; by varying the rate of travel, annealing times of 30, 60 and 110 minutes were attained, the corresponding cooling rates being 25, 13 and 7 °C per minute. Before and after each test the following properties were measured: Vickers hardness, transverse bending strength, reduction of area, coercive force, wear resistance, and the WC grain size. The effect of cooling after sintering was studied on alloys VK8 and VK8V; these were sintered in hydrogen at 1430 or 1480 °C, respectively, and then cooled to room temperature at a rate of 2 or 40-80 °C/min. In this case, in addition to the properties listed above, the impact strength of the alloys and the lattice parameter of the Co-rich matrix were determined. The results can be summarized as follows. 1) Neither the grain size of the WC phase, nor the mechanical properties of alloys VK4 and VK8V, were affected by the duration of heat treatment at 1000 °C, or by the variation of subsequent cooling rate. 2) The rate of cooling after sintering had no effect on the coercive force, hardness, bending strength and impact strength of VK8 and VK8V alloys; it was found, however, that the wear-resistance of either

alloy could be approximately doubled by slowing the cooling rate down to 2 °C/min from 40-80 °C/min. 3) Increasing the rate of cooling after sintering brought about an increase in the lattice parameter of the Co matrix which indicated that a large quantity of WC was retained in the solid solution under these conditions. 4) The presence of free carbon in the alloys studied had no effect on the changes brought about by the variation of the cooling rate.

There are 1 figure and 2 tables.

SUBMITTED: November 25, 1961

Card 3/3

L 32248-65 EWP(e)/EWT(m)/EPF(n)-2/EPR/EWP(t)/EWP(b) Ps-4/Pu-4/Pad IJP(c)
AT/WH/MJW/JD/HW/JG

ACCESSION NR: AR5004789 S/0137/64/000/010/I080/I080

SOURCE: Ref. zh. Metallurgiya, Abs. 10I574

AUTHOR: Kreymer, G. S.; Safonova, O. S.

TITLE: Effect of heat treatment and cooling speed in the sintering process on the properties of tungsten carbide-cobalt alloys

CITED SOURCE: Sb. tr. Vses. n.-i. in-t tverdykh splavov, no. 5, 1964, 152-160

TOPIC TAGS: tungsten base alloy, cobalt containing alloy, tungsten carbide, sintering, wear resistance, metal mechanical property, metal physical property, grain size/ alloy VK4, alloy VK8, alloy VK8V

TRANSLATION: As a result of an investigation of sintered alloys VK4, VK8, and VK8V, it is shown that preheating of the alloys up to 1000° does not change the grain size of the tungsten carbide phase or the mechanical properties. In the alloys of tungsten carbide with 8% cobalt there are no regular changes in sigma$_{bending}$, H_V, and a_k as a function of cooling speed during sintering; slow cooled alloys have

Card 1/2

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ACCESSION NR: AR5004789

a considerably higher wear resistance than fast cooled alloys. There is no change in properties from structurally free carbon as a function of cooling speed. I. Gryaznoz.

SUB CODE: MM ENCL: 00

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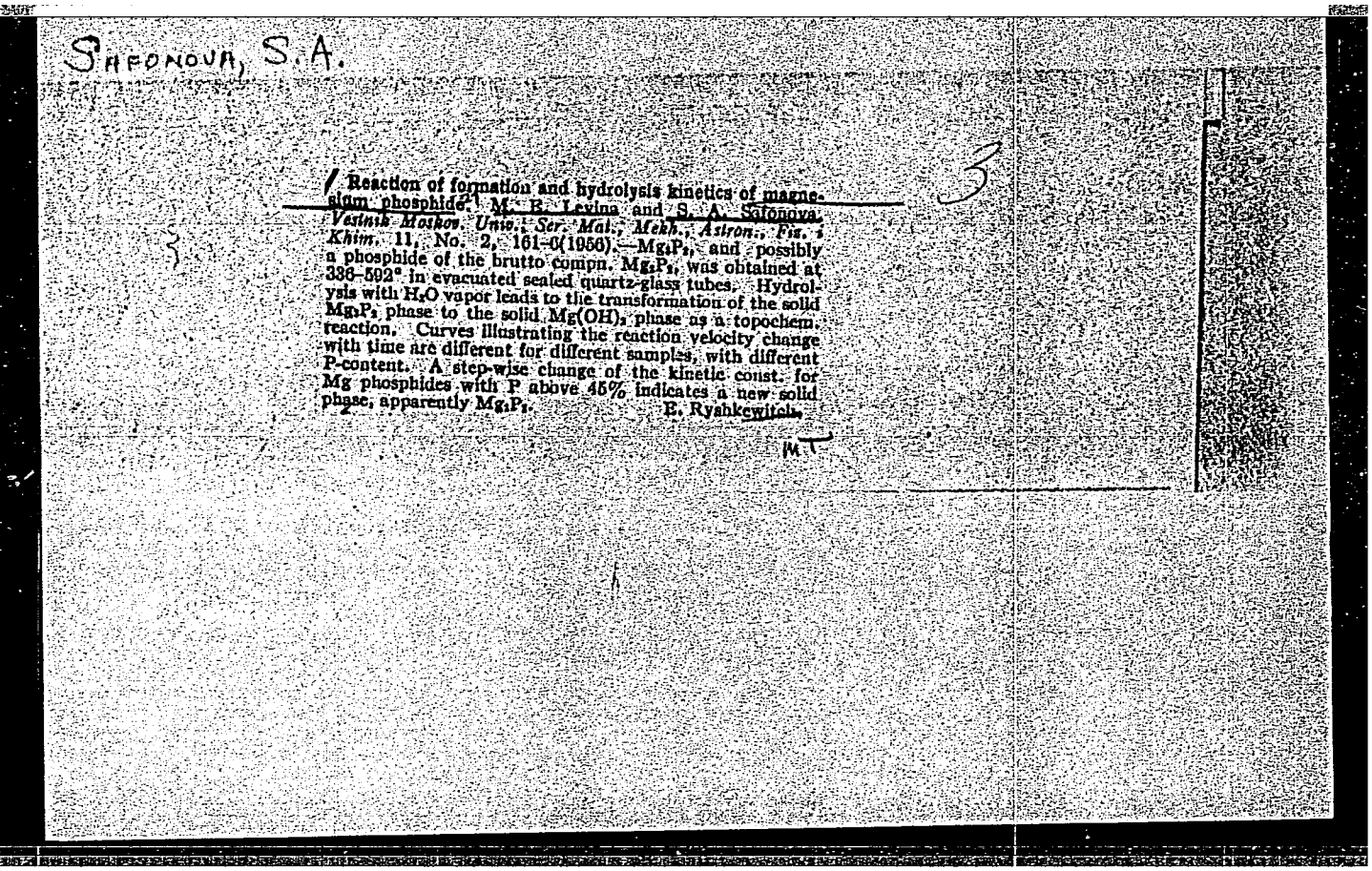


SAFONOVA, S.A.

