ACC NR: AP7007510 SOURCE CODE: UR/0101/67/000/001/0012/0013

AUTHOR: Chebukov, M. F. (Professor); Ignat'yeva, L. P. (Candidate of technical sciences)

ORG: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut)

TITLE: Boric acid from ores

SOURCE: Tsement, no. 1, 1967, 12-13

TOPIC TAGS: [redacted], boron mineral, datolite, gypsum rock, cement, boric acid, borate

ABSTRACT: The Urals Scientific Research Chemical Institute has developed a method for obtaining boric acid from datolite and lean borate ores from Far Eastern regions. The method is based on grinding rocks and leaching them with sulfuric acid. Large amounts of gypsum are obtained as a by-product. It is suggested that gypsum-rich by-products of the datolite processing be used at the Far Eastern cement plants as additives to clinkers instead of gypsum imported from the central regions of the

Card 1/2 UDC:

ACC NR: AP7007510

USSR. These Far Eastern cement plants can consume up to 100,000 ton of gypsum yearly [the information is of interest because it indicates the potential scale of datolite rock processed for boron compounds]. Orig. art. has: 1 table. [NC]

SUB CODE: 07,11/SUBM DATE: none/ ATD PRESS: 5117

Card 2/2

ZAV'YALOV, V., podpolkovnik; CHEBULAYEV, K., gvardii podpolkovnik zapasa

Reviews and bibliography. Kom. Vooruzh. Sil. 46 no. 21: 82-86 N '65 (MIRA 19:1)

R-1

USSR/Diseases of Farm Animals. General Problems.

Abs Jour: Ref Zhur - Biol., No 1, 1959, 2791

Author : Chebunin, S. M.
Inst : Kazan' Veterinary Institute
Title : Clinical and Pathomorphological Characteristics of Acute Experimental Myocardium Impairments.

Orig Pub: Uch. zap. Kazansk. vet. in-ta, 1957, 68, 57-68

Abstract: No abstract

Card 1/1

CHEBUNIN, S. M. Cand Vet Sci -- (diss) "Acute affections of the myocardium in animals and their treatment with novocain blocks of the stellate ganglion region (~~Clinical~~ Experimental study)." Kazan', 1958. 17 pp (Min of Agr USSR Kazan' State Vet Inst im N. E. Bauman). (KL, 52-58, 105)

CHEBUNINA, A.N., uchitel'nitsa

Laboratory work in botany. Biol.v shkole no.2:92 Mr-Ap '60.
(MIRA 13:8)

1. Shkola No. 315 goroda Moskvy.
(Botany--Study and teaching)

MASH, R.D.; CHEBUNINA, A.N., uchitel'nitsa

Independent work of students in studying the higher nervous activity of animals. Biol. v shkole no.2:30-34 Mr-Ap '61. (MIRA 14:3)

1. Institut obshchego i politekhnicheskogo obrazovaniya Akademii pedagogicheskikh nauk RSFSR (for Mash). 2. Shkola No.315 go. Moskva (for Chebunina).
(Physiology--Study and teaching)
(Conditioned response)

CHEBUNINA, A.N.

System of students' independent work in botany. Biol. v shkole no.1:16-22 Ja-F '63. (MIRA 16:6)

1. Shkola No. 315, Moskva.
(Botany—Study and teaching)

CHEBUN'KOVA, F. [translator]; GAL'PERINA, T. [translator]

In foreign countries. Mias.ind. SSSR 33 [i.e.34] no.2:59-61 '63.
(MIRA 16:4)
(Meat industry—Equipment and supplies)

[redacted], A., polkovnik zapasa

Advice of elders. Komm. Vooruzh. Sil 4 no.1:58-60 Ja '64.
(MIRA 17:9)

1. Chlen Soveta veteranov kommunisticheskogo Soyuza molodezhi.

CHEBURAKHIN, Aleksandr Yevseyevich; GRUDSKIY, Genrikh Rafailovich; TATARENKO, Stepan Leonidovich; SMIRNOV, G.S., redaktor; IVANOV, K.A., redaktor izdatel'stva; TIKHONOVA, Ye.A., tekhnicheskiy redaktor

[Work practice of the dredge "Budennyi" of the Azov Administration of Seaways] Opyt raboty ekipazha zemsnariada "Budennyi" azovskogo upravleniia morskikh putei. Moskva, Izd-vo "Morskoi transport," 1956. 51 p. (MIRA 9:12)

(Dredging)

CHEBURAKHIN, Aleksandr Evseyevich; AGASHIN, N.I. red.; ZINOV'YEVA, A.A., red. izd-va; LAVRENOVA, N.B., tekhn. red.

[Practices of maintenance men in the navigational aid service in the Sea of Azov] Opyt raboty putevitsev Azov'ia. Moskva, Izd-vo "Morskoi transport," 1957. 44 p. (MIRA 11:7)
(Azov, Sea of--Aids to navigation)

CHEBURANOVA, V.M.

Changes in serum proteins in bronchogenic cancer. Terap.arkh. 32 no.11:77-80 N '60. (MIRA 14:1)

1. Iz kafedry fakul'tetskoy terapii (zav. - prof. D.D. Yablokov) i kafedry biokhimii (zav. - prof. L.D. Kashevnik) Tomskogo meditsinskogo instituta.
(BLOOD PROTEINS) (BRONCHIAL CANCER)

CHEBURANOVA, V. M., CAND MED SCI, "ELECTROPHORESIS OF PROTEINS OF BLOOD SERUM IN PRIMARY LUNG CANCER." TOMSK, 1961. (NOVOSIBIRSK MED INST). (KL-DV, 11-61, 230).

Chebureyev G.M.

PAUTOV, A.V.; BELOV, P.Ye.; CHEBUREYEV, G.M.

Regenerating silica gels for drying apparatus of turbocompressors without electric air heating. Prom.energ. 12 no.8:18 Ag '57. (MIRA 10:10)

(Drying apparatus)

CHEBURAYEV, V.G., slesar'

Tool for cleaning reinforcements from rust. Suggested by V.G.Cheburaev. Mats.i izobr.predl.v stroi. no.11:14-15 '59. (MIRA 13:3)

(Reinforcing bars--Cleaning)

CHEBURKIN, A.V.

Use of preparations of the phenothiazine series in pediatric practice. Vop. okh. mat. i det. 7 no.2:13-16 F '62. (MIRA 15:3)

1. Iz detskogo otdeleniya gospitalya (glavnyy pediatr - kand. med.nauk G.N. Guzhiyenko).
(PHENOTHIAZINE) (PEDIATRICS)

CHEBURKIN, A.V.; GROMOVA, R.V.

Clinical anatomical parallels in neurotoxia in children. Pediatriia 41 no.5:72-75 My '62. (MIRA 15:5)

1. Iz kafedry detskikh bolezney (zav. - deystvitel'nyy chlen AMN SSSR prof. G.N. Speranskiy) TSentral'nogo instituta usovershenstvovaniya vrachey na baze Klinicheskoy detskoy bol'nitsy No.9 (glavnyy vrach A.G. Kudryasheva).
(NERVOUS SYSTEM—DISEASES) (CHILDREN—DISEASES)

ACC NR: AP7002425 SOURCE CODE: UR/0051/66/021/006/0761/0762

AUTHOR: Rozanov, A. G.; Cheburkin, N. V.; Shvindt, N. N.

ORG: none

TITLE: Measurement of the electron concentration in a pulsed xenon discharge with the aid of a gas laser

SOURCE: Optika i spektroskopiya, v. 21, no. 6, 1966, 761-762

TOPIC TAGS: laser application, gas laser, gas discharge, xenon, discharge plasma, plasma density, helium, neon, laser

ABSTRACT: The authors constructed for the measurements the laser interferometer first proposed by H. Kogelnik and D. Ratel (Proc. IRE v. 50, 2365, 1962). The operation and theory of the interferometer are briefly reviewed. An He-Ne laser operating simultaneously at 0.63 and 3.39 μ was used in conjunction with an experimental plane flash lamp filled with xenon at 400 mm Hg. The per unit energy in the lamp was 90 Joules/cm^3 and the interferometer sensitivity was 8.3×10^{16} cm^{-3} per modulation peak. The results of measurement of the plasma density at different points of the discharge indicate that the discharge channel is completely filled. This was confirmed by direct photography of the discharge. The laser beam modulation of the plasma (number of modulation peaks) was constant from flash to flash. The time variation of the plasma density is similar to the variation of the discharge current. The maximum density, corresponding to maximum current, is 7×10^{17} cm^{-3}. The corresponding temperature at the maximum (calculated using the Saha formula) is 9500K, and the degree of ionization is 5.4%. Orig. art.

Card 1/2 UDC: 537.523/.527

ACC NR: AP7002425

has 3 figures and 4 formulas.

SUB CODE: 20/ SUBM DATE: 04Sep65/ OTH REF: 003/ ATD PRESS: 5113

Card 2/2

CHEBURKIN, P.V.

