BORISOV, Yu.P.; DOROKHOV, O.I.

Simplifying calculations of basic indices of the development of banded sections of oil pools. Trudy VNII no.10:240-246 '57.
(Oil reservoir engineering) (MIRA 14:6)

11(0)

AUTHOR: Krylov, A.P., Maksimov, M.M., Dorokhov, O.I. SOV/93-58-11-7/15

TITLE: Studying the Fluid Gathering Properties of the D_I Formation at the Bavly Oilfield by Means of an EI-S Electronic Integrator (Izucheniye kollektorskikh svoystv plasta D_I Bavlinskogo mestorozhdeniya na elektrointegratore EI-S)

PERIODICAL: Neftyanoye khozyaystvo, 1958, Nr 11, pp 34-41 (USSR)

ABSTRACT: This is an experimental study of oilwell spacing at the D_I formation of the Bavly Oilfield. The experiments were carried out by the VNII Institute by means of an EI-S electronic integrator [Ref 1] under water pressure conditions. The D_I formation is of a nonuniform structure and of changeable facies [Ref 2] and it was developed by pressure maintenance through water flooding [Ref 3]. The data on its development from 1949 through 1956 are given in Table 1. The formation's resistivity to filtration is reflected in Fig. 1. The formation pressure recorded by the electronic integrator at low and high electric grid capacitance and at an increased volume of water injection is shown by Fig. 2. The electronic integrator produced more accurate data on the formation's resistivity to filtration (Fig. 3) and these are reflected in the isobar maps (Figs. 4 and 4b). The EI-S integrator made it possible to reproduce for the first time the oilfield development process

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Studying the Fluid Gathering (Cont.)

SOV/93-58-11-7/15

under water pressure conditions and to learn in detail the nonuniformity of the formation as well as the change in oilwell yield during the 10 years of its development. The results obtained with the integrator characterize the formation's structure better than those obtained through well drilling and this will make it possible to employ the integrator in studying the fluid gathering properties of formations with sparse wells prior to actual exploration. Furthermore, the new data on the structure of formations will make it possible to carry out correctly the preliminary development of an oil deposit with the aim of increasing the oil output. There are 4 figures, 1 table and 3 Soviet references.

Card 2/2

DOROKHOV, O.I.; POLUYAN, I.G.; SULTANOV, S.A.

Important experiment carried out in the Bavly oil field. Neft. khoz. 37 no.3:41-47 Mr '59. (MIRA 12:5)
(Bavly District--Oil field flooding)

DOROKHCV, O. I., Cand Tech Sci -- (diss) "Effect of the density of a well network on indices of the development of deposits and on the process of their exploitation. (From the example of the Romashkin and the Bavlin petroleum deposits)." Moscow, 1960. 12 pp; (Gosplan USSR, All-Union Petroleum Gas Scientific Research Inst -- VNII); 170 copies; price not given; (KL, 23-60, 124)

DOROKHOV, O.I., BUCHIN, A.N.

Increasing and selecting the pressure gradient between the injection zone and bottoms of exploitation wells. Neft. khoz. 38 no.1:44-49 Ja '60. (MIRA 13:7)
(Oil fields--Production methods)

DOROKHOV, O.I.

Method of studying oil recovery under field conditions in the Bavly oil field. Nauch.-tekh. sbor. po dob. nefti no.13:56-60 '61. (MIRA 16:7)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.
(Bavly Region—Oil fields—Production methods)

DOROKHOV, O.I.; MAKSIMOV, M.M.

Effect of the density of the well pattern on the nature of the displacement of the oil boundaries as revealed by a study of the Bavly oil field. Nauch.-tekh.sbor.po dob.nefti. no. 14: 30-35 '61. (MIRA 17:6)

GATTENBERGER, Yu.P.; DOROKHOV, O.I.; ORLOV, V.S.; SELYUNIN, A.M.

Estimating petroleum production on the Bavli oil field. Nauch.-tekh. sbor. po dob. nefti no.24:90-94 '64. (MIRA 17:10)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

DOROKHOV, O.I.; SULTANOV, S.A.; SELYUNIN, A.N.; POLUYAN, I.G.

Concerning the Bavly experiment. Geol. nefti i gaza 9 no.8:53-3 of cover Ag '65. (MIRA 18:8)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut; Tatarskiy neftyanoy nauchno-issledovatel'skiy institut, g. Bugul'ma; Gosneftekomitet i Ob"yedineniye Bavlyneft'.

DOROKHOV, O. K.

Calculation of the most favorable moistness of tobacco for its processing in the factory. Tabak 13, No 3, 1952.

DOROKHOV, P.K.; DIKKER, G.L.; MURASHEVA, O.I., red.; SATAROVA, A.M., tekhn. red.

[Technology of tobacco and production control] Tekhnologiia tabaka i tekhnokhimicheskii kontrol'. Moskva, Pishcheprom-izdat, 1961. 359 p. (MIRA 15:1)
(Tobacco industry)

DOROKHOV, Petr Konstantinovich; DIKKER, Grigoriy Lazarevich; MOROZOVA, I.I., red.

[Tobacco technology and technochemical control] Tekhnologiia tabaka i tekhnokhimicheskii kontrol'. Izd.2., perer. i dop. Moskva, Izd-vo "Pishchevaia promyshlennost', " 1964. 391 p. (MIRA 17:6)

USSR / Human and Animal Morphology (Normal and Pathological). S
Circulatory System. Blood Vessels.

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 2972

Author : Dorokhov, R. N.
Inst : Rostov-on-Don Medical Institute
Title : Surgical Anatomy of the Proximal Segment of the Anterior Tibial Artery

Orig Pub : Tr. Otchetn. nauchn. konferentsii (Rostovsk.-n/D med. in-t) za 1956 g., Rostov-na-Donu, 1957, 193-195

Abstract : On 44 lower extremities of humans of both sexes, 18-70 years of age, it was demonstrated that the anterior tibial artery (ATA) originates from the popliteal artery 2 ± 0.5 cm below the most prominent point of the head of the fibula. In 77.3% of cases ATA is occupied by 2 veins and in 22.7% by one vein. For purposes of ligation of the proximal segment of ATA the most convenient

Card 1/2

Dorokhov, Stepan A.

DOROKHOV, Stepan Alekseyevich; PYSHKIN, A.N., spetsredaktor; KUZ'MINA, V.S., [redacted] tekhn.red.