Reaction of formation and hydrolysis kinetics of magnesium phosphide. M. B. Levina and S. A. Safonova. *Vestnik Moskov. Univ., Ser. Mat., Mekh., Astron., Fiz., i Khim.*, 11, No. 2, 161-6(1956).—Mg_3P_2, and possibly a phosphide of the brutto compn. Mg_2P_3, was obtained at 336-592° in evacuated sealed quartz-glass tubes. Hydrolysis with H_2O vapor leads to the transformation of the solid Mg_3P_2 phase to the solid $Mg(OH)_2$ phase as a topochem. reaction. Curves illustrating the reaction velocity change with time are different for different samples, with different P-content. A step-wise change of the kinetic const. for Mg phosphides with P above 45% indicates a new solid phase, apparently Mg_2P_3. E. Ryshkewitch.

3

REMEZOVA, Ye.S., prof.; SAFONOVA, S.A.

Treatment of pykno-epilepsy. Sov. med. 27 no.2:97-101 F '64.
(MIRA 17:10)

1. Klinika epilepsii (zav. - prof. Ye.S. Remezova) Gosudarstvennogo nauchno-issledovatel'skogo instituta psikhiatrii (dir. - prof. D.D. Fedotov) i psikhonevrologicheskogo dispansera No.6 (zaveduyushchiy - kand. med. nauk L.Ya. Shtiller).

KOVALEVA, Z.Ya.; ZAIROV, G.K.; SAFONOVA, S.Kh.

Therapeutic effect of mexamine. Preliminary report. Trudy 1-go MMI 34:434-439 '64. (MIRA 18:11)

1. Kafedra psikhiatrii (zav. - zasluzhennyy deyatel' nauki prof. V.M. Banshchikov) 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

POPOVA, T.G.; SAFONOVA, T.A.

Distribution of euglenoid algae in bottom-land waters of the middle reaches of the Ob' River and the adjacent taiga regions. Trudy Biol. inst. Sib. otd. AN SSSR no.7:261-270 '61. (MIRA 15:3)
(OB' VALLEY—FLAGELLATA)

SAFONOVA, T.A.

New and rare species of the genera Trachelomonas Ehr. and Strobomonas Defl. from Tomsk Province. Trudy Biol. inst. Sib. otd. AN SSSR no.7:271-278 '61. (MIRA 15:3)
(KOLOMINO REGION--FLAGELLATA)

SAFONOVA, T.A.

Trachelomonas calva Conrad and the allied T. cincta sp. nova in the bodies of water of Tomsk Province. Bot. mat. Otd. spor. rast. 15:67-70 Ja '62. (MIRA 15:10)
(Parabel' region—Euglenophyta)

SAFONOVA, T.A.

New and interesting forms of the genus Trachelomonas Ehr. from Tomsk Province. Bot. mat. Otd. spor. rast. 16:27-31 '63.
(MIRA 16:10)

SAFONOVA, T.A.

Algae of the floodplain waters in the lower reaches of the Ob' River and the adjacent regions of the forest-tundra. Trudy TsSBS no.8:130-147 '64. (MIRA 18:7)

SAFONOVA, T.A.

Genus Trachelomonas Ehr. in the algal flora of Western Siberia.
Trudy TSSBS no.10:62-109 '65. (MIRA 18:10)

LARIONOVA, Ye.N.; SAFONOVA, T.P.

Coal deposits at Sovetsk in the Vyatka Uval. Izv.AN SSSR.Ser.geol. 20 no.6:29-41 N-D '55. (MLRA 9:2)
(Vyatka Uval--Coal geology)

SAFONOVA, T.P.; SHERSHNEV, K.S.

Stratigraphy and paleogeography of terrigenous sediments in the lower Carboniferous in the Kama portion of Perm Province. Trudy VNIGNI no.13:132-145 '59. (MIRA 13:1)
(Perm Province--Geology, Stratigraphic)
(Perm Province--Paleogeography)

DAIMATSKAYA, I.I.; LATSKOVA, V.Ye.; ORLOVA, I.N.; RAUZER-CHERNOUSOVA, D.M.; REYTLINGER, Ye.A.; SAFONOVA, T.P.; SEMIKHATOVA, Ye.N.; CHERNOVA, Ye.I.; SHATSKIY, N.S., akademik, glav. red.; MENNER, V.V., zam glav. red.; SEMIKHATOVA, S.V., prof., red. toma; KATLYAREVSKAYA, P.S., red. izd-va; NOVICHKOVA, N.D., tekhn. red.

[Regional stratigraphy of the U.S.S.R.] Regional'naia stratigrafiia SSSR. Glav. red. N.S.Shatskii. Moskva. Vol.5. [Stratigraphy of the Middle Carboniferous sediments of the central and eastern parts of the Russian platform based on the studies of Foraminifera] Stratigrafiia srednekamennougol'nykh otlozhenii tsentral'noi i vostochnoi chasti Russkoi platformy (na osnove izucheniia foraminifer). Pt.2. [Volga and Kama Valleys] Povolzh'e i Prikam'e. 1961. 355 p. (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologorazvedochnyy neftyanoy institut (for Dalmatskaya). 2. Institut geologicheskikh nauk AN SSSR (for Rauzer-Chernousova, Reytlinger). 3. TSentral'naya nauchno-issledovatel'skaya laboratoriya Upravleniya neftyanoy promyshlennosti Permskogo Sovnarkhoza (for Safonova). 4. Nizhnevolzhskiy filial Vsesoyuznogo nauchno-issledovatel'skogo geologorazvedochnogo neftyanogo instituta (for Latskova, Orlova, Chernova). 5. Rostovskiy gosudarstvennyy universitet (for Semikhatova, Ye.N.)

(Volga Valley—Paleontology, Stratigraphic)
(Kama Valley—Paleontology, Stratigraphic)

SAFONOVA, T. S.