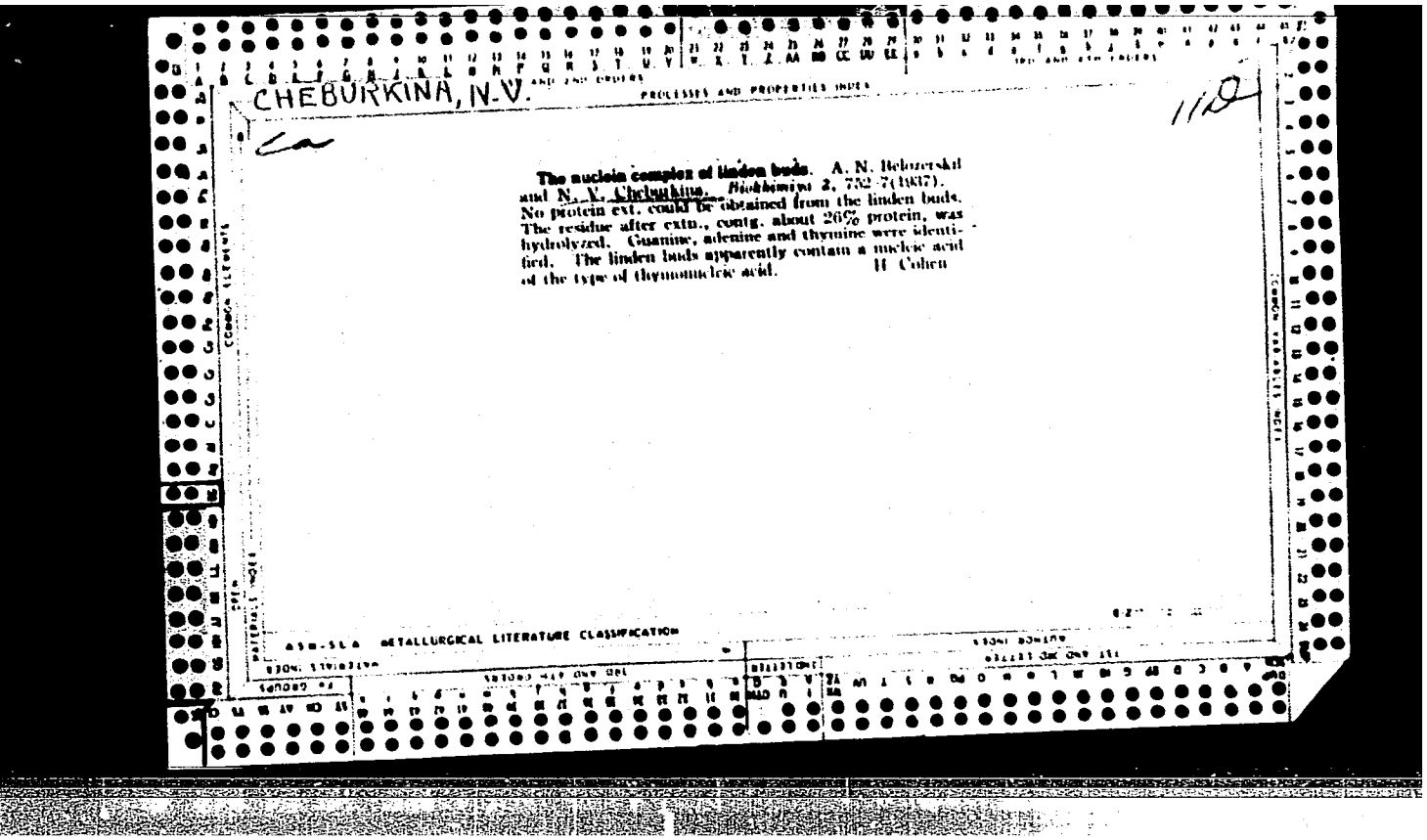
[redacted]

Rare case of perforating wound of the thorax. Khirurgiia Supplement: 10-11 '57. (MIRA 11:4)

(CHEST--WOUNDS AND INJURIES)

ZOSIMOVICH, D.P.; ZAYATS, A.I.; KLADNITSKAYA, K.B.; CHEBUKINA, L.K.

Separation of Cr_{3+} from iron by crystallization of ammonium-chrome alums. Zhur. prikl. khim. 38 no.5:979-987 My '65.
(MIRA 18:11)



CHEBURKINA, N.V.

1129

Ca

The nuclein complex of linden buds. A. N. Bebozerskii and N. V. Cheburkina. *Biokhimiya* 2, 752-7(1937). No protein ext. could be obtained from the linden buds. The residue after extn., contg. about 26% protein, was hydrolyzed. Guanine, adenine and thymine were identified. The linden buds apparently contain a nucleic acid of the type of thymonucleic acid. H Colten

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHEBURKINA, N.V.

USSR/Biology - Plant pathology

Card 1/1 Pub. 22 - 40/47

Authors : Ryzhkov, V. L.; Kabachnik, M. I., Memb. Corresp. of Acad. of Sc. USSR; Tarasevich, L. M.; Medved', T. Ya.; Zeytlenok, N. A.; Marchenko, N. K.; Vagzhanova, V. A.; Ulanova, E. F.; and Cheburkina, N. V.

Title : Biological activity of alpha-aminophosphinic acids

Periodical : Dok. AN SSSR 98/5, 849-852, Oct 11, 1954

Abstract : The biological activity of alpha-aminophosphinic acids (toxic when in large concentrations), is discussed. The biological activity of these acids is best expressed in the inhibition of virus multiplication in the mosaic disease of tobacco. The effect of these acids and glycol on the titer of influenza virus in growing chicken embryos was investigated and the results are described. Eleven references: 7-USSR; 2-USA; 1-French and 1-German (1930-1953). Tables.

Institution : Acad. of Sc. USSR, Institute of Elementary-Organic Compounds and the Academy of Medical Sciences USSR, The D. I. Ivanov Institute of Virusology

Submitted : July 7, 1954

Cheburkina, N.V.

1072. Action of amino acids: the suppression of phage and phosphorus metabolism in bacterial cells. N. V. Cheburkina and N. K. Marchenko *Mikrobiologiia*, 1955, 24, 532—538; *Referat. Zh. Biol.*, 1956, Abstr. No. 70969.—Phosphorus metabolism in lactic acid streptococci was studied by following the entry of ^{32}P into the cell. It was shown that glutamic acid and cystine, which have the capacity to depress the growth of phage, reduce the rate of phosphorus metabolism both in actively growing and in resting cells. Alanine, which does not have the capacity to depress the propagation of phage, does not change the rate of phosphorus metabolism in lactic acid streptococci. In all experiments, glutamic acid slowed up the incorporation of ^{32}P into sol. phosphates in actively growing cells, and a small delay in the inclusion of ^{32}P in the insol. phosphates of the cells was only observed in individual experiments. It is suggested that the depression of phage propagation by amino acids is connected with their disturbance of metabolic processes in the bacterial cell. (Russian)

B. C. Vickery

2

Med

CHEBURKIN, N. V.

Investigation of the chemical nature of the specific antigen substance of tumors. V. S. Korosteleva, M. I. Karlina, and N. V. Cheburkina (D. I. Ivanovskii Inst. Virusol., Acad. Med. Sci., U.S.S.R., Moscow). *Byull. Exptl. Biol. i Med.* 42, No. 9, 44-50(1956).—An antigenic substance was extd. with saline from cancerous human tissue which was kept for a prolonged time in 5% formalin. It was pptd. by 50% acetone. The protein of this complex compd. which was serologically active contained 15 amino acids of which 13 were identified chromatographically: cystine, threonine, alanine, proline, leucine, lysine, histidine, arginine, aspartic acid, glutamic acid, serine, glycine, valine. The lipide substance did not possess any antigenic properties. A. S. M.

VOLUYSKAYA, Ye.N.; CHEBURKINA, N.V.; TOVARNITSKIY, V.I.; NIKOL'SKAYA, I.N.

Isolation and chemical composition of zymosan. Vop.med.khim. 5 no.2:143-148 Mr-Ap '59. (MIRA 12:5)

1. Biochemical Laboratory, "D.I.Ivanovskiy" Institute of Virusology, Academy of Medical Sciences of the U.S.S.R., Moscow.

(YEASTS,
zymosan, isolation & chem. (Rus))
(POLYSACCHARIDES,
same)

UGOLEVA, N.A.; BESKINA, S.R.; CHEBURKINA, N.V.; NOSACHEVA, A.D.; SLAVKO, T.D.

Study of the infectivity of RNA isolated from tissue infected by Sendai virus. Vop. virus. 9 no.2:184-188 Mr-Ap '64.

(MIRA 17:12)

1. Institut virusologii imeni Ivanovskogo AMN SSSR, Moskva.

CHEBURKINA, N.V.; ZAKSTEL'SKAYA, L.Ya.; SLAVKO, T.D.

Metabolism of nucleic acids in developing chick embryos infected with influenza viruses. Vop. virus. 9 no.6:670-674 N-D '64. (MIRA 18:11)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.

CHEBURKINA, YE. M.

"Complex Utilization of the Electric Motor in Agriculture." Thesis for degree of Cand Technical Sci. Sub 27 Jun 50, Moscow Inst for the Mechanization and Electrification of Agriculture imeni V. M. Molotov

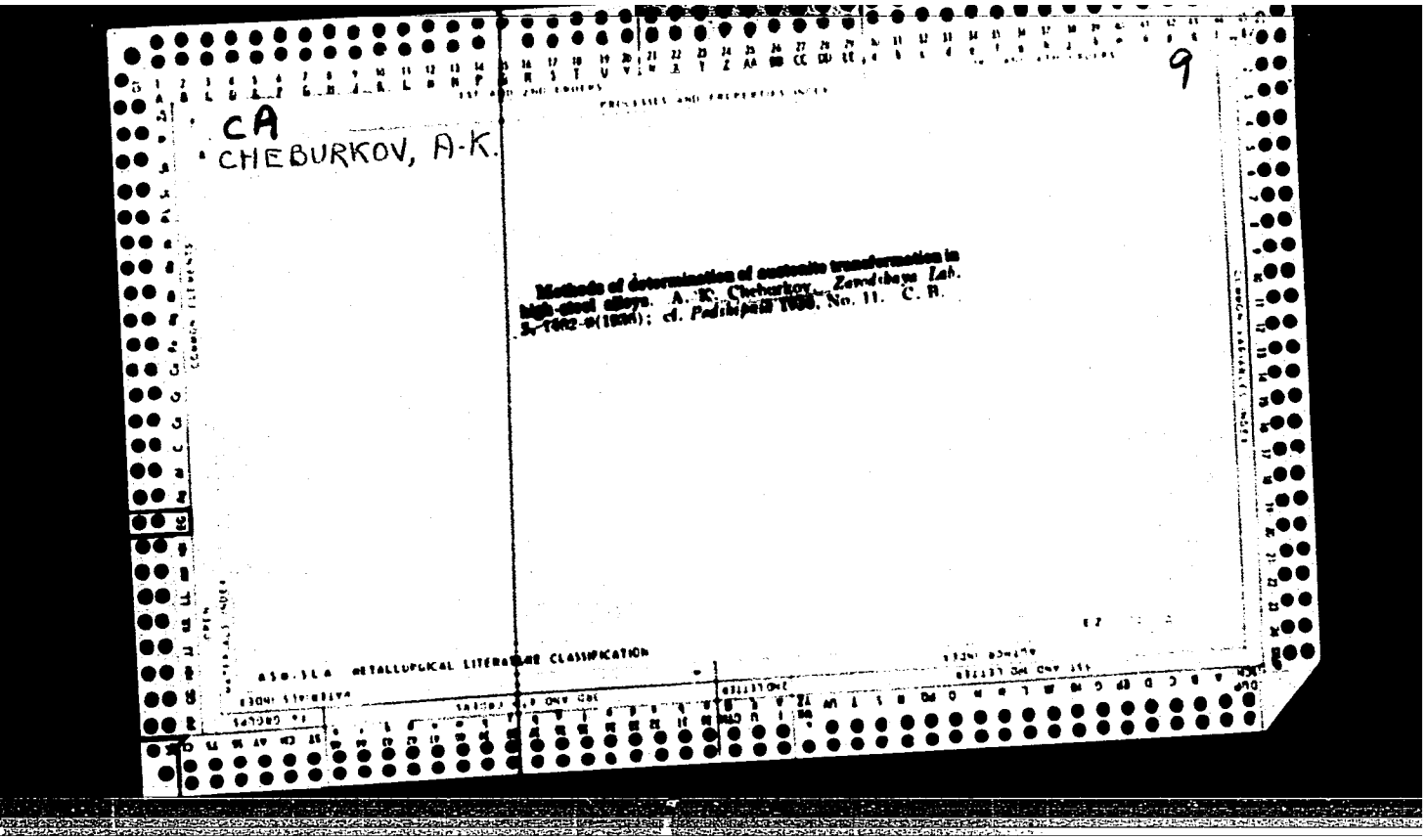
Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

CHEBURKINA, Ye. M., kandidat tekhnicheskikh nauk.