[Controlling pests which damage fish products] Bor'ba s vreditelisami rybnykh tovarov. Moskva, Pishchepromizdat, 1957. 95 p. (MIRA 11:3)
(Fisheries--Hygienic aspects)

SITKOVSKIY, P.A.; KOMAROV, G.V.; BRUSENTSEV, V.F.; KREMENETSKIY, N.N.; MAMAYEV, M.G., kand.tekhn.nauk; SMIRNOV, A.V., kand.tekhn.nauk; AFANAS'YEV, I.V.; VOLOD'KO, I.F., kand.tekhn.nauk; BEGLYAROV, S.A.; KONDRAT'YEV, V.V.; KARLINSKAYA, M.I.; NIKOLAYEV, M.I., kand.tekhn. nauk; DOROKHOV, S.M.; PISHCHUROV, P.V.; KLIMENTOVA, A.V.; ROZENBLAT, Zh.I.; FANDEYEV, V.V., kand.tekhn.nauk; KULIKOV, P.Ye.; SHIMANOVICH, S.V.; DELITSIN, M.V., retsenzent; BRAUDE, I.D., retsenzent; BARYSHEV, A.M.; retsenzent; GRIGORYANTS, A.S., retsenzent; IGNATYUK, G.L., retsenzent; KALABUGIN, A.Ya., retsenzent; KREMENETSKIY, N.D., retsenzent; POPOV, K.V., retsenzent; ORLOVA, V.P., red.; LETNEV, V.Ya., red.; SOKOLOVA, N.N., tekhn.red.; FEDOTOVA, A.F., tekhn.red.

[Handbook for hydraulic and agricultural engineers] Spravochnik gidrotekhnika melioratora. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1958. 766 p. (MIRA 12:3)
(Hydraulic engineering) (Agricultural engineering)

Dorokhov, S.M.

ESAULOV, P.A., kandidat sel'skokhozyaystvennykh nauk; ALIKAYEV, V.A., kandidat veterinarnykh nauk; GRUDEV, D.I., kandidat sel'skokhozyaystvennykh nauk; DOROKHOV, S.M.; TARANOV, G.F., kandidat sel'skokhozyaystvennykh nauk; FANDEYEV, B.V., kandidat sel'skokhozyaystvennykh nauk; SHAIN, S.S., professor; PETROVSKAYA, A.P., redaktor; TATAPOV, M.I., tekhnicheskiy redaktor

[Fundamentals of stockbreeding; a textbook for students in secondary rural schools] Osnovy zhivotnovodstva; uchebnoe posobie dlia uchashchikhsia sel'skoi srednei shkoly. Pod red. P.A.Esaulova. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshchenila RSFSR, 1956. 294 p. (MLRA 10:1)

1. Starshiy spetsialist Ministerstva sellskogo khozyaystva SSSR (for Dorokhov)
(Stock and stockbreeding)

DOROKHOV, Semen Mitrofanovich; PETROVSKAYA, L.P., red.; DZHATIYEVA, F.Kh., tekhn.red.

[For the young pisciculturist; textbook for secondary schools] IUnomu rybovodu; posobie dlia uchashchikhsia srednei shkoly. Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR, 1958. 159 p. (MIRA 12:9)

(Fish culture)

DOROKHOV, S.M.; PAKHOMOV, S.P.; POLYAKOV, G.D.; NECHAYEVA, Ye.G., red.; FEDOTOVA, A.F., tekhn.red.

[Raising fish in ponds] Prudovoe rybovodstvo. Pod red. G.D. Poliakova. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1958. 295 p. (MIRA 12:4)

(Fish culture)

DOROKHOV, S.M.; LYAYMAN, E.M.; KASPIN, B.A.; SOLOV'YEV, T.T.; MARTYSHEV, F.G., prof., nauchnyy red.; PETROV, A.A., red.; UDALOV, A.G., tekhn.red.

[Fish culture on farms] Sel'skokhoziaistvennoe rybovodstvo. Moskva, Izd-vo M-va sel'khoz.SSSR, 1959. 198 p. (MIRA 13:6)
(Fish culture)

AKHMEROV, A.Kh., kand.biol.nauk; BATENKO, A.I., kand.sel'skokhoz.nauk; BRUDASTOVA, M.A., kand.tekhn.nauk; GOLOVINSKAYA, K.A., kand.biolog. nauk; GORDON, L.M., kand.ekon.nauk; DOROKHOV, S.M., rybovod-biolog; YEROKHINA, L.V., rybovod-biolog; IL'IN, V.M., rybovod-biolog; ISAYEV, A.I., rybovod-biolog; KADZEVICH, G.V., rybovod-biolog; KOMAROVA, I.V., kand.biol.nauk; KRYMOVA, R.V., rybovod-biolog; KULAKOVA, A.M., rybovod-biolog; MAMONTOVA, L.N., kand.biol.nauk; MEYSNER, Ye.V., kand.biol.nauk; MIKHEYEV, P.V., kand.biol.nauk; MUKHINA, R.I., kand.biol.nauk; PAKHOMOV, S.P., kand.biol.nauk; SUKHOVERKHOV, F.M., kand.biol.nauk; SOKOLOVA, Z.P., rybovod-biolog; TSIUNCHIK, R.I., rybovod-biolog; RYZHENKO, M.I., red.; KOSOVA, O.N., red.; SOKOLOVA, L.A., tekhn.red.

[Handbook on pond fish culture] Spravochnik po prudovomu rybovodstvu. Red.kollegiia: A.I.Isaev i dr. Moskva, Pishchepromizdat, 1959. 374 p. (MIRA 13:4)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut prudovogo rybnogo khozyaystva.
(Fish culture)

DOROKHOV, S.M.; PAKHOMOV, S.P.; POLYAKOV, G.D.; DOBYCHINA, I.N., red.; GUREVICH, M.M., tekhn. red.

[Pond fish culture] Prudovoe rybovodstvo. Pod red. G.D.Poliakova. Izd.2., ispr. i dop. Moskva, Sel'khozizdat, 1962. 263 p. (MIRA 16:4)

(Fish culture)

DOROKHOV, S.S.

AID P - 1954

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 3/25

Author : Dorokhov, S. S., Eng.

Title : Improvement of performance of the TsKKB 60/75 type boilers

Periodical : Energetik, 4, 7-10, Ap 1955

Abstract : The author describes the improvements introduced in 1952 in two two-drum, vertical water tube, 75 t/hr, 33 atm, 425°C TsKKB boilers. After reconstruction, the capacity of the boilers increased to 85 t/hr. The author presents a list of characteristics for a period of one year of operation. Since there were no visible improvements, complementary reconstruction work was done in 1953, with marked improvement of boiler characteristics. The author summarizes results obtained. Five detailed drawings.

Institution: None
Submitted : No date

ACCESSION NR: AP4010052 S/0062/64/000/001/0199/0201

AUTHOR: Mikhaylov, B. M.; Dorokhov, V. A.; Mostovoy, N. V.