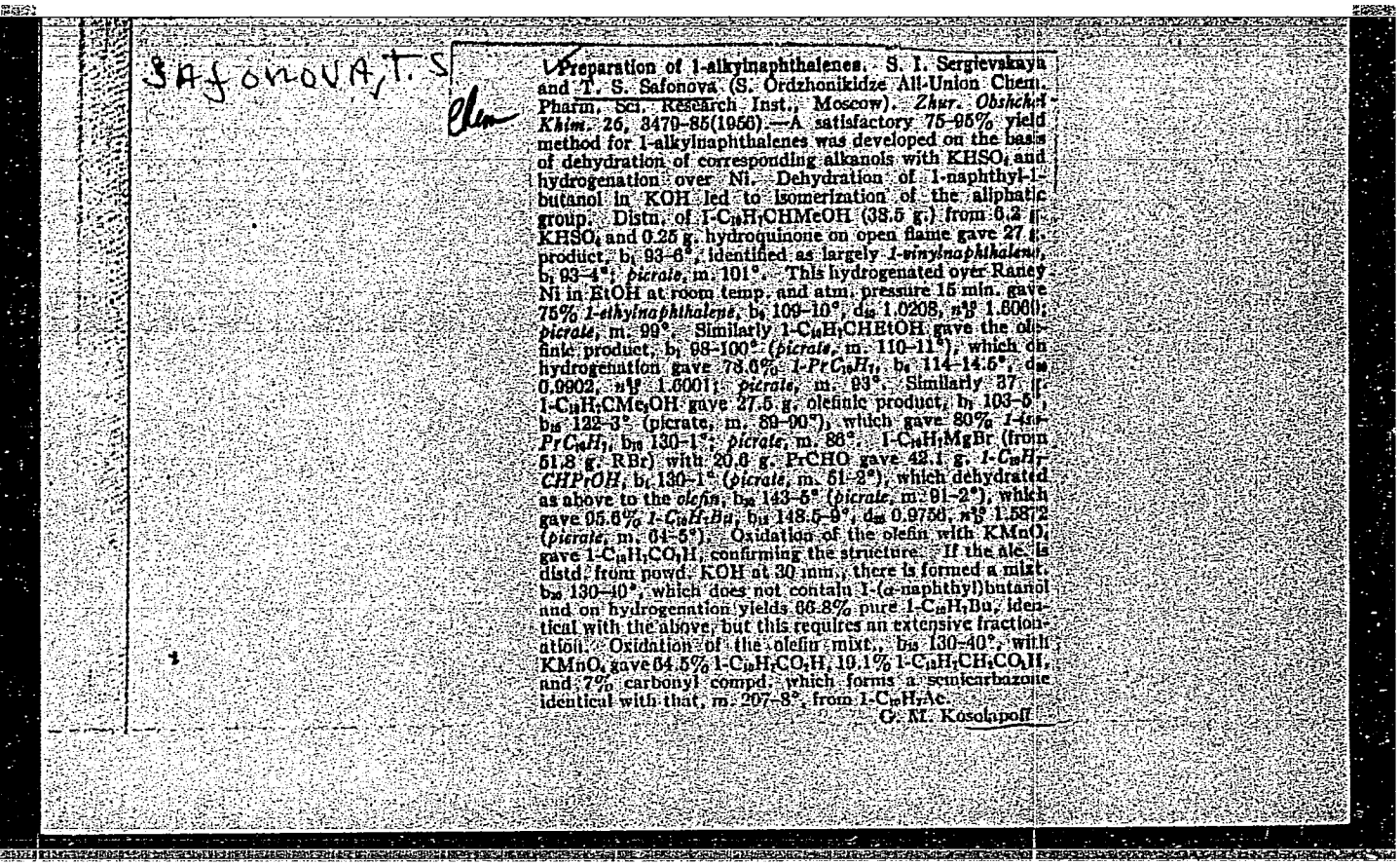
Catalytic method of preparation of 1-methylnaphthalene from 1-chloromethylnaphthalene. S. I. Sergievskaya, G. Ya. Uretskaya, and T. S. Safonova (S. Ordzhonikidze All-Union Sci. Research Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 23, 1037-30(1953).—Hydrogenation of 1-ClCH$_2$C$_{10}$H$_7$ (I) over Raney Ni in the presence of alc. NaOH yields 60–70% 1-MeC$_{10}$H$_7$, 1-C$_{10}$H$_7$CH$_2$OEt (II) and bis(1-naphthyl)ethane (III). With dry AcONa in EtOH the reaction yields 85% 1-MeC$_{10}$H$_7$. Shaking 17.3 g. I in 200 ml. alc. NaOH and 10 g. Raney Ni in H atm. gave 60% 1-MeC$_{10}$H$_7$, b$_6$ 110–13° (picrate, m. 141–1.5°), and 9.5 g. higher boiling materials. I (50 g.) in 14.5 g. NaOH and 350 ml. EtOH, shaken with 10 g. Raney Ni at 27.5 atm. H at room temp. gave 26.9% 1-MeC$_{10}$H$_7$ and about 7 g. II, b$_{4.4}$ 130–6°. The high boiling fractions from both expts. gave III, m. 164°. Pure II b$_{4.7}$ 133–6°, b$_6$ 134–6°. I (10 g.), 7.3 g. dry NaOAc and 100 ml. 96% EtOH shaken with 10 g. Raney Ni in H atm. at atm. pressure gave 78.7% 1-MeC$_{10}$H$_7$ and a little III. The same reaction run at 28 atm. H gave in 1 hr. 85% 1-MeC$_{10}$H$_7$, and small amounts of II and III. I (10 g.), 15 ml. EtOAc, 3.7 g. NaOH and 100 ml. 96% EtOH shaken with 10 g. Raney Ni at atm. pressure gave 80.3% 1-MeC$_{10}$H$_7$ and 1 g. III. The reaction run at 28 atm. H gave 85% 1-MeC$_{10}$H$_7$ and a little III.

G. M. Kosolapoff

SAFONOVA, T. S.

"Investigating the Synthesis and Conversion of Alpha-Alkylnaphthalenes." Cand Chem Sci, All-Union Sci-Res Chemicopharmaceutical Inst, Moscow, 1954. (KL, No 9, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)



Safonova, T. S.