Electric driving of feed grinders and cutters for livestock farms. Mauch.grudy VIESKH 2:70-85 '56. (MLRA 10:1)
(Electric driving) (Feed grinders)

CHEBURKINA, Ye.M.

Loose housing of cattle in Sweden. Sbor. nauch.-tekh. inform. po elek. sel'khoz. no.7:58-61 '59. (MIRA 13:9)
(Sweden--Dairy barns)



CHEBURKOV, A.K.

RUSTEM, Semen Leopol'dovich; GARASHCHENKO, Aleksandr Petrovich; CHEBURKOV, A.K., inzh., retsenzent; GLIKIN, N.M., inzh., red.; SHEMSHURINA, Ye.A., red.izdatel'stva; EL'KIND, V.D., tekhn.red.

[Equipment, automatization and mechanization in plants for heat treatment of metals] Oborudovanie, avtomatizatsiia i mekhanizatsiia v termicheskikh tsekhakh. Izd.2-oe, perer.i dop. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1957. 391 p. (MIRA 11:1)
(Metals--Heat treatment)

137-58-4-7606

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 177 (USSR)

AUTHOR: Cheburkov, A. K.

TITLE: Heat Treatment (Termicheskaya obrabotka)

PERIODICAL: Mashinostroitel', 1957, Nr 8, pp 18-22

ABSTRACT: Experiences in the development of procedures used in the heat-treating shops of GPZ Nr 1 are described. Pusher furnaces replaced shaft furnaces for the annealing of forgings. This made it possible to free more than half the total floor space, the annealing cycle was reduced from 48 to 18 hours, the consumption of electric power per ton of forgings was reduced by 15 percent, and the quality of the heat treatment of the forgings was improved. Special dies were used to harden large bearing races. To avoid spontaneous increase in race size after the final finishing operation (a ball race may "grow" 10÷15 microns per 100 mm diameter over a 6-month period) induced by gradual transformation of unstable retained austenite to martensite, two methods of stabilizing the dimensions are employed: the cold-temperature working method and the heat method (used for wheels the R_C of which may be 60 or less). All ShKh15 races are washed with cold water before

Card 1/2

Heat Treatment

tempering. Another method of stabilization is based on the decomposition of the retained austenite when tempered for 3 hours at 225°C. However, this method is accompanied by a reduction in hardness. The following pretreatment to increase the stability of the martensite is performed in order to maintain R_C at 60: forgings heated to 900-930° are cooled in a stream of air until they darken, and are then annealed at 800° (2 hours) to produce a structure consisting of fine grained and punctuate pearlite.

I. K.

1. Heat treatment--Equipment 2. Furnaces--Applications 3. Ball bearings --Heat treatment 4. Metals--Heat treatment

Card 2/2

SOV/137-59-2-4370

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 291 (USSR)

AUTHOR: Cheburkov, A. K.

TITLE: Heat Treatment of Bearing Rings (Termicheskaya obrabotka kolets podshipnika)

PERIODICAL: V sb.: Materialy Soveshchaniya glavn. metallurgov z-dov i in-tov avtomob. prom-sti, Nr 3. Moscow, 1958, pp 22-25

ABSTRACT: To ensure the fulfilling of the plan, shaft and box furnaces are introduced at the First Bearing plant for the following heat treatment of large bearings: hardening, carburization, and tempering. The hardening of rings in the "press machine" ensures dimensional stability and, therefore, affords a decrease in the depth of the carburized layer and a sharp increase in the output of the carburization furnaces. The equipment of the heat-treatment shop is being modernized and work is being completed for putting into action new installations for heating with HF current for quench-hardening of self-aligning bearings. The author notes a number of measures being carried out at the plant to increase the efficiency of the heat-treatment equipment.

A. B.

Card 1/1

RUSTEM, Semen Leopol'dovich, kand.tekhn.nauk; GARASHCHENKO, Aleksandr Petrovich [Harashchenko, O.P.], kand.tekhn.nauk; CHEBURKOV, A.K., inzh. retsenzent; GLIKIN, N.M. [Hlikin, N.M.], inzh., red.; SOKOLA, M.S., red.

[Equipment, automation, and mechanization in heat-treating departments] Obladnannia, avtomatyzatsiia i mekhanizatsiia v termichnykh tsekhakh. Moskva, Derzh.naukovo-tekhn. vydvo mas ynobudivnoi lit-ry, 1959. 371 p. (MIRA 14:5)

(Automation) (Metals--Heat treatment)

CHEBURKOV, A.K.

Changes in the dimension of parts during thermal treatment.
Metalloved. i term. obr. met. no.7:55-57 Jl '65. (MIRA 18:8)

CHEBUKOV, M.F., kand.tekhn.nauk; IGNAT'YEVA, L.P., inzh.

Building gypsum made of wastes obtained in producing hydrofluoric acid. Stroi. mat. 6 no.10:36 O '60. (MIRA 13:10)
(Gypsum)

CHEBUKOV, M.F.; YEGOROVA, A.M.

Some properties of agleporite foam fly ash concretes. Trudy Ural. politekh. inst. no.118:52-59 '62. (MIRA 16:6)

(Lightweight concrete—Testing)

CHEBUKOV, M.F.; KALUGIN, N.N.; P'YACHEVA, G.Ye.

Use of light ashes from electric power plants to replace clinker cements in factory production of concrete and reinforced concrete products. Trudy Ural. politekh. inst. no.118:70-84 '62. (MIRA 16:6)

(Ash(Technology)) (Precast concrete)

CHEBUKOV, M.F.; KASHIRSKIY, Yu.A.; TUNGUSKOV, A.S.[deceased]

Studies of concretes and reinforced concrete elements made with portland cement with an additive of pulverized ash. Trudy Ural. politekh. inst. no.118:85-95 '62. (MIRA 16:6)

(Concrete—Testing)
(Ash(Technology))
(Portland cement)

P'YACHEV, V.A.; CHEBUKOV, M.F.

Dichromate sludge as a raw material for the production of cements. Izv. vys. ucheb. zav.; khim. i khim. tekh. 8 no.1:118-123 '65. (MIRA 18:6)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, kafedra tekhnologii tsementa.

S/844/62/000/000/025/129
D244/D307

AUTHORS: Cheburkov, O. F., Malakhov, K. V., Gramolin, V. A. and Kabachni, A. N.

TITLE: Influence of the variation of the quantity $\frac{dE}{dx}$ on the yield of nitrate ion on aqueous nitrate solutions

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 159-161

TEXT: The authors investigated the effect of decreasing - $\frac{dE}{dx}$ of the applied radiation on the yield of nitrite in nitrate solutions. Solutions containing 0.01 - 6.0 g - ets/l $NaNO_3$ and Griss reagent were irradiated by γ rays from a Co^{60} source, 14.1 Mev neutrons and α-particles from Pu^{239}. It was established that in dilute solutions of $NaNO_3$ (0.01 M) the yield of NO_2^- depends strongly on quantity $\frac{dE}{dx}$. In 0.1 and 1.0 M solutions the yields for the various methods

S/844/62/000/000/040/129
D214/D307

AUTHORS: Malakhov, K. V., Cheburkov, O. F. and Kabakchi, A. M.

TITLE: The action of γ radiation on dilute aqueous solutions of dyes

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 243-246

TEXT: The action of γ rays (Co^{60} source) on aqueous solutions of methyl orange and phenyl red was studied. This radiation caused an irreversible decolorization of these solutions. The color, before or after the irradiation, was stable to daylight and to air. Optical density of the dye solutions was proportional to the absorbed energy and all results were obtained by measuring the former. A 5×10^{-6} M solution of methyl orange, at pH 2, gave a constant decolorization yield in dose range 10 - 1.5×10^{3} rad; a 5×10^{-5} M solution, under the same conditions, gave constant yields in the dose range of 8 x

Card 1/2

188300

S/137/61/000/005/056/060
A006/A106

AUTHORS: Bychkov, Yu. F.; Rozanov, A. N.; Skorov, D. M., and Cheburkov, V.I.

TITLE: Corrosion resistance of Yal-T (Yal-T) steel in lithium with oxygen and nitrogen admixture

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 5, 1961, 60, abstract 5I453 (V sb.: "Metallurgiya i metallovedeniye chistykh metallov", no. 2, Moscow, Atomizdat, 1960, 78-92)

TEXT: The authors studied changes in the microstructure and mechanical properties of Fe, Ni, and Cr-Ni- steel grade "Yal-T" as a result of the effect of distilled Li and Li containing 1-2 weight % O or N. They investigated also changes in the chemical composition of Li due to the corrosion of the enumerated substances contained in it.

Ye. L.

[Abstracter's note: Complete translation]

Card 1/1

BYCHKOV, Yu.F.; ROZANOV, A.N.; GROMOV, B.I.; CHEBURKOV, V.I.

Laboratory equipment for the vacuum distillation of lithium with a complete filling of the crucibles. Met. i metalloved. chist. met. no. 2:171-177 '60. (MIRA 13:12)
(Lithium--Metallurgy)
(Metallurgical laboratories--Equipment and supplies)

CHEBURKOV, Yu.A.; BARGAMOVA, M.D.; KNUNYANTS, I.L.