TITLE: The effect of allylamine on tetraalkyldiboranes

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 199-201

TOPIC TAGS: allylamine, tetraalkyldiboranes, (3-aminopropyl)-di-n-alkylborons, asymmetric borotrialkyls, addition compounds, nucleophilic reagents, NH sub 2 deformation, NH sub 2 valence vibration

ABSTRACT: Adding 1 M tetra n-butyldiborane to a 2 M ether solution of allylamine with subsequent boiling yielded (3-aminopropyl)-di-n-butylboron and twice as much allylamino-di-n-butylboron. Reversing the order of mixing the reagents yielded 65% of the first compound and insignificant amounts of the second compound. Similar results were obtained for the other tetralkyldiboranes. This reaction was also carried out with butylmercapto-di-n-butylboron. IR spectra of the (3-aminopropyl)-dialkylborons (N-H absorption bands at 3292 and 3350

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ACCESSION NR: AP4010052

cm^{-1}, NH_2 deformation band at 1590 cm^{-1}) and their unusual stability to air and to temperatures up to 200 C. are indicative of intracomplex structure. The laboratory procedures are described, as are end products and yields for the propyl and butyl compounds. Their probable structure is discussed. Reaction formulas for the first and the reversed sequence of mixing are presented. "The authors wish to thank I. P. Yakovlev for determining the IR spectra." Orig. art. has: 5 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii Nauk SSSR (N.D. Zelinski Institute of Organic Chemistry AN SSSR)

SUBMITTED: 19Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 000

Card 2/2

VERKHOROBIN, L.F.; GLUSHKO, P.I.; DOROKHOV, V.I.; MATYUSHENKO, N.N.

Interaction of molybdenum disilicide with beryllium. Fiz. met. i metalloved. 16 no.5:751-753 N '63. (MIRA 17:2)

1. Fiziko-tekhnicheskiy institut AN UkrSSR.

AN: AP4013101 S/0126/64/017/001/0142/014

AU: Ivanov, V. Yo.; Nochiporenko, Ye. P.; Zmiy, V. I.; Glushko, P. I.; Androv, O. N.; Dorokhov, V. I.

TI: High-temperature oxidation of molybdenum disilicide

SO: Fizika metallov i metalloved., v. 17, no. 1, 1964, 142-144

TOPIC TAGS: molybdenum, silicon, molybdenum disilicide, molybdenum disilicide oxidation, molybdenum disilicide microhardness

ABSTRACT: Molybdenum disilicide is a metal with great promise for use in structures designed to withstand high temperatures. In the technical literature there are [illegible] on the oxidation of $MoSi_2$ achieved by various methods: hot pressing, sintering, etc. The authors of this short article conducted a study of the kinetics of $MoSi_2$ oxidation in a temperature interval of 1400-1700C using a high-temperature resistance furnace. The heater was a spiral 5mm in diameter made from a molybdenum rod. For oxidation, samples of molybdenum disilicide 25X10X0.15 mm in size were used; these samples were obtained by the vacuum method. The temperature was controlled by a thermocouple (Pt - Rh 7% center: Pt-Rh 20%) and an optical pyrometer, the latter placed directly on the heater. The temperature gradient between the heater

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ACCESSION NR: AP4013101

and the sample was not more than 30C. A metallographic analysis of the sample was carried out with an MIM-7 microscope, with microhardness tested on a PMT-3 instrument. Oxidation time was 10 hours. It was found that with increasing time and temperature the oxidizability of $MoSi_2$ increases, the rate of oxidation obeying a parabolic law. No transition from a parabolic law of oxidation to a logarithmic one was detected in the tests. X-ray analysis in the temperature range indicated (1400-1700C) revealed an amorphous oxide film on the surface of the oxidized samples. Preliminary analysis showed that this film, in addition to SiO_2, contains unknown components. These are, apparently, lower molybdic oxides, the vapor tension of which is lower than that of MoO_3. The microhardness of the molybdenum disilicide, which did not change during the oxidation process, was 1200 kg/mm^2. Orig. art. has: 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR (Physicotechnical Institute, AN UkrSSR)

SUBMITTED: 03Mar63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: ML NO REF SOV: 005 OTHER: 003

Card 2/2

SOV/20-127-5-25/58

5(2,3)

AUTHORS: Mikhaylov, B. M., Kozminskaya, T. K., Fedotov, N. S., Dorokhov, V. A.

TITLE: Esters of Organothioboric Acids and Some of Their Transformations

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 5, pp 1023-1026 (USSR)

ABSTRACT: Since the esters of dialkyl thioboric acids (Refs 1, 2) proved to be very reactive compounds which may be used for the synthesis of various organoboric compounds the authors were interested in the production of the acids mentioned in the title and in their behaviour. The known aliphatic monosubstituted and the aromatic substituted esters of the thioboric acids are enumerated (Refs 3-5) and their production methods are mentioned. The authors found that the n-butyl esters of the alkyl thioboric acids (Ref 1) are produced in good yields in the boiling of the alkyl boron dichlorides and -dibromides with n-butyl mercaptan (see Scheme). By the same method n-butyl ester of the phenyl thioboric acid (II) was produced. Diphenyl boron chloride and di-α-naphthyl-boron chloride react in similar way with n-butyl mercaptan and form n-butyl esters of diphenyl thioboric acid (III. Ar = C_6H_5) and of di-α-naphthyl thioboric acid

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(III. Ar = α-$C_{10}H_7$). All esters produced are highly reactive. This permits their transformation into other organoboric compounds. By the action of ethylene diamine the mentioned esters are smoothly transformed into cyclic compounds, under the separation of n-butyl-mercaptan i.e. into 2-alkyl-2-boron-1,3-diazolidine (IV). In the action of ammonia on the esters of alkyl- and aryl thioboric acids at low temperatures the two latter were transformed into the corresponding boron trialkyl- and boron triaryl borazoles (V). The reaction between the ester and the phenyl thioboric acid and diethyl amine takes place in one direction under the formation of phenyl-di(diethyl amino)boron with a yield of 80%, whereas the amino compound (VI) is produced from the phenyl boron dichloride only in a 14% yield (Ref 8). Under the action of n-butyl ester of diphenyl thioboric acid is transformed into diphenyl butyl amino boron (VII) in the action of n-butyl amine in a 80% yield. The esters of

diphenyl thioboric and di-α-naphthyl-thioboric acid react with ammonia at low temperatures. In this connection diphenyl amino boron (VIII. Ar = C_6H_5 see Scheme) are formed or di-α-naphthyl-amino-boron (VIII. Ar = α-$C_{10}H_7$). There are 9 references, 5 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

PRESENTED: April 20, 1959, by B. A. Kazanskiy, Academician

SUBMITTED: April 18, 1959

81722
S/020/60/133/01/33/070
B011/B003

5.3700(B)(C)

AUTHORS: Mikhaylov, B. M., Dorokhov, V. A.