Chem

Preparation of 1-alkylnaphthalenes. S. I. Sergievskaya and T. S. Safonova (S. Ordzhonikidze All-Union Chem. Pharm. Sci. Research Inst., Moscow). *Zhur. Obshchei Khim.* 26, 3479–85(1956).—A satisfactory 75–95% yield method for 1-alkylnaphthalenes was developed on the basis of dehydration of corresponding alkanols with $KHSO_4$ and hydrogenation over Ni. Dehydration of 1-naphthyl-1-butanol in KOH led to isomerization of the aliphatic group. Distn. of 1-$C_{10}H_7CHMeOH$ (38.5 g.) from 6.2 g. $KHSO_4$ and 0.25 g. hydroquinone on open flame gave 27 g. product, b_1 93–6°, identified as largely *1-vinylnaphthalene*, b_1 93–4°; *picrate*, m. 101°. This hydrogenated over Raney Ni in EtOH at room temp. and atm. pressure 15 min. gave 75% *1-ethylnaphthalene*, b_6 109–10°, d_{20} 1.0208, n_D^{20} 1.6060; *picrate*, m. 99°. Similarly 1-$C_{10}H_7CHEtOH$ gave the olefinic product, b_1 98–100° (*picrate*, m. 110–11°), which on hydrogenation gave 78.0% *1-Pr*$C_{10}H_7$, b_6 114–14.5°, d_{20} 0.9902, n_D^{20} 1.6001; *picrate*, m. 93°. Similarly 37 g. 1-$C_{10}H_7CMe_2OH$ gave 27.5 g. olefinic product, b_1 103–5°, b_{15} 122–3° (picrate, m. 89–90°), which gave 80% *1-isoPr*$C_{10}H_7$, b_{10} 130–1°; *picrate*, m. 86°. 1-$C_{10}H_7MgBr$ (from 51.8 g. RBr) with 20.6 g. PrCHO gave 42.1 g. *1-*$C_{10}H_7CHPrOH$, b_4 130–1° (*picrate*, m. 61–2°), which dehydrated as above to the *olefin*, b_{20} 143–5° (*picrate*, m. 91–2°), which gave 95.6% *1-*$C_{10}H_7Bu$, b_{12} 148.5–9°, d_{20} 0.9750, n_D^{20} 1.5872 (*picrate*, m. 64–5°). Oxidation of the olefin with $KMnO_4$ gave 1-$C_{10}H_7CO_2H$, confirming the structure. If the alc. is distd. from powd. KOH at 30 mm., there is formed a mixt. b_{20} 130–40°, which does not contain 1-(α-naphthyl)butanol and on hydrogenation yields 66.8% pure 1-$C_{10}H_7Bu$, identical with the above, but this requires an extensive fractionation. Oxidation of the olefin mixt., b_{20} 130–40°, with $KMnO_4$ gave 64.5% 1-$C_{10}H_7CO_2H$, 19.1% 1-$C_{10}H_7CH_2CO_2H$, and 7% carbonyl compd. which forms a semicarbazone identical with that, m. 207–8°, from 1-$C_{10}H_7Ac$.

G. M. Kosolapoff

AUTHORS: Sergiyevskaya, S. I. and Safonova, T. S. 79-2-32/58

TITLE: About the Nitration of 1-n-Butylnaphthalin (O nitrovanii 1-n-butilnaftalina)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 421-428 (U.S.S.R.)

ABSTRACT: The reaction of nitration of 1-n-butylnaphthalin, 4-nitro-1-n-butylnaphthalin and 4,5-dinitro-1-n-butylnaphthalin in nitric acid of various concentration was investigated under different conditions. Separation of the nitro compounds formed as a result of nitration was accomplished by means of the chromatographic adsorption method. Temperature and nitric acid concentration had a positive effect on the formation of mono-, di- and trinitro compounds during the nitration of 1-butyl-naphthalin. During the nitration of 4,5-dinitro-1-butylnaphthalin, the authors encountered conditions in which trinitro-1-butylnaphthalin was the sole reaction product. Consequent conversion of 1-butylnaphthalin through 4-nitro-1-butylnaphthalin into 4,5-dinitro-1-butylnaphthalin and 4,5-dinitro-1-butylnaphthalin into trinitro-1-butylnaphthalin showed that the two nitro groups in the latter compound are in 4 and 5 positions of the naphthalin ring. The position of the third nitro group in trinitrobutylnaphthalin is explained.

Card 1/2

79-2-32/58

About the Nitration of 1-n-Butylnaphthalin

There are 3 references, of which 1 is Slavic

ASSOCIATION: All-Union Scientific-Research Chemical-Pharmaceutical Institute imeni S. Ordzhonikidze

PRESENTED BY:

SUBMITTED: March 6, 1956

AVAILABLE: Library of Congress

Card 2/2

SAFONOVA, T.S.

79-2-33/58

AUTHORS: Sergiyevskaya, S. I. and Safonova, T. S.

TITLE: 4-Amino-1-n-Butylnaphthalin and its Conversions (4-Amino-1-n-butilnaftalin i yego prevrashcheniya)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 428-431 (U.S.S.R.)

ABSTRACT: 4-Amino-n-butylnaphthalin was obtained by catalytic reduction of 4-nitro-1-n-butylnaphthalin in the presence of a skeletal nickel catalyst. The catalytic reduction also yielded the hydrochloride, acetyl and benzoyl derivatives of this compound. The derivation of 4-chloro-1-n-butylnaphthalin, 4-iodo-1-n-butylnaphthalin and 4-n-butyl-1-naphthoic acid is described. The 4-amino-1-n-butylnaphthalin is described as a liquid substance, rapidly darkening when exposed to air, particularly when heated. Distillation of this substance was possible only in a nitrogen atmosphere in the presence of antioxidizers. 4-n-butyl-1-naphthoic acid was obtained from 4-iodo-1-n-butylnaphthalin by means of the Grignard reaction.

Card 1/2 1 Reference, which is Slavic.

Sapozhnikov P. S.

SERGIYEVSKAYA, S.I.; [redacted] URETSKAYA, G.Ya.

Nitration of 1-ethylnaphthalene, 4-nitro- and 4,5-dinitro-1-ethylnaphthalene. Zhur. ob. khim. 27 no.3:749-754 Mr '57. (MLRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Orzhonikidze.
(Naphthalene) (Nitration)

S. J. Sergievskaya

Distr: 4E4j/4E3d

Chloromethylation of 1-alkylnaphthalenes and some transformations of 4-chloromethyl-1-alkylnaphthalenes. S. J. Sergievskaya and T. S. Safonova (S. Ordzhonikidze All-Union Chem. Pharm. Sci. Research Inst., Moscow). *Zhur. Obshchei Khim.* 27, 1045–50(1957).—Heating 25 g. 1-C_4H_9Bu and 17 g. paraformaldehyde with 6 g. $ZnCl_2$ and 60 ml. concd. HCl at 65–70° in a stream of dry HCl gave after several distns. 81% *4-chloromethyl-1-butylnaphthalene* (I), b_1 140–1°. Similarly were prepd. *4-chloromethyl-1-ethylnaphthalene*, $b_{4.5}$ 119–20°; *1-Pr analog* b_1 140–1°, and *1-iso-Pr analog*, $b_{0.5}$ 126–7°. These heated with $Pb(OAc)_4$ in AcOH 2 hrs. at 90° gave 80–90% *4-acetoxy-1-butylnaphthalene*, b_1 149.5–50°; *1-Et analog*, $b_{0.5}$ 134–5°; *1-Pr analog*, b_1 150–1°; *1-iso-Pr analog*, $b_{0.5}$ 149–50°. These refluxed with alc. KOH 0.5 hr. gave 90–8% *4-hydroxymethyl-1-butylnaphthalene*, m. 89.5–90°; *1-Et analog*, m. 81.5–2°; *1-Pr analog*, m. 88.5–9°; *1-iso-Pr analog*, m. 64–5°. These oxidized with $KMnO_4$ in refluxing Me$_2$CO gave 90–5% *1-butylnaphthalene-4-carboxylic acid*, m. 148–8.5°; *1-Et analog*, m. 129–30°; *1-Pr analog*, m. 141–2°; *1-iso-Pr analog*, m. 153–3.5°. Heating 15 g. I with 6.2 g. $HN(CH_2CH_2OH)_2$ 6.5 hrs. at 90°, cooling, treating with 30 g. $SOCl_2$ in C_6H_6, and heating 1.5 hrs. at 68–70° gave after treatment with dry HCl in Et_2O 16.6 g. *N-1-butyl-4-naphthylmethyl-N,N-bis(2-chloroethyl)amine HCl salt* (II), m. 129.5–30.5°; the *free base* was an undistillable oil; similarly were prepd. *analogs* of II: *1-Et*, m. 147–8°; *1-Pr*, m. 158.5–9°; and *1-iso-Pr*, m. 120.5–30.5°.