α-Hydrohexafluoroisobutyric acid fluoride as a new system with a mobile hydrogen atom. Izv.AN SSSR.Ser.khim. no.2:367-369 F '64. (MIRA 17:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

Chebotarev, Yu. A.

7

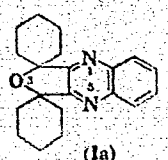
Preparation of 3,4-diketones of the furanidine series. I. K. Korobitsyna, Yu. K. Yur'ev, Yu. A. Chebiurkov, and E. M. Lukina (Moscow State Univ.). *Zhur. Obshchei Khim.* 25, 734–8; *J. Gen. Chem. U.S.S.R.* 25, 699–703 (1955) (Engl. Translation).—Refluxing 50 g. bis(1-hydroxycyclohexyl)acetylene, 15 g. $HgSO_4$, and 250 ml. H_2O 2 hrs., adding 15 g. $HgSO_4$ and refluxing 8 hrs. gave after extn. with Et_2O, removal of Hg ion with H_2S, washing with Na_2CO_3 and H_2O, 74% *2,3,5,5-bis(pentamethylene)tetrahydrofuran-3-one* (I), b_3 141–2°, n_D^{20} 1.4941, d_{20} 1.0336 (*thiosemicarbazone*, m. 190–1°; *semicarbazone*, m. 214–15°; *oxime*, m. 125°). I (2.2 g.) and 1.06 g. BzH in 5 ml. EtOH treated with 15 drops 25% NaOH gave 55% *4-benzylidene deriv.*, m. 100–1°. I (15 g.) and 16.0 g. dioxane-Br_2 shaken in the cold 4 hrs. gave after washing, 94% *4-bromo deriv.*, b_4 152–3°, n_D^{20} 1.5250, d_{20} 1.2030. Refluxing 10 g. I with 6 g. SeO_2 in 100 ml. dioxane and 5 ml. H_2O (the initial mixing being made dropwise) 12 hrs. gave after removal of Se, distn. of dioxane and extn. with Et_2O 85% *2,2,5,5-bis(pentamethylene)tetrahydrofuran-3,4-dione*, b_{16} 167–70°, m. 69–70°, red; kept in H_2O it slowly adds H_2O and forms colorless crystals, which turn red on loss of H_2O on heating; *dioxime*, m. 182.5–3°. Refluxing 80 g. bis(1-hydroxycyclopentyl)acetylene, 100 g. H_2O, and 33 g. $HgSO_4$ (added over 0.5 hr.) 15 hrs. gave after extn. with Et_2O 59% *2,2,5,5-bis(tetramethylene)tetrahydro-3-furanone* (II), b_3 111.5–12°, n_D^{20} 1.4855, d_{20} 1.0446 (*semicarbazone*, m. 149.5–50°; *thiosemicarbazone*, m. 193–4°; *oxime*, m. 59°. II with BzH in the presence of NaOH, as above, gave 43% *4-benzylidene deriv.*, m. 97.5–8°. II oxidized with SeO_2 in aq. dioxane 12 hrs. gave 83% *2,2,5,5-bis(tetramethylene)tetrahydrofuran-3,4-dione*, b_{14} 138–40°, m. 37°, red; forms colorless hydrate; *dioxime*, m. 199–200°. G. M. K.

CH

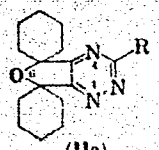
(3)

CHEBURKOV, Yu. A.

3,4-Diketones of the furanidine series of bispirane type in the synthesis of condensed heterocyclic systems. I. K. Korobitsyna, Yu. K. Yur'ev, Yu. A. Cheburkov, and E. M. Lukina (State Univ., Moscow). *Zhur. Obshchei Khim.* 26, 2058-63(1956); cf. *C.A.* 49, 3197*a*.—Heating 0.6 g. 2,2,5,5-bispentamethylenefuranidine-3,4-dione (I) and 0.27 g. *o*-$C_6H_4(NH_2)_2$ 15 min. gave 80% *2,2,4,4-bispentamethylenefuranidino(3,4)quinoxaline* (Ia), m. 117.2-17.5°. Similarly was prepd. 90% *2,2,4,4-bistetramethylenefuranidino(3,4)quinoxaline*, m. 105.5-6.0°, from 1,1,5,5-bistetramethylenefuranidine-3,4-dione (II). I and $(CH_2NH_2)_2.H_2O$ heated briefly, taken up in EtOH, and treated with H_2O gave, 92% *2,2,4,4-bispentamethylenefuranidino(3,4)-6,7-dihydropyrazine*, m. 64°. Similarly II gave 79% *2,2,4,4-bistetramethylenefuranidino(3,4)-6,7-dihydropyrazine*, b_7 147-8°, n_D^{20} 1.5253, d_2^2 1.0900. I (11.8 g.) refluxed 2 hrs. in 100 ml. AcOH with 1.4 g. urotropine and 25 g. $AcONH_4$ gave, after quenching in ice, filtration, and satn. with NH_3, 81% *4,4,6,6-bispentamethylenefuranidino(3,4)imidazole*, m. 213-13.5°. Similarly II gave 83% *4,4,6,6-bistetramethylenefuranidino(3,4)imidazole*, m. 244.5-5.5° [from $(CH_2Cl)_2$]. I (2.36 g.), 1.06 g. BzH, and 10 g. $AcONH_4$ treated as above gave 62% *2-phenyl-4,4,6,6-bispentamethylenefuranidino(3,4)-imidazole*, m. 230-30.5° (from C_6H_6). II similarly gave 95%



(Ia)



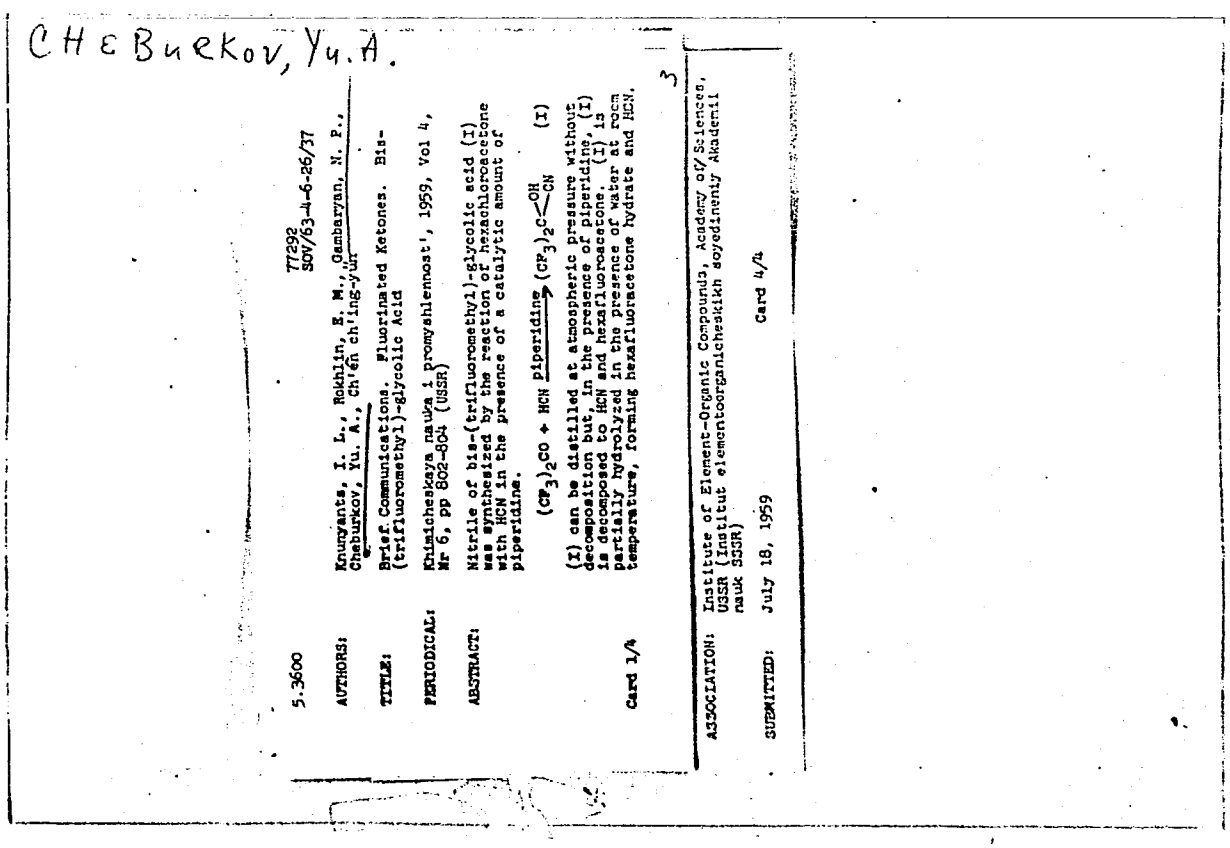
(IIa)

Kozobi, Ksynal I.K, Yurku, Yu. K. ...

2-phenyl-4,4,6,6-bistetramethylenefuranidino(3,4)imidazole, i m. 204.5–5.5° (from dil. EtOH). I (1.18 g.), 0.56 g. semicarbazide-HCl and 10 ml. AcOH refluxed 1 hr. and quenched in H_2O gave 96% I monosemicarbazone, m. 182.5–3.5°, which (0.5 g.) refluxed in 10 ml. 40% NaOH 3 hrs. gave, on acidification with AcOH 75% *3-hydroxy-5,5,7,7-bispentamethylenefuranidino(3,4)-1,2,4-triazine* (IIa, R = OH), m. 214° (from petr. ether). II as above gave 65% *3-hydroxy-5,5,7,7-bistetramethylenefuranidino(3,4)-1,2,4-triazine*, m. 194.5–5°. II (1.3 g.) and 0.85 g. thiosemicarbazide-HCl (III) in 6 ml. pyridine and 3 ml. H_2O gave 85% II *monothiosemicarbazone*, m. 150–1°. Refluxing 1.01 g. II, 0.56 g. III, and 10 ml. AcOH 1 hr., followed by 20 ml. 40% NaOH and refluxing 2 hrs., gave 76% *3-mercapto-5,5,7,7-bistetramethylenefuranidino(3,4)-1,2,4-triazines*, m. 194–5°. Similarly I gave on refluxing with III and AcOH a low yield of IIa (R = SH) (IV), m. 210.5–11.5°, and a more sol. I *monothiosemicarbazone*, m. 132–3°; the latter refluxed 2 hrs. as above with 40% NaOH gave a good yield of IV. G. M. K.