TITLE: Organoboron Compounds. Reactions of 1,2-Diaryl Boranes With Olefins and Diene Hydrocarbons

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 1, pp. 119 - 122

TEXT: The authors developed a method of preparing 1,2-diaryl boranes from esters of aryl or diaryl boric acids and from diborane (Ref. 1), which makes it possible to study these diborane derivatives. Their chemical properties had been almost unknown. The authors examined the reactions of 1,2-diaryl diboranes with olefin and diene hydrocarbons: with the former, i.e., propylene or α-butylene, 1,2-diphenyl diborane enters into reaction in an ether solution on cooling. The resulting phenyl-boron dialkyls are unstable and are symmetrized to triphenyl boron and boron trialkyls already at room temperature (cf. Scheme). When triphenyl boron reacts with olefin hydrocarbons, it is possible that part of it is formed by symmetrization of the initial 1,2-diphenyl

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81722
S/020/60/133/01/33/070
B011/B003

Organoboron Compounds. Reactions of 1,2-Diaryl Boranes With Olefins and Diene Hydrocarbons

borane. Reactions with dienes were carried out in benzene or toluene solutions between -40 and -30°C. Besides 1,2-diphenyl diborane, the authors used 1,2-di-o-tolyl borane, which had been synthesized by them for the first time. A cyclic compound having a boron atom in its ring is obtained from 1,2-diphenyl diborane and butadiene in a 51% yield: 1-phenyl boron cyclopentane (I). An analogous addition of 1,2-diaryl diboranes to dienes took also place in the case of 1,2-diphenyl diborane and isoprene. This addition led to the formation of 1-phenyl-3-methyl borocyclopentane (II), whereas 1-o-tolyl borocyclopentane (III) was synthesized from 1,2-di-o-tolyl diborane and butadiene. Moreover, these conversions were accompanied by the formation of boron triaryls. This is indicative of a partial symmetrization of the used 1,2-diaryl diboranes during the reaction. 1,2-diphenyl diborane reacts with cyclopentadiene at -40°C, thus forming a solid substance which is insoluble in ether and only slightly soluble in benzene. 1-phenyl borocyclopentane had earlier been synthesized (Ref. 3) from phenyl boron difluoride and 1,4-dilithium butane (in analogy to Ref. 4). As regards the reaction of 1-aryl borocyclopentanes to active hydrogen compounds,

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Organoboron Compounds. Reactions of 1,2-Diaryl Boranes With Olefins and Diene Hydrocarbons

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the authors found that 1-phenyl borocyclopentane reacts more easily with isobutyl alcohol than boron trialkyls (Ref. 5). In this case, the isobutyl ester of n-butyl-phenyl boric acid is formed under ring cleavage. Under the action of n-butyl mercaptan, 1-phenyl borocyclopentane passes over into the n-butyl ester of n-butyl-phenyl thioboric acid. This ester is the first representative of the esters of alkyl-aryl thioboric acids. There are 7 references: 3 Soviet, 1 American, 2 German, and 1 Scandinavian.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences, USSR)

PRESENTED: March 9, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: March 3, 1960

Card 3/3

25048
S/062/61/000/006/010/010
B118/B220

5.3600

AUTHORS: Mikhaylov, B. M. and Dorokhov, V. A.

TITLE: Bis(alkyl-amino)-boranes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 6, 1961, 1163

TEXT: It was stated by the authors that the reaction of the primary amines with n-propyl mercapto(dimethyl-amino)-borane at 60-70°C resulted in high yields of bis(alkyl-amino)-boranes unknown up to that time:

$$(CH_3)_2N-B\begin{matrix}H\\ \diagdown\\ SC_3H_{7\text{-}n}\end{matrix} + 2RNH_2 \longrightarrow (RNH)_2BH + n\text{-}C_2H_7SH + (CH_3)_2NH$$

R = n-C_4H_9; i-C_4H_9; C_3H_5.

n-propyl mercapto(dimethyl-amino)-borane was obtained by reaction of n-propyl mercaptan with dimethyl-amino borane: 48-50°C (13 mm Hg); $d_4^{20} = 0.8706$; $n_D^{20} = 1.4701$. Data obtained: C 46.43; H 10.64 %; molecular

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Bis(alkyl-amino)-boranes

weight: 134.9 corresponding to $C_5H_{14}NSB$. Bis(n-butyl-amino)-borane boils at 46-48°C (2 mm Hg); $d_4^{20} = 0.7879$; $n_D^{20} = 1.4306$. Data obtained: C 61.49; H 13.25; B 7.05 %; molecular weight: 147.9 corresponding to $C_8H_{21}N_2B$. Bis(isobutyl-amino)-borane boils at 59-61°C (9 mm Hg); $d_4^{20} = 0.7794$; $n_D^{20} = 1.4263$. Data obtained: C 61.26; H 13.33; B 7.23 %; molecular weight: 155.0 corresponding to $C_8H_{21}N_2B$. Bis(allyl-amino)-borane boils at 62-67°C (30 mm Hg); $d_4^{20} = 0.8181$, $n_D^{20} = 1.4520$. Data obtained: C 58.31; H 10.38; B 8.92 % corresponding to $C_6H_{13}N_2B$. When heated above 150°C, bis(alkyl-amino)-boranes are converted to N-trialkyl borazoles, splitting off alkyl amines. There is 1 Soviet-bloc reference.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy Academy of Sciences USSR)

SUBMITTED: April 26, 1961

Card 2/2

MIKHAYLOV, B.M.; LOROKHOV, V.A.

Synthesis of N-trialkylborazines from alkylamine boron hydrides in the presence of mercaptans. Izv. AN SSSR. Otd.khim.nauk no. 7:1346-1348 Jl '61. (MIRA 14:7)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Borazine)

29523
S/062/61/000/011/010/012
B103/B147

5.3700

AUTHORS: Mikhaylov, B. M., and Dorokhov, V. A.

TITLE: Synthesis of some dialkyl-amino boranes and alkyl-mercapto (dialkyl-amino) boranes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 11, 1961, 2084 - 2086

TEXT: The following compounds were synthesized: (a) n-propyl-mercapto (dimethyl-amino) borane (boiling point 48 - 50°C at 13 mm Hg; d_4^{20} - 0.2706; n_D^{20} - 1.4701); (b) n-butyl-mercapto (dimethyl-amino) borane (boiling point 55 - 57°C at 7 mm Hg; d_4^{20} - 0.8666; n_D^{20} - 1.4669); (c) n-propyl-mercapto (diisoamyl-amino) borane (boiling point 92 - 94°C at 1.5 mm Hg; d_4^{20} - 0.8422; n_D^{20} - 1.4640); and (d) n-butyl-mercapto (piperidino) borane (boiling point 73 - 74°C at 1.5 mm Hg; d_4^{20} - 0.9170; n_D^{20} - 1.4944). The initial substances were dialkyl-amino boranes: (e) dimethyl-amino borane;

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Synthesis of some dialkyl-amino...