G. M. Kosolapoff

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

Aryl amides of aliphatic amino acids. Part 2: Aryl amides of glycine and glycylglycine. Zhur.ob.khim. 30 no.6:1848-1855 Je '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Amides) (Glycine)

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

N-di(chloroethyl) amides of aminocarboxylic acids and their peptides. Part 1: Method of obtaining the N-di(chloroethyl) amide of glycine and of compounds related to it. Zhur.ob. khim. 30 no.7:2432-2433 Jl '60. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimikofarmatsevticheskiy institut imeni S.Ordzhonikidze.
(Amides) (Glycine)

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

N, N-bis(β-chloroethyl)amides of aminocarboxylic acids. Part 1: N, N-bis(β-chloroethyl)glycinamide and compounds related to it. Zhur. ob. khim. 31 no.4:1193-1199 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Glycinamide)

SAFONOVA, T.S.; SERGIYEVSKAYA, S.

Amidoester rearrangement of di(β-chloroethyl) amides of amino-carboxylic acids. Zhur.ob.khim. 32 no.4:1351-1352 Ap '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(Alaninamide) (Rearrangements(Chemistry))

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

Arylamides of aliphatic amino acids. Part 3:p-N-di(chloroethyl) aminophenylamides of some amino acids. Zhur. ob. khim. 34 no. 3: 919-923 Mr '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

SAFONOVA, T.S.; MYSHKINA, L.A.

Preparation of esters of orotylamino acids and salts of orotic acid with amino compounds. Zhur. ob.khim. 34 no. 5:1682 My '64. (MIRA 17:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni Ordzhonikidze.

SAFONOVA, T.S.; SERGIYEVSKAYA, S.I.

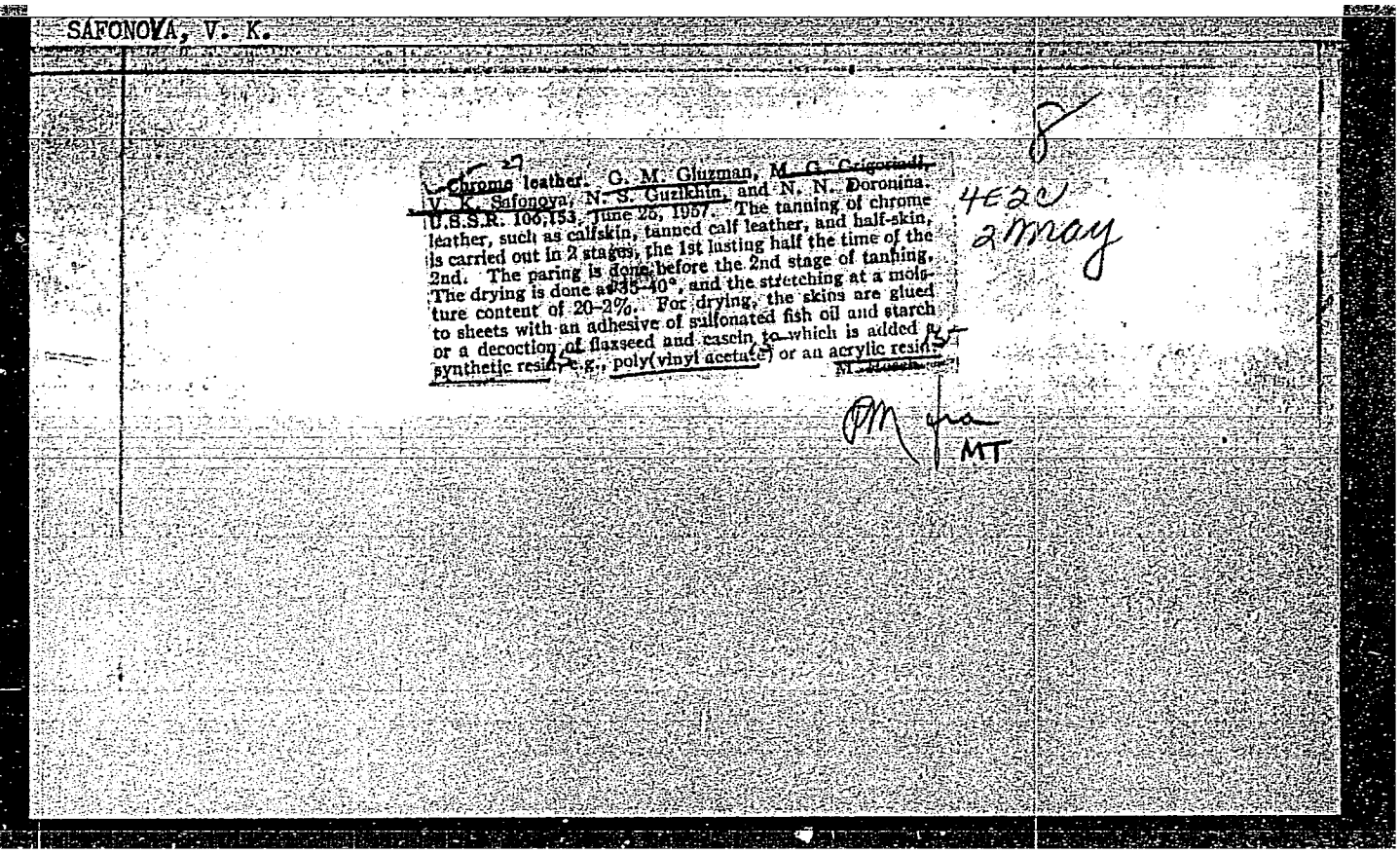
N,N-bis(β-chloroethyl) amides of aminocarboxylic acids. Part 2: N-substituted amides of N-phthaloyl and N'-tritylalanines. Zhur. org.khim. 1 no.3:450-454 Mr '65, (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S.Ordzhonikidze.