2/2

GMK



CHeBurkov, Yu.A.

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SOV/63-4-6-26/37

5.3600

AUTHORS: Knunyants, I. L., Rokhlin, E. M., Gambaryan, N. P., Cheburkov, Yu. A., Ch'en ch'ing-yün

TITLE: Brief Communications. Fluorinated Ketones. Bis-(trifluoromethyl)-glycolic Acid

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 6, pp 802-804 (USSR)

ABSTRACT: Nitrile of bis-(trifluoromethyl)-glycolic acid (I) was synthesized by the reaction of hexachloroacetone with HCN in the presence of a catalytic amount of piperidine.

$$(CF_3)_2CO + HCN \xrightarrow{\text{piperidine}} (CF_3)_2C\langle^{OH}_{CN} \quad (I)$$

(I) can be distilled at atmospheric pressure without decomposition but, in the presence of piperidine, (I) is decomposed to HCN and hexafluoroacetone. (I) is partially hydrolyzed in the presence of water at room temperature, forming hexafluoroacetone hydrate and HCN.

Card 1/4

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

SUBMITTED: July 18, 1959

Card 4/4

S/062/60/000/008/031/033/XX
B013/B055

AUTHORS: Knunyants, I. L. and Cheburkov, Yu. A.

TITLE: Some α-Amino Acids Containing Trifluomethylene Groups

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1516-1518

TEXT: This brief communication treats the addition of ethanol amine and diethanol amine to the ethyl ester of β,β-ditrifluomethyl acrylic acid. Under mild conditions, the reaction with ethanol amine gives N-(β-hydroxyethyl) hexafluo valine ethyl ester. Only the amino- and not the OH group enters into reaction, though alcohols react equally readily with fluo olefins, specially in alkaline medium. The structure of the product was confirmed by synthesizing it from the hexafluo valine ester and ethylene oxide. The reaction can be carried out at room temperature in 50% acetic acid. With thionyl chloride, the N-(β-hydroxyethyl) hexafluo valine ester is readily converted to the N-(β-chloroethyl) hexafluo valine ester (II). The latter is transformed to the water-soluble N-(β-chloroethyl) hexafluo valine (III) by hydrolysis with hydrochloric acid. Diethanol amine

did not react in the corresponding manner, even on heating to 150°C. The authors assume that the cause for the absence of an addition reaction between diethanol amine and β,β-ditrifluomethyl methacrylate is to be sought in the steric hindrance due to the carbalkoxy groups, which prevent the di-(β-hydroxyethyl)-amino group from entering the α-position. At present, the biological activity of hexafluo valine and its hydroxyethyl- and chloroethyl derivatives is being tested. There are 2 references: 1 Soviet and 1 US.

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

SUBMITTED: January 22, 1960

S/062/60/000/012/009/020
B013/B055

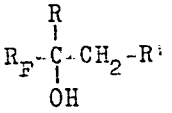
AUTHORS: Knunyants, I. L. and Cheburkov, Yu. A.

TITLE: Unsaturated Acids Containing Trifluoromethyl Groups. II. Free-radical Addition of Hydrogen Bromide to β,β-Di(trifluoromethyl)Acrylic Acid

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No.12, pp. 2168-2172

TEXT: The free-radical addition of hydrogen bromide to β,β-di(trifluoromethyl)acrylic acid was realized in the present work. Dry hydrogen bromide adds to β,β-di(trifluoromethyl)acrylic acid (I) both under the conditions of a free-radical reaction and without addition of an initiator (in presence of an inhibitor), forming β,β-di(trifluoromethyl)monobromo propionic acid (II) in high yield. In order to establish the structure of (II), the authors tried to substitute the hydroxyl group in the previously prepared (Ref. 3) ethyl ester of α,α-dihydroperfluoro-β-hydroxy isovaleric acid (III) by bromine. (III) reacted with phosphorus tribromide only under extreme conditions, forming (II) but also β,β-di(trifluoromethyl)acrylic acid and its esters (IV)

owing to the occurrence of dehydration under these reaction conditions. (III) reacts with thionyl chloride in presence of pyridine in a similar manner. α,α-dihydroperfluoro-β-hydroxy isovaleric acid reacts with an equimolar amount of thionyl chloride under dehydration, forming β,β-di(trifluoromethyl)acrylic acid, whereas with 2 mole thionyl chloride or phosphorus pentachloride it forms the acid chloride of β,β-di(trifluoromethyl)acrylic acid (V) which is identical with the product obtained by treatment of (I) with thionyl chloride. The splitting off of water from the hydroxy-acid ester (III) under the action of thionyl chloride, which takes place under comparatively mild conditions is a somewhat unusual reaction, since the dehydration of compounds of the type



is known as difficult. Introduction of halogen into the β-position (relative to the carboxyl) of β,β-di(trifluoro)β-propiolactone by means of phosphorus pentachloride also gave β,β-ditrifluoromethyl acrylic acid

Unsaturated Acids Containing Trifluoromethyl Groups. II. Free-radical Addition of Hydrogen Bromide to β,β-Di(trifluoromethyl) Acrylic Acid

S/062/60/000/012/009/020
B013/B055

chloride. The structure of (II) was confirmed by hydrolytically splitting of the halogen at 135°C with water, whereby β,β-di(trifluoromethyl)-α-hydroxy propionic acid (VI) was obtained. The latter resembled the acid obtained in Ref. 1. The addition of hydrogen bromide to β,β-di(trifluoromethyl) acrylic acid proceeds by a radical mechanism. The reaction is catalyzed by peroxide and ultraviolet irradiation and inhibited by hydroquinone. Of the two possible intermediate radicals A and B formed during the attack on the double bond by the bromine radical, the free radical A is the more stable. This is in agreement with the data indicating that fluorinated tertiary radicals are more stable than secondary and tertiary radicals (Refs. 8, 9). There are 9 references: 3 Soviet, 4 US, and 2 British.

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

SUBMITTED: July 2, 1959

Card 3/3

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.

Fluorine-containing β-lactones. Report No.2: β-trifluoromethyl-β-methyl-β-propiolactone. Izv.AN SSSR.Otd.khim.nauk no.5:808-810 My '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Hydracrylic acid)

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.

Fluorine-containing β-lactones. Report No.3: Reactions of opening of four-membered ring of β-trifluoromethyl-β-methyl-β-propiolactone. Izv.AN SSSR.Otd.khim.nauk no.5:811-813 My '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Hydracrylic acid)

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.

Unsaturated acids containing trifluoromethyl groups. Report 3: Polarization of the double bond in β-trifluoromethylcrotonic acid. Izv.AN SSSR.Otd.khim.nauk no.6:1057-1062 Je '61. (MIRA 14:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Crotonic acid)

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.; MAKAROV, Yu.V.

Thermal decomposition of alcoholates of tertiary alcohols containing trifluoromethyl groups. Izv. AN SSSR. Otd.khim. nauk no.8:1471-1475 Ag '61. (MIRA 14:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Alcohols) (Alcoholates)

KNUNYANTS, I.L., akademik; CHEBURKOV, Yu.A.

Manifestation of pseudohalogen properties by a trifluoromethyl group bound to a carbon atom. Dokl.AN SSSR 137 no.5:1121-1124 Ap '61. (MIRA 14:4)

(Trifluoromethyl group)

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.; BARGAMOVA, M.D.

Perfluorodemethylketene and perfluoromethacrylic acid. Report No.1: Hexafluoroisobutyric acid halides from fluorinated ethers. Izv.AN SSSR.Ser.khim. no.8:1389-1393 Ag '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Fluorine organic compounds) (Ketene)
(Isobutyric anhydride)

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.; BARGAMOVA, M.D.

Perfluorodimethylketene and perfluoromethacrylic acid. Report No.2: Comparison of α-hydrohexafluoroisobutyric acid halides in the reaction with triethylamine. Izv.AN SSSR.Ser.khim. no.8:1393-1397 Ag '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ketene) (Fluorine organic compounds) (Isobutyric anhydride) (Triethylamine)

CHEBURKOV, Yu.A.; MYSOV, Ye.I.; KNUNYANTS, I.L.

Perfluorodimethylketene and perfluoromethacrylic acid. Report No.3: Comparison of haloanhydrides of α-halohexafluoroisobutyric acids in the reaction with zinc. Izv. AN SSSR. Ser.khim. no.9:1570-1572 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ketene) (Propionic acid) (Zinc)

ACCESSION NR: AP4019016 S/0062/64/000/002/0367/0369

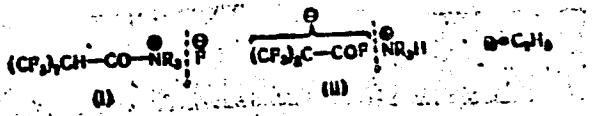
AUTHORS: Cheburkov, Yu. A.; Bargamova, M. D.; Knunyants, I. L.

TITLE: Fluoroanhydride of α-hydrohexafluoroisobutyric acid - a new system with mobile hydrogen atom

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 2, 1964, 367-369

TOPIC TAGS: hydrohexafluoroisobutyric acid, hexafluoro pivalic acid, bromohexafluoro isobutyric acid, mobile hydrogen atom, fluoroanhydride, structural formula

ABSTRACT: This is a continuation of an earlier work by the authors (Izv. AN SSSR, Ser. khim. 1963, 1393) in which they described the remarkable properties of the above product. The purpose of the present article is to chose between two structural alternatives for it, namely:



(I) (II)

Card 1/2

ACCESSION NR: AP4019016

After a discussion supported by reactive evidence, the authors expressed preference for the second alternative formula, although they admit the possibility of existence of structure I. Spectroscopic investigation was inconclusive. During the course of this investigation, the following products were prepared; and fluoroanhydride of hexafluoropivalic acid, ethyl ester of their characteristics described: α-bromohexafluoroisobutyric acid. Orig. art. has: 6 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy, AN SSSR (Institute of Elementoorganic Compounds AN SSSR)

SUBMITTED: 19Jul63 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: OC NR REF SOV: 003 OTHER: 000

Card 2/2

L 16932-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP5002836 S/0062/64/000/008/1526/1528

AUTHOR: Gambaryan, N. P.; Cheburkov, Yu. A.; Knunyants, I. L.