(f) diisoamyl-amino borane; and (g) piperidine borane with yields close to the theoretical values. The reaction used for the synthesis of (e) - (g) has previously been described by the authors (Dokl AN SSSR, 136, 356 (1961); Zh. obshch. khimii, 31, 7384 (1961)). It permits the synthesis of different alkyl-mercapto (dialkyl-amino) boranes from borane complexes with secondary amines. e) - g) were obtained by passing diborane at low temperatures through an ether solution of the relevant secondary amine. An easy method of synthesizing dialkyl-amino boranes consists in reacting lithium boron hydride with the hydrochlorides of the amines in ether medium. a) - d) were synthesized by allowing the relevant mercaptans to act on e) - g) at 100 - 120°C as follows:

$$R_2NH\ BH_3 + R'SH \longrightarrow R_2NB\begin{matrix}SR'\\H\end{matrix} + 2H_2$$

a) - d) exist in a monomeric form. They can be hydrolized and are oxidized in air. They react with alcohols at room temperature while separating H_2. Their alkyl-mercapto groups are substituted by an alkyl-amino or dialkyl amino group under the effect of primary or secondary amines. On heating with higher mercaptans, a) - d) exchange their RS

Card 2/3

29523
S/062/61/000/011/010/012
B103/B147

Synthesis of some dialkyl-amino...

Groups for a higher alkyl-mercapto group. When heated with an excess of a higher secondary amine, both the alkyl-mercapto and the dialkyl-amino group are substituted. Finally, data on infrared and Raman spectra of b) are presented. There are 5 references: 2 Soviet and 3 non-Soviet. The reference to the English-language publication reads as follows: A. Burg, C. Good, Inorgan. Nucl. Chem. 2, 237 (1956).

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: May 12, 1961

Card 3/3

30193

S/079/61/031/011/015/015
D228/D305

5.3700

AUTHORS: Mikhaylov, B. M., and Dorokhov, V. A.

TITLE: Alkylmercapto-(diethylamino)-boranes

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 11, 1961, 3750-3756

TEXT: Previous research by B. M. Mikhaylov and V. A. Dorokhov (Ref. 1: Dokl. AN SSSR, 136, 356, 1961) disclosed the existence of a new class of organoboron compounds—the alkylmercapto-(dialkylamino)-boranes (I). The present work is devoted to the study of three more such substances: ethylmercapto-(diethylamino)-borane — $Et_2NBHSEt$ (II); phenylmercapto-(diethylamino)-borane — $Et_2NBHSPh$ (III); and n-butylmercapto-(diethylamino)-borane — $Et_2NBHSBu\text{-}n$ (IV). II(b.p. 65 - 75°) was prepared by distilling a solution of diethylaminoborane which was preheated at 100 - 110° for 4 hr. during the dropwise addition of diethylamine. III (b.p. 82 - 84°) was obtained by distilling a mixture of diethylaminoborane and thiophenol that had first been heated at the same temperature for 1 hr.

Card 1/4

Alkylmercapto-(diethylamino)-boranes

The physical properties of II, III, and IV indicate their occurrence in a monomeric form. By studying the reactions of I, the authors exposed the relative mobility of the alkylmercapto and diethylamino groups bonded to the boron atom. Thus, the butylmercapto group in IV may be replaced by an arylamino group when treating this compound with aniline or o-toluidine at fairly low temperatures; similarly, the diethylamino group - and not hydrogen—is replaced when III is treated with aniline at 60 - 80°. In this connection, the authors note that V. I. Mikheyeva and Ye. M. Fedneva (Ref. 5: ZhNKh, 2, 604, 1957) also synthesized a compound with the composition $(PhNH)_2BH$ from diborane and aniline. For the reactions of I with aliphatic amines, however, the conditions are different. On boiling a mixture of IV and diethylamine for 5 hr., only half of the former substance is converted into bis-diethylaminoborane—a compound which the authors prepared, too, by slowly adding diethylamine to a solution of diethylaminoborane at a temperature of 130 - 150°. The comparative inertness of the hydrogen atom in I is further illustrated by the fact that it cannot be replaced by an alkylmercapto groups even when such com-

S/079/61/031/011/015/015
D228/D305

Alkylmercapto-(diethylamino)-boranes

pounds are heated with mercaptan at 200°. In the case of the higher mercaptans, the lower mercapto group is replaced by the higher. II reacts with n butylmercaptan to form IV and ethylmercaptan. The reactions between I and alcohol are believed to proceed first through the introduction of the alkylmercapto and diethylamino groups, after which the dialkoxyborane either acts directly on the alcohol to give hydrogen or else is symmetrized into orthoborate and diborane when the latter reacts with the alcohol. The low mobility of the hydrogen atom bonded to boron is also displayed by the inability of I to combine with unsaturated hydrocarbons—even at 120° in the presence of pyridine. The introduction of boron and its derivatives is best accomplished if the electron shell of the B-H bond is relatively dense. According to their tendency to react with unsaturated compounds, the various derivatives of boron are placed in the following series: RBH_2 $RSBH_2$ $(RS)_2BH$ R_2NBH_2 $(R_2N)_2BH$. There are 12 references: 9 Soviet bloc and 3 [illegible]. The reference to the English-language publication [illegible] is: Burg, E. Randolph, J. Am. Chem. Soc., 73, 953 (1951).

Card 3/4

[redacted]

20-93

Alkylmercapto-(diethylamino)-boranes

S/079/61/031/011/015/015
D228/D305

SUBMITTED: December 6, 1960

X

[redacted]

31191
S/079/61/031/012/005/011
D227/D301

S-2410

AUTHORS: Mikhaylov, B. M., and Dorokhov, V. A.

TITLE: Organoboron compounds. LXXXVII. The action of diborane on the aryl derivatives of boron

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 12, 1961, 4020-4023

TEXT: When diborane is reacted with esters of aryl- and diaryl boric acids, 1,2-diaryl diboranes are formed, according to the following reactions:

$$6ArB(OR)_2 + 2B_2H_6 \rightleftarrows 3(ArBH_2)_2 + 4(RO)_3B \quad (1)$$

$$3Ar_2BOR + 2B_2H_6 \rightleftarrows 3(ArBH_2)_2 + B(OR)_3 \quad (2)$$

In the case of mono-aryl acid esters the yields are low and about 20-25% of an unreacted ester is recovered, due to the back reaction

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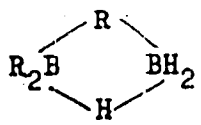
and preferential displacement of the equilibrium to the left. In the second reaction the quantity of boric acid ester obtained is 4 times less and, therefore, it proceeds more readily to the right giving higher yields of diaryl diborane. The mechanism of the former reaction is assumed to be based on the fact that the exchange of groups between aryl and alkoxyl derivatives of boron takes place through the formation of bridged compounds given by electron deficient atoms (B-H-B and B-O-B), followed by decomposition of the

dimers. The mechanism of the latter reaction consists of two stages, initial substitution of the alkoxy group with hydrogen and formation of diaryl borane (in dimeric form) and alkoxyborane followed by the reaction between the former and diborane to give diaryl borane. An attempt to isolate diaryl borane (reacting diborane with n-butyl diphenyl borate) was not successful as the latter converts to triaryl boron which reacts smoothly with diborane to give diaryl