SAFONOVA, T.S.; SERGIYEVSKIY, S.I.; MYSHKINA, L.A.

N-bis(β-chloroethyl)amides of amino acids. Part 5: Rearrangement of N-bis(β-chlorcethyl)amides of N'-phthaloylalanines to β-chloroethylaminoethyl esters of N-phthaloylalanines. Zhur. org. khim. 1 no.4:791-796 Ap '65. (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni Ordzhonikidze.



SAFONOVA, V. K.

Chrome leather. G. M. Gluzman, M. G. Grigoriadi, V. K. Safonova, N. S. Guzikhin, and N. N. Doronina. U.S.S.R. 106,153, June 25, 1957. The tanning of chrome leather, such as calfskin, tanned calf leather, and half-skin, is carried out in 2 stages, the 1st lasting half the time of the 2nd. The paring is done before the 2nd stage of tanning. The drying is done at 35–40°, and the stretching at a moisture content of 20–2%. For drying, the skins are glued to sheets with an adhesive of sulfonated fish oil and starch or a decoction of flaxseed and casein to which is added a synthetic resin, e.g., poly(vinyl acetate) or an acrylic resin. M. Hirsch

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NIKITINA, A.N.; SAFONOVA, V.M.

Change of the refractive index of organic liquids in a wide temperature range. Zhur.fiz.khim. 29 no.2:356-358 F '55. (MLRA 8:7)

1. Akademiya nauk SSSR, Institut organicheskoy khimii, Moscow.
(Refractive index) (Chemistry, Organic)

AUTHORS: Yentis, I.G., Safonova, V.P. SOV/115-58-6-39/43

TITLE: On the Prevention of Losses of Fuel and Lubricating Materials (O bor'be s poteryami goryuche-smazochnykh materialov)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 6, pp 97 - 98 (USSR)

ABSTRACT: In many plants of the construction and road machine building industry the fuel and lubrication material departments are not in good order. In many cases the necessary measuring instruments are lacking. The reservoirs are not correctly installed on their foundations and not checked according to the liquid level. It is recommended to increase the output of measuring devices by decreasing their precision. Many instruments now have a tolerance of only 1 mm, although they are used to measure in centimeters.

Card 1/1

SAFONOVA, V.S.

Surgery of isolated osseous tuberculous foci of the knee joint. Probl.tub. 37 no.3:69-72 '59. (MIRA 12:6)

1. Iz Sverdlovskogo detskogo tuberkuleznogo sanatoriya No.1 (dir.K.I.Skvortsov).

(TUBERCULOSIS, OSTEOARTICULAR, surg.
knee, isolated foci (Rus))

SAFONOVA, V. S. ** Cand Med Sci -- (diss) "Operation Treatment of Isolated Tubercular Foci in the Bones of the Knee Joint," Kiev, 1960, 13 pp, 250 copies (Kiev Medical Institute im Acad. A. A. Bogomolets) (KL, 48/60, 115)

KOLTYPIN, S.N.; SAFONOVA, V.S.

Pyroclastic rocks in the Cretaceous sediments of the Caspian Lowland. Dokl. AN SSSR 161 no.6:1416-1418 Ap '65. (MIRA 18:5)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy institut.
Submitted December 2, 1964.

SHKVARNIKOV, P.K.; KULIK, M.I.; SAFONOVA, V.T.

Relative mutagenic effectiveness of some chemical compounds on plants. Dokl. AN SSSR 164 no.5:1161-1164 O '65. (MIRA 18:10)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN SSSR. Submitted December 14, 1964.

SOV/72-59-4-9/21

15(2)

AUTHORS: Vizir, V. A., Sivchikova, M. G., Safonova, V. Z., Sen', Z. P.

TITLE: On the Production of Porcelain and Faience Products by Means of the Method of Pressing (Izgotovleniye farforovykh i fayansovykh izdeliy sposobom pressovaniya)

PERIODICAL: Steklo i keramika, 1959, Nr 4, pp 31 - 34 (USSR)

ABSTRACT: Nauchno-issledovatel'skaya laboratoriya Upravleniya farforo-fayansovoy i stekol'noy promyshlennosti Kiyevskogo sovnarkhoza (The Scientific Research Laboratory of the Administration of the Porcelain-Crockery- ard Glass Industry of the Kiyev Sovnarkhoz carried out experiments for testing the production possibilities of flat products by means of the method of pressing from semi-dry fine-ceramic masses. Due to this method the production processes were considerably reduced. In the course of the experiments the optimum humidity and granulation of the press masses as well as the conditions of pressing and burning were determined. In table 1 the compositions of the test masses are given and in table 2 the binding organic additions. The degree of

Card 1/2

compression in dependence of the amount of the pressure applied and humidity of the pressing powder is represented in figure 1. The dependence of the breaking strength on the specific pressure and the humidity of the mass for dried samples is represented in figure 2 and for burnt samples in figure 3. The quality and strength of the products which were prepared by the method of pressing do not differ from those produced by plastic formation (Table 3). In figure 4 plates are shown which were produced by the method of pressing. The experiments showed that it is possible to produce flat household appliances by means of the method of pressing from ceramic powder masses with a humidity of 8 to 12% and a specific pressure of 450 to 550 kg/cm^2. There are 4 figures and 3 tables.

SMIRNOV, N. B. 150

PHASE I BOOK EXPLOITATION

AUTHOR: See Table of Contents

TITLE: Theory and Design of Instrument-components in Precision Mechanics (Teoriya i raschet elementov priborov tochnoy mekhaniki); Collected articles, Nr 22 (Sbornik statey, Vyp. 22.)

PUB. DATA: Gos. nauchno-tekhn. izd-vo mashinostroitel'noy literatury, Moscow-Leningrad, 1957, 168 pp. 6500 copies

ORIG. AGENCY: Leningradskiy institut tochnoy mekhaniki i optiki

EDITOR: Bogdanovich, M. M., Cand. of Tech. Sciences, Docent; Ed. In-Chief Bol'shakov, S. A.; Ed. of Pub. House: Borodulina, I. A., Tech. Ed.: Sokolova, L. B.

PURPOSE: This collection ia intended for engineer, technical and scientific personnel working in the field of instrument manufacturing. It may also be useful to students engaged in instrument-manufacturing studies at institutions of higher education.

Theory and Design of Instrument-components in Precision Mechanics (Cont.)