TITLE: Pinacone from hexafluoracetone

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1964, 1526-1528

TOPIC TAGS: acetone, organic phosphorus compound, fluorinated organic compound

Abstract: The reaction of hexafluoracetone with triethylphosphite was investigated and dodecafluoropinacol was synthesized. Hexafluoracetone reacts vigorously with triethylphosphite to form the 2:1 adduct, which is a saturated cyclic phosphorane. The strong electron-acceptor action of trifluormethyl groups so weakens the basic properties of fluorated pinacol that it does not participate in the pinacol regrouping even upon prolonged boiling in 100% sulfuric acid. Cyclic phosphorane was obtained by asding 32 grams of perfluoracetone to 16.8 grams of triethylphosphate. The product was 41.4 grams of liquid with a 61-62° boiling point (0.5 mm), freezing at -9 - -8°; $n_D^{20} = 1.3555$. Phosphorane is a colorless liquid, insoluble in water, soluble in alcohol, acetone, ether, and benzene. It does not decolor $KMnO_4$ solutions.

Card 1/2

L 16932-65

ACCESSION NR: AP5002836

Dodecafluoropinacone was obtained by boiling 55 grams of the acid obtained by saponifying phosphorane with concentrated sulfuric acid, one hour in 100 ml of water. Sulfuric acid was added to the cooled mixture and the resulting product was repeatedly extracted with methylene chloride. 27 grams (61%) of pinacol was obtained by distillation, with a boiling point of 59-59.5° (60 mm); upon cooling it congealed into colorless crystals with a melting point of 18-20°. Orig. art. has 11 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemento-Organic Compounds, Academy of Sciences, SSSR)

SUBMITTED: 10Jan64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 000 OTHER: 005 JPRS

Card 2/2

ROKHLIN, Ye.M.; ZEYFMAN, Yu.V.; CHEBURKOV, Yu.A.; GAMBARYAN, N.P.; KNUNYANTS, I.L., akademik

Reaction of hexafluoroacetone with triethyl phosphite. Dokl. AN SSSR 151 no.6:1356-1358 Ap '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

CHERBURKOV, Yu.A.; MUKHAMADIYEV, N.; KHUSNUTDINOV, I.I., akademik

α-Nitrosohexafluoroisobutyric acid. Dokl. AN SSSR 169 no.2:127-129 N '65. (MIRA 18:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

CHEBURKOV, Yu.A.; MUKHAMADALIYEV, N.; KNUNYANTS, I.L.

Reaction of hexafluoroisobutyryl fluoride with acid chlorides. Izv. AN SSSR. Ser. khim. no.8:1476-1478 '65. (MIRA 18:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

CHEBURKOV, Yu.A.; MUKHAMADALIYEV, N.; ARONOV, Yu.Ye.; KNUNYANTS, I.L.

Reaction of perfluorodimethylketene with dimethylformamide.
Izv. AN SSSR. Ser. khim. no.8:1478-1480 '65. (MIRA 18:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

MUKHAMADALIYEV, N.; CHEBURKOV, Yu.A.; KNUNYANTS, I.L.

Perfluoroisopropylketone. Report No.68 Reaction with derivatives of nitrous acid. Izv. AN SSSR. Ser. khim. no.11:1982-1987 '65. (MIRA 18:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

KNUNYANTS, I.L., akademik; KOCHARYAN, S.T.; CHEBURKOV, Yu.A.; BARGAMOVA, M.D.; ROKHLIN, Ye.M.

Reversibel dehydrofluorination of 2-monohydroperfluoroisobutane and β-hydrohexafluoroisobutyric acid esters. Dokl. AN SSSR 165 no.4:827-830 D '65. (MIRA 18:12)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 17611-66 EWT(m)/EWP(j) WW/JW/RM

ACC NR: AP6002099 SOURCE CODE: UR/0062/65/000/011/1982/1987

AUTHORS: Mukhamadaliyev, N.; Cheburkov, Yu. A.; Knunyants, I. L. 47 B

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

TITLE: Perfluorodimethylketene. 7, 44,55 Communication 6. Interaction with nitrous acid derivatives

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1965, 1982-1987

TOPIC TAGS: fluoride, fluorinated hydrocarbon, fluorinated organic compound, fluorine compound, organic nitrile compound, chemical reaction

ABSTRACT: The properties of the fluoroanhydride and ethyl ester of α-nitrosohexafluorobutyric acid were studied to extend the work of the authors (Dokl. AN SSSR 165, 1 (1966)). The latter compounds were obtained by reacting perfluorodimethylketene with nitrosyl fluoride and ethylnitride. In addition, the reaction of perfluorodimethylketene with sodium nitrite and nitrogen trioxide, yielding an oxime of hexafluoroacetone, was also studied. A reaction mechanism for each of the reactions is proposed, and the yield and melting point of each product are recorded.

Card 1/2

UDC: 542.91+546.16

L 17611-66
ACC NR: AP6002099

The attempt to extend the reaction to nitric acid derivatives proved unsuccessful. Thus no reaction occurred between nitric acid anhydride, ethyl nitrate, and perfluorodimethylketene. Orig. art. has: 11 equations.

SUB CODE: 07/ SUBM DATE: 04Jun65/ ORIG REF: 010/ OTH REF: 003

Card 2/2 vmb

ACC NR: AP7000728 WW/JW/RM

SOURCE CODE: UR/0062/66/000/006/1048/1057

KNUNYANTS, I. L., CHEBURKOV, Yu. A., BARGAMOVA, M. D., Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

"Action of Triethylamine on Hexafluoroisobutyryl Fluoride"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, 1966, pp 1048-1057

Abstract: Dimerization of hexafluoroisobutyryl fluoride under the action of triethylamine was demonstrated. The molecular complex of hexafluoroisobutyryl fluoride with triethylamine (1:1) is the triethylammonium salt of the enol form of the fluoride, and evidently undergoes a rearrangement to the triethylammonium salt of the hypothetical unsaturated perfluoro-beta-methylallyl alcohol. The latter dimerizes upon further heating, yielding a salt of a bis-perfluorocarbinol, which loses difluorophosgene and is converted to a mixture of triethylamine fluoride and the triethylammonium salt of perfluoro-(4-methyl-1,3-pentadiene-4 carbinol). The properties and reactivity of the dimer and a number of derivatives of alpha, beta-unsaturated gamma-hydroperfluorinated acids obtained from it were investigated. Alkylation of hexafluoroisobutyryl fluoride by allyl bromide and benzyl chloride proceeds readily in the presence of triethylamine; alkylation does not occur with methylene iodide, 1, 2-diiodoethane, or iodobenzene. Orig. art. has: 4 figures and 13 formulas. [JPRS: 37,023]

TOPIC TAGS: fluorinated organic compound, triethylamine, alkylation

SUB CODE: 07 / SUBM DATE: 02Feb66 / ORIG REF: 008 / OTH REF: 010

UDC: 542.951 + 546.16

Card 1/1 vmb

L 05173-67 EWT(m)/EWP(j) WW/RM

ACC NR: AP7000726 SOURCE CODE: UR/0062/66/000/006/1031/1038

KNUNYANTS, I. L., CHEBURKOV, Yu. A., BARGAMOVA, M. D., FEDIN, E. I., PETROVSKIY, P. V., Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

30 B

"Perfluorodimethylketene. Communication 7. Structure of the Dimer"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (News of the Academy of Sciences USSR, Chemical Series), No 6, 1966, pp 1031-1038

Abstract: Perfluorodimethylketene, in contrast to other known ketenes, forms a linear dimer under the action of triethylamine. The dimer was also produced by two other methods: 1) the reaction of an equimolar mixture of hexafluoroisobutyryl chloride and ethylamine; 2) by the action of triethylamine or cesium fluoride on perfluoromethacrylyl fluoride. In the latter case the reaction mixture was treated with methanol, yielding the methanolysis product of the dimer and also the known methyl ester of hexafluoroisobutyric acid and the methyl ester of alpha-trifluoromethyl-beta, beta-difluoro-beta-methoxypropionic acid. The structure of the dimer of perfluorodimethylketene as the bis-fluoride of perfluoro-(alpha, alpha, gamma-trimethylglutaconic) acid was confirmed by its reactions and infrared spectrum. The reaction mechanism proposed for the dimerization includes isomerization of the ketene to the more stable perfluoromethacrylyl fluoride. A new reaction was discovered: linear dimerization of functional derivatives of perfluoromethacrylic and difluoromethylenemalonic acids. Orig. art. has: 1 figure, 9 formulas and 2 tables. [JPRS: 37,023]

TOPIC TAGS: fluorinated organic compound, isomerization

SUB CODE: 07 / SUBM DATE: 07Dec65 / ORIG REF: 013 / OTH REF: 002

Card 1/1 vmb

UDC: 542.91+541.452+546.16

ACC NR: AP7006027 SOURCE CODE: UR/0062/66/000/007/1265/1267

AUTHOR: Cheburkov, Yu. A.; Mukhamadaliyev, N.; Mirzabekyants, N. S.; Knunyants, I. L.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Reactions of perfluorodimethylketene with alcohols, amines, and acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1966, 1265-1267

TOPIC TAGS: fluorinated organic compound, amine, alcohol, glycerin

ABSTRACT: The reactions of perflourodimethylketene with alcohols, amines, and acids were studied. These reactions are common both to perfluorodimethylketene and to nonfluorinated ketenes and lead to the production of various derivatives of hexafluoroisobutyric acid. The reaction with alcohols yielded esters. In the case of glycerin, at room temperature ketene alkylated only two hydroxy groups, either vicinal or terminal. Complete acylation was achieved only by heating the glycerin with excess perfluorodimethylketene in a sealed tube. The reactions of ketene with ammonia and amines yielded amides of hexafluoroisobutyric acid. In these reactions an excess of amines must be avoided to prevent mineralization of the fluorine atoms by splitting off hydrogen fluoride. Perfluorodimethylketne reacted readily with hydrogen chloride or bromide and with organic acids, yielding acid halides, anhydrides, and mixed anhydrides. The structures of the the new compounds were confirmed by infrared and nuclear magnetic resonance spectra. Orig. art. has: 4 formulas and 1 table. [JPRS: 38,967]