31191

S/079/61/031/012/005/011
D227/D301

Organoboron compounds. ...

diborane. In this reaction the structure  occurs, in

which B-R-B bond is formed with the utilization of the carbon sp^3-orbital and two sp^3-orbitals of the boron atoms. In the experimental part 1,2-diphenyl diborane was reacted with n-butyl orthoborate, in ether, by stirring the two compounds at 30-35°C for 5 hours. After the removal of diborane the product yielded, on distillation, di-n-butyl phenyl borate (b.pt. 106-110°C/3mm), n-butyl orthoborate, n-butyl diphenyl borate and triphenyl boron. Diphenyl diborane was prepared by passing diborane through n-butyl diphenyl borate in hexane. When an excess of ester was used triphenyl boron was first formed, (m.p. 137-145°C), which reacted with diborane in ethereal solution to give 1,2-diphenyl diborane, m.pt. 82-85°C. 1,2-Diphenyl diborane was also prepared by passing diborane through an ethereal solution of diphenyl borochloride, and the yield corresponded to 60%. There are 3 references: 2 Soviet-bloc and 1 non-

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31191
S/079/61/031/012/005/011
D227/D301

Organoboron compounds. ...

Soviet-bloc. The reference to the English-language publication reads as follows: E. Eberhardt, B. Crawford, W. Lipscomb, J. Chem. Phys. 22, 989, (1954).

SUBMITTED: January 6, 1961

Card 4/4

89616

S/020/61/136/002/022/034
B016/B060

5.3700

AUTHORS: Mikhaylov, B. M. and Dorokhov, V. A.

TITLE: Organoboron Compounds. Complex Compounds of Borane and Phenyl Borane With Diethyl Amine and Some of Their Conversions

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 2, pp. 356-359

TEXT: It has been noted that a 90% yield of diethyl amine borane (I) is obtained by the reaction between diethyl amine and diborane in ethereal medium: $2(C_2H_5)_2NH + B_2H_6 \rightarrow 2(C_2H_5)_2NH \cdot BH_3$ (I). In contrast with data of Ref. 1, I is no crystalline substance, but a colorless liquid which is distillable in vacuum and is stable to water and alcohols at room temperature. A similar behavior is displayed toward diethyl amine by 1,2-diphenyl diborane which is smoothly converted into diethyl amine phenyl borane $(C_2H_5)_2NH \cdot H_2BC_6H_5$ (II). The latter is less heat-resistant than I. I and II are associated in benzolic solution and certainly more strongly

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Organoboron Compounds. Complex Compounds of Borane and Phenyl Borane With Diethyl Amine and Some of Their Conversions

S/020/61/136/002/022/034
B016/B060

so in the liquid state. At 130-150°C, I separates hydrogen to give rise smoothly to bis-(diethyl amino)-diborane $[(C_2H_5)_2NBH_2]_2$ (III), a crystalline substance that undergoes sublimation in vacuum. III reacts with water and alcohols from 60°C on. At 90-150°C, II is converted in vacuum to a diphenyl diethyl amino boron $(C_6H_5)_2BN(C_2H_5)_2$ mixture (V) and diethyl amino borane (VI). At -70°C, VI gives rise to a mobile liquid, which, when heated, dimerizes to crystalline III under heat evolution and hydrogen separation. The first stage of the pyrolytic process is believed to give rise to phenyl diethyl amino borane

$C_6H_5B\begin{matrix}H\\ \diagdown\\ N(C_2H_5)_2\end{matrix}$ (IV), which is subsequently symmetrized to V and VI. The symmetrization is reversible. Pyrolysis of II under atmospheric pressure leads, beside V, to the formation of a fraction which violently reacts with alcohol under hydrogen separation. The same fraction results on heating of V and VI. The authors believe this fraction to be IV with an admixture of III. III and n-butyl mercaptan at 100°C give rise to n-butyl

Organoboron Compounds. Complex Compounds of Borane and Phenyl Borane With Diethyl Amine and Some of Their Conversions

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B016/B060

mercapto (diethyl amino)-borane constituting a novel type of a substituted borane: $(C_2H_5)_2NB\langle^{SC_4H_9\text{-}n}_{H}$ (VIIa). Alkyl mercapto-(diethyl amino)-boranes (VII) can be produced in an 85% yield directly by the action of mercaptans upon diethyl amino borane at 100°C. This process probably has the following course: a) a complex of diethyl amine with alkyl mercapto borane (VIII) is formed with hydrogen separation; b) VIII is converted into a complex of diethyl amino borane with mercaptan (IX); c) VII results from IX under hydrogen separation. VII is a liquid with an unpleasant odor which readily oxidizes in the air and is distilled in vacuum in undecomposed state. As it is a monomer it reacts with alcohols violently under hydrogen separation. As contrasting therewith, dimers do not react with alcohols at room temperature. III adds to olefins in the presence of pyridine at 120-130°C. Di-n-butyl diethyl amino boron (IXa) and Di-n-octyl-diethyl amino boron (IXb) are formed in this manner, though not readily and in lesser yields. There are 6 references: 3 Soviet, 1 US, and 1 German.

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89616

Organoboron Compounds. Complex Compounds of Borane and Phenyl Borane With Diethyl Amine and Some of Their Conversions

S/020/61/136/002/022/034
B016/B060

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR)

PRESENTED: July 7, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: July 4, 1960

Card 4/4

39572
S/062/62/000/007/003/013
B117/B180

5.2410 2220

AUTHORS: Mikhaylov, B. M., and Dorokhov, V. A.

TITLE: Organoboron compounds. Report 101. Synthesis and conversions of complex aryl borane compounds with secondary amines

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 7, 1962, 1213 - 1218

TEXT: New aryl borane complexes (dimethyl-phenyl borane, diethyl-amine-p-tolyl borane, and diethyl-amine α-naphthyl borane) were synthesized from 1,2-diphenyl, 1,2-di-p-tolyl, and 1,2-di-α-naphthyl diboranes and the correspondent secondary amines in ether and benzene at -10 - 0°C and their conversions were studied. Diaryl(dialkyl amino)boron and dialkyl amino-borane compounds were obtained from dialkyl amino-aryl borane by pyrolysis at 70 - 150°C. Dialkyl aminoborane reacted with mercaptanes, yielding large amounts of aryl(alkyl-mercapto)dialkyl aminoboron compounds. To complete this reaction, which sets in at room temperature, the mixture has to be heated to 150°C, since the aryl(alkyl mercapto)borane forming in the initial stage reacts with mercaptane to form aryl(alkyl mercapto)di-alkyl amino borane. Aryl(alkyl mercapto)dialkyl aminoboron compounds

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Organoboron compounds...

are colorless, easily hydrolysable liquids which oxidize in air and are converted into aryl-di-(alkyl amino) boron compounds by primary amines. They are more stable than secondary amines. To obtain aryl-di-(alkyl amino) boron compounds, higher-boiling secondary amines must be used, and the mercaptanes and secondary amines forming in the reaction zone must be distilled off.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: January 23, 1962

X

37898
S/079/62/032/005/002/009
D204/D307

AUTHORS: Mikhaylov, B.M., and Dorokhov, V.A.