COVERAGE:

The following subjects are discussed: Theory and precision of clock mechanisms and design of their component parts, such as conoids and elastic steel-band transmissions; determination of the line of action of forces acting on the specimen in tension and compression tests; screwed connections of machine parts; torgue developed in a spherical gyroscope; graphic and analytical method for determining limits of changes of variablee vector - components; determination of the relative position of links in three-dimensional link mechanisms.

SAFONOVA, Ye. B., Candidate of Technical Sciences. "Torque Developed in the Spherical Gyroscope," p. 39.

САПОНОВА Ye.G.

SAPONOVA, Ye.G.; KHAZANOV, Ye.I.

Some features in the reduction of magnesium oxide by calcium carbide.
Izv.vost.fil.AN SSSR no.4/5:119-127 '57. (MIRA 10:9)

1. Vostochno-Sibirskiy filial Akademii nauk SSSR.
(Magnesium oxides) (Calcium carbide) (Reduction, Chemical)

SOV/137-58-10-20756 D

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 58 (USSR)

AUTHOR: Safonova, Ye.G.

TITLE: An Investigation of the Laws Governing the Electric Vacuum Method of Producing Magnesium from East Siberian Ores by Small Amounts of Calcium Carbide (Issledovaniye zakonomernostey elektrovakuumnogo sposoba polucheniya magniya iz rud Vostochnoy Sibiri malolitrazhnym karbidom kal'tsiya)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Technical Sciences, presented to the Vost.-Sib. fil. AN SSSR (East-Siberian Branch, Academy of Sciences, USSR), Irkutsk, 1958

ASSOCIATION: Vost.-Sib. fil. AN SSSR (East-Siberian Branch, Academy of Sciences, USSR), Irkutsk

1. Magnesium--Production 2. Furnaces--Performance 3. Calcium carbide--Applications

Card 1/1

SAFONOVA, Ye.G.; KHAZANOV, Ye.I.

Electric vacuum method for obtaining magnesium from magnesites of the Onot deposit. Trudy Vost.-Sib. fil. AN SSSR no.13:273-285 '58.
(MIRA 12:12)

1.Vostochno-Sibirskiy filial AN SSSR.
(Onot Valley--Magnesium)

S/897/62/000/043/001/001
B117/B186

AUTHORS: Khazanov, Ye. I., Safonova, Ye. G., Stakheyeva, S. A., Kuz'mina, G. V.

TITLE: Reaction of aluminum carbide with magnesium oxide

SOURCE: Akademiya nauk SSSR. Vostochno-Sibirskiy filial. Trudy. no.43. 1962. Syr'yevyye resursy legkikh metalliv Vostochnoy Sibiri. v. 4, 112-128

TEXT: The reduction of magnesium oxide with aluminum carbide was studied both in theory and practice. The carbide was produced by heating metallic aluminum and electrode graphite, parts by weight ratio 2 : 1, for 3 hrs in the presence of 5% cryolite at 1350 - 1400°C in a hydrogen stream (5 l/hr). After treatment of the reaction products with 0.5 N HCl solution in the cold and increasing the hydrogen stream to 10 l/hr, the Al_4C_3 content rose from 50% to 73 - 90%. Magnesium oxide reacted rapidly with Al_4C_3 on heating in vacuo in a special apparatus at a temperature as low as 900°C, forming metallic magnesium, carbon black, and spinel:

Card 1/2

Reaction of aluminum carbide with ... S/897/62/000/043/001/001
B117/B186

$$8MgO + Al_4C_3 = 6\,Mg + 2(MgO \cdot Al_2O_3) + 3C$$

The magnesium yield, being ~7 - 10% increased with elevated temperatures, reaching 81-86% at 1200-1300°C. In the presence of calcium oxide $MgO + Al_4C_3$ yielded pentacalcium trialuminate:

$$9MgO + 1.5\,Al_4C_3 + 5CaO = 9\,Mg + 5CaO \cdot 3Al_2O_3 + 4.5C.$$

The magnesium yield was shown to increase by an excess of reducing agent, MgO, or CaO. An addition of calcium fluoride accelerated the reaction between MgO and Al_4O_3. There are 8 figures and 8 tables.

Card 2/2

SAFONOVA, Ye.G.; KHAZANOV, Ye.I.

Composition of filtration residues. Trudy Vost.-Sib. fil. AN SSSR no.43:129-141 '62. (MIRA 16:3)
(Tailing (Metallurgy)—Analysis) (Electrometallurgy—By-products)

KHAZANOV, Ye.I.; SAFONOVA, Ye.G.; VRUBLEVSKAYA, I.A.

Composition and properties of dolomites from the Irkutsk Province. Trudy Vost.-Sib. fil. AN SSSR no.43:142-153 '62. (MIRA 16:3)
(Irkutsk Province--Dolomites--Analysis)

KHAZANOV, Ye.I.; SAFONOVA, Ye.G.

Industrial testing of dolomites form deposits in the Irkutsk Province. Trudy Vost.-Sib. fil. AN SSSR no.43:154-157 '62. (MIRA 16:3)
(Irkutsk Province—Dolomites—Testing)

SAFONOVA, Ye.G.; KHAYANOV, Ye.I.

Material composition of filter residues from the production of aluminum-silicon alloys. Zav. Sib. otd. AN SSSR no.7:71-78 '62 (MIRA 17:8)

1. Institut nefte- i uglekhimicheskogo sintesa Sibirskogo otdeleniya AN SSSR, Angarsk.

S/080/63/036/002/002/019
D403/D307

AUTHORS: Khazanov, Ye. I., Safonova, Ye. G., Stakheyeva, S. A. and Kuzmina, G. V.

TITLE: The interaction of aluminum carbide with magnesium oxide

PERIODICAL: Zhurnal prikladnoy khimii, v. 36, no. 2, 1963, 251-263

TEXT: A brief review is first given of the physical and chemical properties of Al_4C_3. In the present work the authors prepared this compound by a number of methods, the best being the interaction of Al with electrode graphite, in the presence of cryolite, at 1350 - 1400°C, over 3 hours, under H_2. The mixture was then treated with HCl. The product was reacted with pure MgO, under vacuum, at 800 - 1300°C. The reaction

$$9MgO + Al_4C_3 = 6Mg + 2(MgO \cdot Al_2O_3) + 3O$$

Card 1/2

The interaction of ...

proceeded appreciably at 800°C, fairly rapidly at 900°C (yield of Mg ~7 - 10%), and rapidly at 1200 - 1300°C (81 - 86% Mg). Small additions of CaF_2 accelerated the reaction. The products were confirmed by petrographic, chemical and x ray analyses. In the presence of lime, the reaction was found to be

$$9MgO + 1.5Al_4C_3 + 5CaO = 9Mg + 5CaO.3Al_2O_3 + 4.5C.$$

There are 6 figures and 8 tables.