SUB CODE: 07 / SUBM DATE: 14Dec65 / ORIG REF: 009

Card 1/1 UDC: 542.91 + 547.233 + 547.26 + 541.452 + 546.16

ACC NR: AP7000727 SOURCE CODE: UR/0062/66/000/006/1038/1047

KNUNYANTS, I. L., CHEBURKOV, Yu. A., ARONOV, Yu. Ye., Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

"Reaction of Chlorides of Carboxylic Acids with Dimethylformamide"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, 1966, pp 1038-1047

Abstract: A new trend of the reaction of halides of carboxylic acids with dimethylformamide, leading to aldehydes of these acids, was demonstrated. Depending upon the structure of the acids, either transamidation or aldehyde formation occurs. In the reaction of acetyl, trifluoroacetyl, isobutyryl, n-perfluorobutyryl, and benzoyl chlorides with dimethylformamide, the dimethylamides of the corresponding acids were formed. In the case of n-perfluorobutyryl chloride, together with the basic product, the dimethylamide of perfluorobutyrylformic acid was formed. In the case of hexafluoroisobutyryl chloride, the reaction with dimethylformamide liberated CO_2 and produced an unstable crystalline substance, which readily hydrolyzed to hexafluoroisobutyraldehyde. Derivatives of hexafluoroisobutyryl chloride and trichloroacetyl chloride reacted with dimethylformamide to form not only the aldehydes, but also the corresponding chloroalkanes and carbon monoxide, decarbonylation products of the original acid chlorides. Trichloroacetyl chloride reacted simultaneously according to the three schemes, yielding the dimethylamide of trichloroacetic acid, chloral, and

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UDC: 542.95 + 542.951

ACC NR: AP7000727

carbon tetrachloride. The reactions of perfluoropivalyl chloride and hexafluoropivalyl chloride were also studied. A general scheme of the reaction of acid chlorides with dimethylformamide was proposed. Orig. art. has: 5 formulas and 1 table. [JPRS: 37,023]

TOPIC TAGS: carboxylic acid chloride, aldehyde

SUB CODE: 07 / SUBM DATE: 07Dec65 / ORIG REF: 010 / OTH REF: 010

Card 2/2

ACC NR: AP6035836 SOURCE CODE: UR/0413/66/000/020/0038/0038

INVENTOR: Cheburkov, Yu. A.; Mirzabekyaits, N. S.; Knunyants, I. L.

ORG: none

TITLE: Preparation of hexafluoroacetone oxime. Class 12, No. 187027

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 38

TOPIC TAGS: hexafluoroacetone oxime, nitrosyl chloride, hexafluoroisobutyric acid, butyric acid, fatty acid, chloride, organic oxime compound

ABSTRACT: To increase the yield and to simplify the technological process of the preparation of hexafluoroacetone oxime with the use of nitrosyl chloride in pyridine at low temperatures, nitrosyl chloride is treated with hexafluoroisobutyric acid.

[PS]

[WA-50; CBE No. 14]

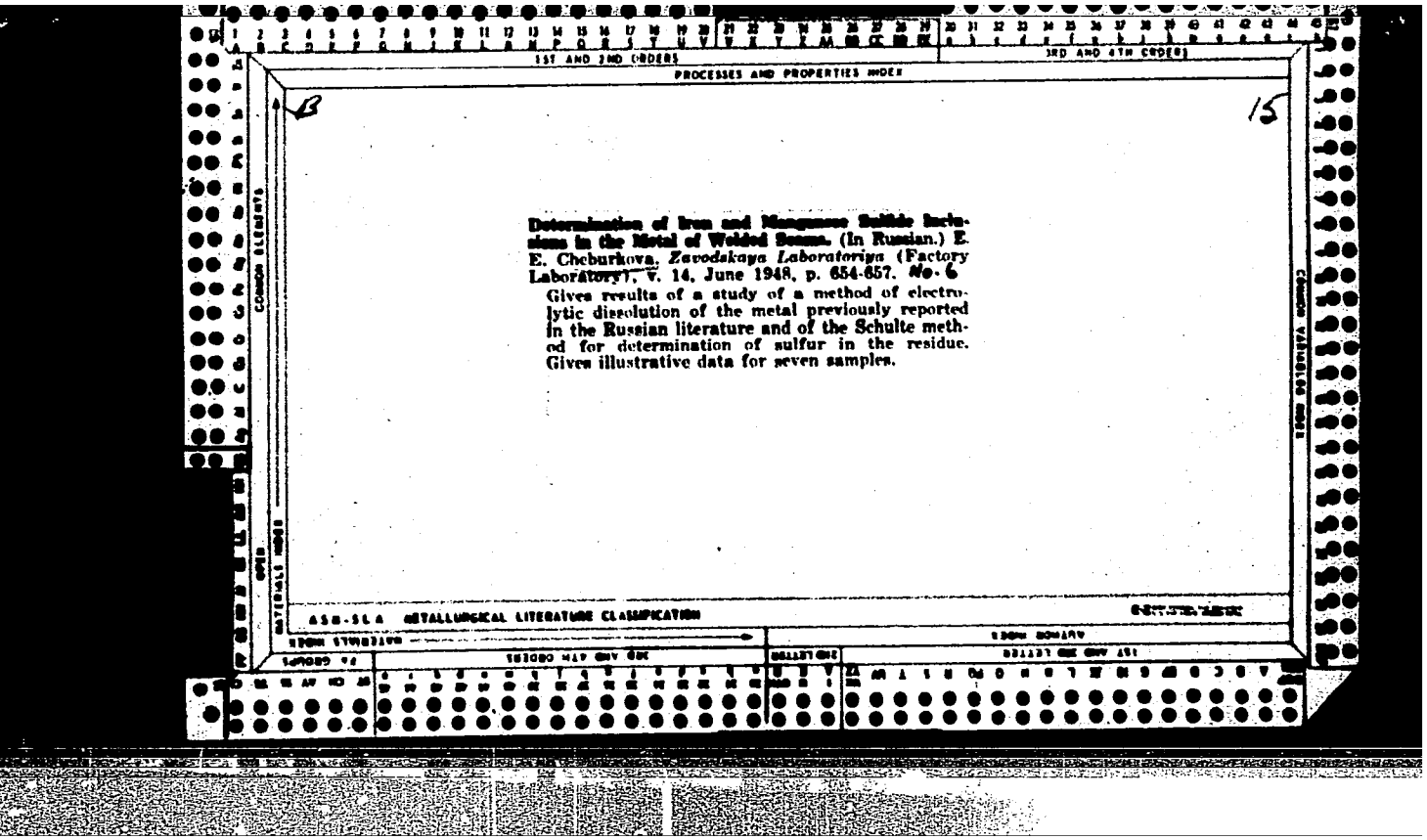
SUB CODE: 07/ SUBM DATE: 05Jul65

Card 1/1 UDC: 547.388.4.07

CHEBURKOVA, Ye. Ye., Engr. Cand. Tech. Sci.

Dissertation: "Nonmetallic Inclusions in the Metal of a Welded Joint and Methods for Their Determination." Central Sci Res Inst of Technology and Machine Building - "TsNIITMASh." 21 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947 (Project #17836)



Determination of Iron and Manganese Sulfide Inclusions in the Metal of Welded Seams. (In Russian.) E. E. Cheburkova. *Zavodskaya Laboratoriya* (Factory Laboratory), v. 14, June 1948, p. 654-657. No. 6

Gives results of a study of a method of electrolytic dissolution of the metal previously reported in the Russian literature and of the Schulte method for determination of sulfur in the residue. Gives illustrative data for seven samples.

CHEBURKOVA, YE. YE.

PA 28/49T7

USSR/Chemistry - Silicon, Determination of Oct 48
Chemistry - Steels, Silicon Content of

"Photocolorimetric Method of Determining Silicon in Iron and Steel," Ye. Ye. Cheburkova, Cen Sci Res Inst of Tech and Mach Constr, 3 pp

"Zavod Lab" Vol XIV, No 10

Discusses subject method and uses it to find silicon content in eight steels and two irons. Results compare within .02% with gravimetric method. Method is based on formation of yellow heteropoly acid with molybdic acid, which forms molybdenum blue when oxidized by thin chloride.

[redacted]

28/49T7

CHEBURKOVA, YE. YE. PA 48/49T72

USSR/Metals Mar 49
Metallurgy - Ferrous
Steel- Austenite

"Method for Determining Nonmetallic Impurities in Austenite Steel EIaLT," Ye. Ye. Cheburkova, Cen Sci Res Inst of Technol and Mach Constr, 3 pp

"Zavod Lab" Vol XV, No 3

Electrolytic method is utilized for extracting nonmetallic impurities from EIaLT austenite steel. Electrolytic diffusion of austenite steel should be performed in a 6% solution of ferrous sulfate with addition of 0.2% sodium citrate and 7% sodium chloride to the electrolyte, [redacted]

48/49T72

USSR/Metals (Contd) Mar 49

current density at 0.5 amp/sq cm. Gives illustration of samples of austenite steel and table showing results analysis of nonmetallic impurities.

48/49T72

CHEBURKOVA, Ye. Ye.

PA 163T54

USSR/Metals - Cast Iron Jun 50
Chemistry - Magnesium, Determination

"Determination of Magnesium in Cast Iron," Ye. Ye. Cheburkova, Cen Sci Res Inst of Tech and Mach Constr

"Zavod Lab" Vol XVI, No 6, pp 663-666

Describes experiments to develop most efficient method for determination of magnesium in cast irons. Separation of iron performed with aid of ether, and ammonia and bromine water used for separating manganese. Two possibilities investigated for determination of magnesium in presence

163T54

USSR/Metals - Cast Iron (Contd) Jun 50

of copper: hydroquinoline method and analysis by phosphate method. Latter method suggested as better because it is simpler, does not require preliminary separation of copper, and employs no special reagents.

163T54

FDD PA 169T44

CHEBURKOVA, YE. YE.