TITLE: Organoboron compounds, XCIV. Bis(dialkylamino)boranes and bis(monalkylamino) boranes

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 5, 1962, 1511-1514

TEXT: In continuation of earlier work (ZhOKh, 31, 3750, 1961) the authors synthesized bis (di-iso-amylamino)borane (I), bis-(dipiperidino)borane (II) and bis (diallylamino) borane (III), by the reaction $R'_2N\diagdown\ \diagup R''S$ BH + $2R_2NH \rightarrow R_2NH\ \diagdown\ \diagup R_2NH$ BH + R'_2NH + R''SH, where I - R = iso-C_5H_{11}, R' = CH_3, R'' = n-C_4H_9; II - R_2 = C_5H_{10}, R' = Et, R'' = Et; III - R = C_3H_5, R' = CH_3, R'' = n - C_3H_7. The reagents were heated in a Claisen flask, R'_2NH and R''SH being distilled off. The yields were 73 % for I, and 87 - 85 % for II and III. Bis(N-methyl-N-phenylamino)borane (IV) was obtained from n-PrSH and methylaniline

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S/079/62/032/005/002/009
D204/D307

Organoboron compounds, XCIV. ...

borane (V), in 84 % yield, where V itself was prepared almost quantitatively from methylaniline and diborane. The authors also prepared bis(iso-butylamino) borane (VI), bis(n-butylamino) borane (VII), and bis(allylamino) borane (VIII), in 87, 70 and 56 % yields respectively, by the reaction $(CH_3)_2N\diagdown\!\!\diagup BH + 2RNH_2 \rightarrow RNH\diagdown\!\!\diagup BH + (CH_3)_2NH +$ $+ n\text{-}C_3H_7S$ RNH

+ n-PrSH, where R = iso-Bu, n-Bu or C_3H_5. The reagents were added dropwise, with cooling, and the mixture was then boiled for 1 - 1.5 hours. All the above boranes (not V) could be distilled in vacuo without change. Chemical properties were similar to those of alkylmercapto (dialkylamino) boranes, especially as regards the low reactivity of the H-atom bonded to the B. The B-N bonds of these compounds were less stable.

SUBMITTED: May 19, 1961

Card 2/2

MIKHAYLOV, B.M.; DOROKHOV, V.A.

Organoboron compounds. Report No.96: Reactions of 1,2-diaryldiboranes with primary amines. Izv.AN SSSR Otd.khim.nauk no.4: 623-627 Ap '62. (MIRA 15:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron hydrides) (Amines)

MIKHAYLOV, B.M.; DOROKHOV, V.A.

Organoboron compounds. Report No.101: Synthesis and conversions of complex compounds of arylboranes with secondary amines. Izv. AN SSSR.Otd.khim.nauk no.7:1213-1218 Jl '62. (MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron organic compounds)

MIKHAYLOV, B.M.; DOROKHOV, V.A.

Organoboron compounds. Part 94: Bis(dialkylamino)boranes and bis(monoalkylamino)boranes. Zhur.ob.khim. 32 no.5:1511-1514 My '62. (MIRA 15:5)
(Boron organic compounds)

S/062/63/000/003/007/018
B101/B186

AUTHORS: Mikhaylov, B. M., Dorokhov, V. A., and Shchegoleva, T. A.

TITLE: Organoboron compounds. Communication 114. Reaction of dialkyl mercapto-boranes with secondary amines

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 498 - 499

TEXT: The reaction of di-n-butyl mercapto-borane with diethyl amine in a molar ratio of 1:1 in nitrogen atmosphere at room temperature gave n-butyl mercapto-(diethyl-amino)-borane in 53 % yield. Under equal conditions n-butyl mercapto-(piperidino)-borane was obtained in 71 % yield by reaction of di-n-butyl mercapto-borane with piperidine. Di-n-butyl mercapto-borane and diisoamyl amine gave n-propyl mercapto-(diisoamyl-amino)-borane in 85 % yield. On reaction of two moles of secondary amine with one mole of dialkyl mercapto-borane, bis-(dialkyl-amino)-borane as formed. Di-n-propyl-mercapto-borane and diiso-amyl amine thus gave bis-(diisoamyl-amino)-borane in 80 % yield, and di-n-propyl mercapto-borane and diallyl amine gave bis-(diallyl-amino)-borane in 90 % yield.

Card 1/2

Organoboron compounds ....

S/062/63/000/003/007/018
B101/B186

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: June 6, 1962

Card 2/2

MIKHAYLOV, B.M.; DOROKHOV, V.A.; MOSTOVOY, N.V.

Action of allylamine on tetraalkyl diboranes. Izv.AN SSSR. Ser.khim. no.1:199-201 Ja '64.

2-n-Butyl-1,2-azaborolidine. Ibid.:201-202 (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

ACCESSION NR: AP4010053 S/0062/64/000/001/0201/0202

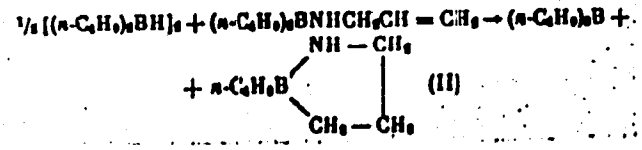
AUTHOR: Mikhaylov, B. M.; Dorokhov, V. A.; Mostovoy, N. V.

TITLE: 2-n-butyl-1,2-azaborolidene

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 201-202

TOPIC TAGS: 2-n-butyl-1,2-azaborolidene synthesis, 2-n-butyl-1,2-azaborolidene dimer, 2-n-butyl-1,2-azaborolidene, 2-n-butyl-1,2-azaborolidene trimer, tri-n-butylboron, hydroborating

ABSTRACT: A mixture of 2-n-butyl-1,2-azaborolidene (in an equilibrium mixture of monomer and dimer or trimer) and tri-n-butylboron is produced by hydroborating allylamino-di-n-butylboron:



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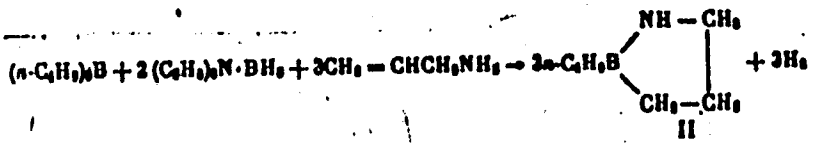
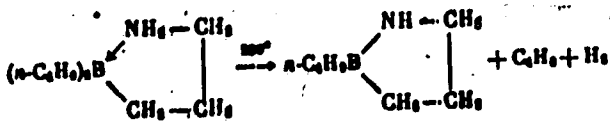
ACCESSION NR: AP4010053

2-n- butyl-1, 2-azaborolidene may be synthesized in 37% yield by adding allylamine to a mixture of tri-n-butylboron and triethylamine heated to 100C:



The subject compound may also be prepared by heating 3-aminopropyl-di-n-butylboron:



"Authors thank I. P. Yakovlev for obtaining the IR spectra." Orig. art. has: 4 equations.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii

Card 2/3

ACCESSION NR: AP4010053

nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 19Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: CH NO REF SOV: 001 OTHER: 000

Card 3/3

[redacted]

ACCESSION NR: AP4042884 S/0062/64/000/007/1358/1359

AUTHOR: Mikhaylov, B. M.; Mostovoy, N. V.; Dorokhov, V. A.