SUBMITTED: July 22, 1961

Card 2/2

VASHKOV, V.I.; MEDELIN, K.T.; SUKHAREVA, N.D.; SAFONOVA, Ye.P.

The raticide zoocoumarin. Farm. i toks. 20 no.1:80-82 Ja-F '57.
(MLRA 10:7)
(RATS,
raticide 3-(α-phenyl-β-acatylethyl)-4-ozycoumarine (Rus))
(COUMARIN, related compounds,
3-(α-phenyl-β-acetylethyl)-4-oxycoumarin, raticide (Rus))

SAFONOVA, Ye. S.

"The Diagnostic Significance of the Myelin-Culture Method in Typhoid Fever," Tezisy Dokladov 11-y Nauchnoy Studencheskoy Konferentsii Voronezhskogo Gosudarstvennogo Med. Inst., Voronezh, 1952, p 38.

5(4)

AUTHORS: Aydarov, T. K., Zak, A. Ye., Safonova, Ye. S. SOV/32-25-3-3/62

TITLE: On the Influence Exercised by Some Elements Upon the Determination of Alkali Metals According to the Method of Flame-photometry (O vliyanii nekotorykh elementov pri opredelenii shchelochnykh metallov metodom plamennoy fotometrii)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 3, pp 269-271 (USSR)

ABSTRACT: This paper was presented at the XII Vsesoyuznoye soveshchaniye po spektroskopii (XII All-Union Conference on Spectroscopy) in Moscow, in November 1958. Since flame-photometry is applied for lithium and potassium determinations in the accumulator industry the influence exercised by the accompanying elements upon the determination of alkali metals and a possibility of eliminating this influence were investigated. Industrial samples of potassium and sodium electrolytes with lithium additions, pulverized graphite and nickel masses (with Li additions), as well as solutions containing salts of cadmium, nickel and potassium were investigated. A unit of interference eliminators of the type of the Ivanov flame-photometer (Ref 2) was used as

Card 1/2

On the Influence Exercised by Some Elements Upon the Determination of Alkali Metals According to the Method of Flame-photometry

SOV/32-25-3-3/62

well as an air-acetylene flame. The schematical drawings of the torch and the atomizer are given (Fig 1). For the purpose of error determination parallel analyses were performed by means of the ISP-51 spectrograph. It was found that within the concentration range of from 10-100 mg Li/l Na and Ni exercise no influence while potassium causes a strong increase in the lithium radiation intensity at a content of 10 mg/l (Fig 2). An increase in the acidity of the test solution reduces the radiation intensity of Li (Fig 3). Nickel and cadmium influence the determination of potassium (20-40 mg/l) only at very high concentrations. Nickel then intensifies potassium radiation and weakens cadmium radiation (Fig 4). For this reason a 100-fold dilution of the sample must be made in quantitative lithium and potassium determinations in potassium and sodium electrolytes. In cadmium-nickel solutions the dilution must be 25-fold. The calibration curves for the determination of lithium in sodium and potassium electrolytes are given (Fig 5). There are 5 figures, 1 table, and 1 Soviet reference.

Card 2/2

SAFONOVA, Ye.V., kand. tekhn. nauk.

Main moment of forces acting on ball gyroscopes along stators.
Sbor. st. LITO no.22:39-54 '57. (MIRA 11:2)
(Gyroscope) (Mechanics, Analytic)

L 03858-67 EWT(d)
ACC NR: AP6010778 (N) SOURCE CODE: UR/0146/66/009/001/0114/0118

AUTHOR: Sliv, E. I.; Safonova, Ye. V.; Il'icheva, A. D. 34

ORG: Leningrad Institute of Fine Mechanics and Optics (Leningradskiy institut tochnoy mekhaniki i optiki)

TITLE: Some errors of inertial navigation systems

SOURCE: IVUZ. Priborostroyeniye, v. 9, no. 1, 1966, 114-118

TOPIC TAGS: ship navigation, inertial navigation equipment

ABSTRACT: The effect of an inaccurate compensation for the terrestrial gravity acceleration upon the accuracy of determining the moving-craft coordinate by means of an inertial-navigation system is theoretically investigated. It is found that if the flight duration is short as compared to one-quarter of the period of natural oscillations of the navigation system, the error due to the above inaccurate

Card 1/2 UDC: 621.3.088.22

L 08858-67
ACC NR: AP6010778

compensation is near zero. For such cases, the gravity-acceleration compensation may be rather coarse or absent. If the flight duration is long, the craft-coordinate error cannot exceed the error in the gravity-acceleration compensation. Orig. art. has: 2 figures and 32 formulas.

SUB CODE: 17 / SUBM DATE: 04Jun65

Card 2/2 egk

L 00344-66 EWT(m)/EWP(i)/EWP(t)/EWP(b) IJP(c) JD
ACCESSION NR: AP5022145 UR/0364/65/001/009/1077/1083
541.135.52.92-183

AUTHOR: Shchigolev, P. V.; Safonova, Z. B.

TITLE: Electrolytic polishing of silicon

SOURCE: Elektrokhimiya, v. 1, no. 9, 1965, 1077-1083

TOPIC TAGS: electrolytic polishing, silicon hydrofluoric acid, acetic acid

ABSTRACT: Optimum conditions and optimum composition of the electrolyte for electrolytic polishing of p-silicon was studied. After mechanical and electrolytic polishing the quality of the surface of samples was determined visually from the magnitude of the coefficient of relative reflection of light and from the magnitude of roughness, determined by means of an interferometric microscope. A silver mirror was used as a standard taking its coefficient of reflectance as 100%. Electrolytic polishing of Si was conducted in a circular rotating plastic bath. Electrode potentials and anodic polarization curves were also obtained. The investigation of HF electrolyte from 1 to 20% produced the best Si surface when its concentration was 2.5-5 wt. % and the current density was 300-600 ma/cm^2. The results, however, were not always reproducible. Multiple experiments with a HF+CH_3COOH+H_2O system produced

Card 1/2

L 00344-66
ACCESSION NR: AP5022145

high quality results when the ratio of components by volume was 0.05:0.05:0.9 respectively. The conditions for electrolytic polishing were: 250-350 ma/cm^2, t = 22°C, time--20 to 30 min, the rate of rotation of the bath--80 rpm. In this electrolyte the polish was of better quality than by the use of HF alone. Through the electrochemical study the electrolytic polishing mechanism of Si was established. At optimum composition of the electrolyte and electrolytic polishing conditions silicon passes into solution primarily through an intermediate stage of the electrochemical formation of SiO which is chemically dissolved by HF at the same rate as it is formed. Thus, a steady state is established at which the rate of the above processes is the same. Only under these conditions electrolytic polishing can be achieved and local anodic etching or complete passivity eliminated. Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 26Jan65 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 007

Card 2/2