USSR/Metals - Welding, Fluxes, Aug 50
Analysis

"Determination of Fluorine in Welding Fluxes," Ye. Ye. Cheburkova, Cen Sci Res Inst of Technol and Mach Bldg

"Zavod Lab" Vol XVI, No 8, 1009-1010

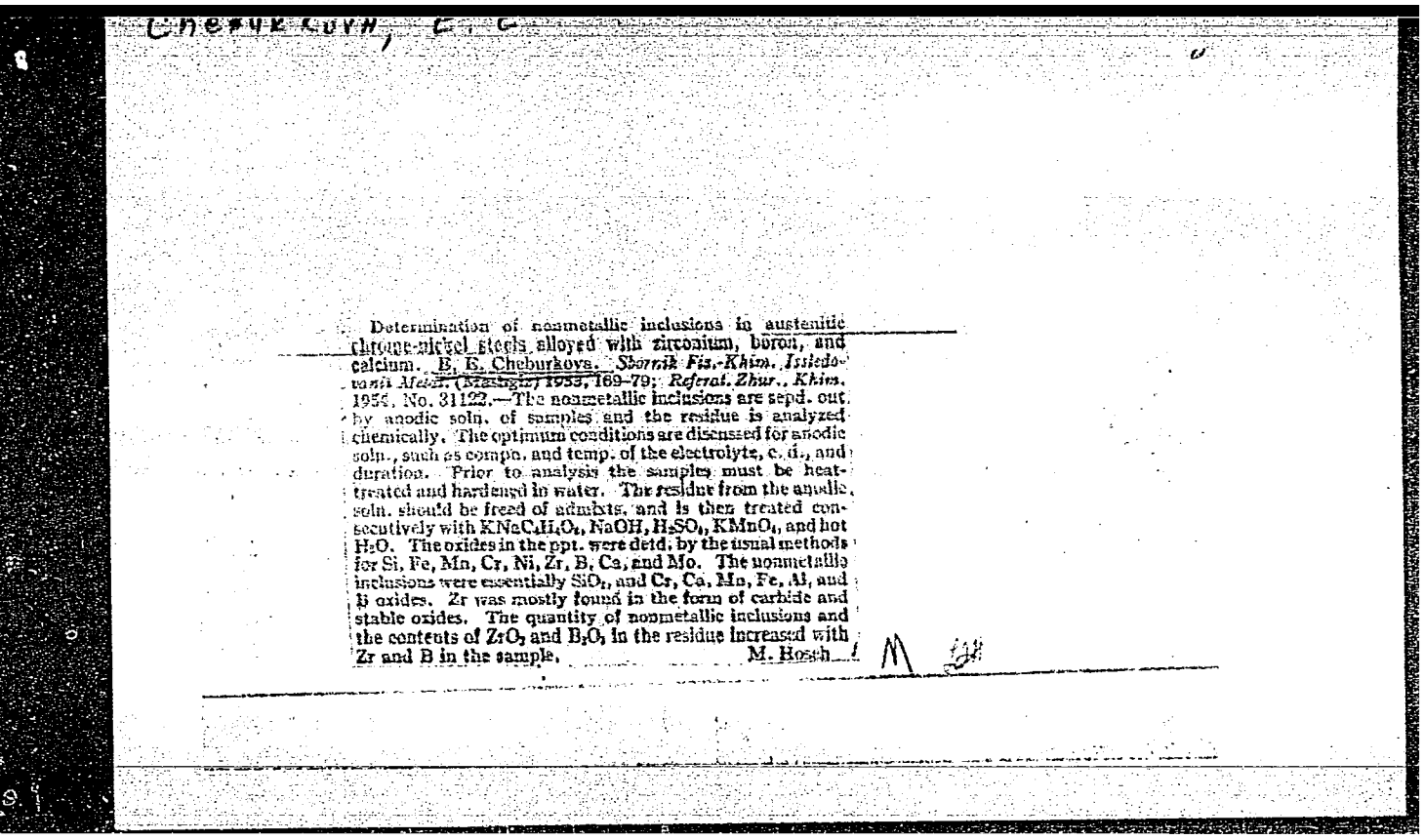
Suggests accelerated method for determination of F in welding fluxes. F is brought into solution in form of Na F for which purpose flux under investigation has to be sintered with mixture of 3 parts of ZnO and 1 part Na carbonate. At end of procedure precipitate

169T44

USSR/Metals - Welding, Fluxes, Aug 50
(Contd)

of Pb fluorobromide is obtained, and upon its reaction with Ag nitrate, content of F in flux may be calculated be determination of quantity of Ag nitrate combined with Br.

169T44



Cheburkova, E. E.

Determination of nonmetallic inclusions in austenitic chrome-nickel steels alloyed with zirconium, boron, and calcium. E. E. Cheburkova. *Sbornik Fiz.-Khim. Issledovanii Metall.* (Mashgiz) 1955, 169–79; *Referat. Zhur., Khim.* 1956, No. 31122.—The nonmetallic inclusions are sepd. out by anodic soln. of samples and the residue is analyzed chemically. The optimum conditions are discussed for anodic soln., such as compn. and temp. of the electrolyte, c. d., and duration. Prior to analysis the samples must be heat-treated and hardened in water. The residue from the anodic soln. should be freed of admixts. and is then treated consecutively with $KNaC_4H_4O_6$, NaOH, H_2SO_4, $KMnO_4$, and hot H_2O. The oxides in the ppt. were detd. by the usual methods for Si, Fe, Mn, Cr, Ni, Zr, B, Ca, and Mo. The nonmetallic inclusions were essentially SiO_2, and Cr, Ca, Mn, Fe, Al, and B oxides. Zr was mostly found in the form of carbide and stable oxides. The quantity of nonmetallic inclusions and the contents of ZrO_2 and B_2O_3 in the residue increased with Zr and B in the sample.

M. Hosch

CHEBURKOVA, E. E.

Nonmetallic inclusions in complex-alloyed austenitic steels containing tungsten and molybdenum. E. E. Cheburkova. *Sbornik Fiz.-Khim. Issledovanii Metallov* (Mashgiz) 1953, 180–5; *Referat. Zhur., Khim.* 1954, No. 31332.—A method for detn. of nonmetallic inclusions in high-alloyed steels by electrolytic anodic soln. is outlined. The compn. of the electrolyte, c.d., procedure of chem. analysis of the residue obtained in the electrolysis, and microscopic examn. of the nonmetallic inclusions are described.

M. Hosch

CHEBURKOVA, YE. YE.

137-58-2-4154

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 270 (USSR)

AUTHOR: Cheburkova, Ye. Ye.

TITLE: The Nonmetallic Inclusions in an Austenitic Chrome-nickel-cobalt Steel Alloyed With Niobium (Nemetallicheskiye vklyucheniya v austenitnoy khromonikel'kobal'tovoy stali s niobiyem)

PERIODICAL: V sb.: Fiz.-khim. issled. austenitn. splavov. Moscow, Mashgiz, 1957, pp 41-52

ABSTRACT: An investigation was made of steel EI-434 relative to its nonmetallic inclusions. Employed was a new method of separating the carbides and nonmetallic inclusions by means of their differing solubility in acid oxidizing media. The residues were examined and the total quantity of nonmetallic inclusions determined by chemical analysis. The nature of the nonmetallic inclusions was determined by a microscopic investigation of the residues in diffracted light. Methods were devised for determining the non-metallic oxide inclusions in steel EI-434. The total quantity, composition, and nature of the nonmetallic inclusions were ascertained, and it was noted that in steel EI-434 the predominant nonmetallic inclusions, by and large, consisted of SiO_2,

Card 1/2

137-58-2-4154

The Nonmetallic Inclusions in an Austenitic Chrome-nickel-cobalt Steel (cont.)

FeO, and Al_2O_3. Insignificant quantities of Cr_2O_3 and Nb_2O_3 were found. Bibliography: 7 references.

T.F.

1. Steel alloys--Inclusions

Card 2/2

CHEBURKOVA, Ye.Ye., kand.tekhn.nauk

Nonmetallic inclusions in austenitic chromium-nickel-cobalt steels containing niobium. [Trudy] TSNIITMASH 84:41-52 '57 (MIRA 10:11)
(Steel alloys--Analysis) (Oxides)

YEREMIN, N.I., kand.fiz.-mat.nauk; YELCHIN, P.M., inzh.; KOMAROVSKIY, A.G., kand.tekhn.nauk; CHEBURKOVA, Ye.Ye., kand.tekhn.nauk; SHMELEV, B.A., kand.tekhn.nauk; ZETIN, S.D., kand.tekhn.nauk

Physical and chemical methods for the investigation in the phase analysis of alloys. [Trudy] TSNIITMASH 100:90-106 '59. (MIRA 13:7)

(Alloys)

BORZUNOV, S.M., polkovnik; CHEBUSHEV, I.V., polkovnik, red.; VOLKOVA, V.Ye., tekhn.red.

[Decrees of the October Plenum of the Central Committee of the CPSU in action] Reshenilia oktiabr'skogo Plenuma TsK KPSS v deistvii. Moskva, Voen.izd-vo M-va obor.SSSR, 1959. 371 p. (MIRA 12:4)
(Russia--Armed forces)

LAR'KOV, A.M., polkovnik, kand.istor.nauk; FILIPPOV, N.T., polkovnik, kand. yuridich.nauk; BOCHKAREV, K.S., general-mayor, dotsent, kand.filosof. nauk, red.; CHEBUSHEV, I.V., polkovnik, red.; MAMOYEV, V.P., tekhn. red.

[Unity of command in the Soviet Armed Forces and ways for further strengthening it; a lecture presented to the troops] Edinonachalie v Sovetskikh Vooruzhennykh Silakh i puti ego dal'neishego ukrepleniia; lektsiia, prochitannaia v voiskakh. Moskva, Voen. izd-vo M-va obor.SSSR, 1960. 38 p. (MIRA 13:6)

1. Lektory Glavnogo politicheskogo upravleniya Sovetskoy Armii i Voyenno-Morskogo Flota (for Lar'kov, Filippov).
(Russia--Armed forces--Officers)

ZELENTSOV, A.A., polkovnik; PADORIN, Ya.A., polkovnik; CHEBUSHEV, I.V., polkovnik, red.; MEDCHIKOVA, A.N., tekhn.red.

[Party organizations in army units and war vessels; collected articles on the work experience of local party organizations] Partiinaia organizatsiia chasti, korablia; sbornik statei ob opyte raboty pervichnykh partorganizatsii. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 334 p. (MIRA 13:4)
(Communist Party of the Soviet Union--Party work)
(Russia--Armed forces)

LIPODAYEV, Ivan Alekseyevich, General-leytenant; CHEBUSHEV, I.V., polkovnik, red.; BUKOVSKAYA, N.A., tekhn. red.

[Steadfastly endure the hardships and privations of military service] Stoiko perenosit' tiagoty i lisheniia voennoi sluzhby. Moskva, Voen.izd-vo M-va obrony SSSR, 1961. 75 p. (MIRA 14:12)
(Military education)