TITLE: Thiaborolanes — new heterocyclic boron compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1358-1359

TOPIC TAGS: thioborolane, borolane derivative, thiaborolane derivative

ABSTRACT: Three new heterocyclic boron compounds, 1-phenyl-2-thiaborolane (I), 1-butyl-2-thiaborolane (II), and 2-aminoethyl (3-mercaptopropyl)butylborinate (III), have been prepared. I (mp, 38—41C) was obtained in 50% yield by reacting allylmercaptan with 1,2-diphenyldiborane(6) in benzene solution. II (bp, 48—50C at 2 mm Hg), was synthesized in 34% yield from tributylborane, diborane(6) and allylmercaptan. III (mp, 65—73C) was prepared in 87% yield by the reaction of ethanolamine with II. III has an inner complex structure. Orig. art. has: 3 formulas.

Card 1/2

ACCESSION NR: AP4042884

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 23Apr64 ATD PRESS: 3075 ENCL: 00

SUB CODE: IC, OC NO REF SOV: 000 OTHER: 000

Card 2/2

MIKHAYLOV, B.M.; DOROKHOV, V.A.

2-Alkoxy-1,2-oxaboroleanes. Izv. AN SSSR. Ser. khim. no.9 1661-1663 '65. (MIRA 8:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

MOSTOVOY, N.V.; DOROKHOV, V.A.; MIKHAYLOV, B.M.

Organoboron compounds. Report No.162: Inner-complex γ-aminopropylboron compounds. Izv.AN SSSR. Ser.khim. no.1:90-96 '66. (MIRA 19:1)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Submitted July 29, 1965.

L 18905-66 EWT(m)/EWP(j)/T WW/JW/WE/RM

ACC NR: AP6008082 SOURCE CODE: UR/0020/66/166/005/1114/1117

AUTHOR: Mikhaylov, B. M. (Academician); Dorokhov, V. A.; Mostovoy, N. V.

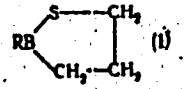
ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Synthesis and properties of thiaborolanes 44 B

SOURCE: AN SSSR. Doklady, v. 166, no. 5, 1966, 1114-1117

TOPIC TAGS: organoboron compound, organic sulfur compound, heterocyclic base compound, organic synthetic process

ABSTRACT: The article describes some reactions of thiaborolanes[11], five-membered heterocyclic compounds with a boron and a sulfur atom in the ring, having the formula



(I)

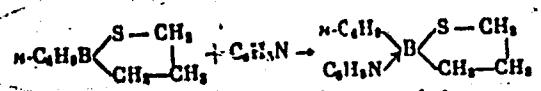
UDC: 661.718.4

Card 1/3

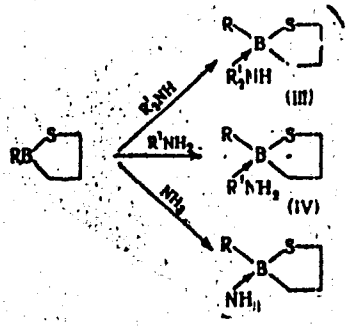
L 18905-66

ACC NR: AP6008082

2-n-Butyl-1,2-thiaborolane forms a stable liquid complex with pyridine:



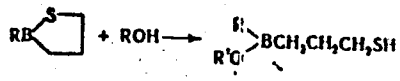
Alkylthiaborolanes also form stable complexes with secondary and tertiary amines and ammonia:



Card 2/3

L 18905-66
ACC NR: AP6008082

In contrast, the action of alcohol on 2-alkyl-1,2-thiaborolanes splits the B-S bond to form compounds of trivalent boron, esters of (γ-mercaptopropyl)alkylboronic acids:



Infrared spectra showed the association of amine complexes of thiaborolanes due to intermolecular hydrogen bonds. The paper was presented by Academician B. A. Kazanskiy, 20 July 1965. Orig. art. has: 8 formulas.

SUB CODE: 07/ SUBM DATE: 00/ ORIG REF: 008/ OTH REF: 002

Card 3/3 mc

L 20441-66 EWT(m)/EWP(j)/T WW/JW/JWD/RM

ACC NR: AP6009803 SOURCE CODE: UR/0062/66/000/002/0364/0366

38
13

AUTHOR: Dorokhov, V. A.; Mikhaylov, B. M.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: New reactions of esters of thioboric acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966, 364-366

TOPIC TAGS: organoboron compound, thioboric acid, sulfide, organic sulfur compound, alkyl vinyl sulfide

ABSTRACT: Thioborinates, which are readily prepared, have a high reactivity and can be used in synthetic organic chemistry. Various vinyl alkyl sulfides can be prepared from the appropriate esters, viz., thioborates or dialkylthioborinates, and vinyl ethers. Aminomercaptals can be synthesized by reacting thioborates with dimethylformamide. On heating of dialkylthioborinates with cyclohexanone anilide, the mercaptan is split off and an organoboron enamine is formed. Apparently, cyclohexanone anilide reacts in its tautomeric form as an enamine. [BC]

SUB CODE: 07 SUBM DATE: 17Jul65/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS: 4222

Card 1/1 BK UDC: 542.91+661.718.4+541.124

L 36992-66 EWP(j)/EWT(m) RM/WW/JW

ACC NR: AP6008502 SOURCE CODE: UR/0062/66/000/001/0090/0096

48
44
B

AUTHOR: Mostovoy, N. V.; Dorokhov, V. A.; Mikhaylov, B. M.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Organoboron compounds. Communication 162. Chelate Gamma-aminopropyl boron compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1966, 90-96

TOPIC TAGS: chemical synthesis, organoboron compound, chelate compound, boron compound

ABSTRACT: In this investigation the authors synthesized a number of new organoboron chelate compounds in order to further study their properties, in particular, to elucidate the effect of substitutes in the presence of boron and nitrogen atoms on the strength of the coordination bond B←N. The authors describe the synthesis of 12 new organoboron compounds containing the γ-aminopropyl grouping. The dipole moments of some of the compounds synthesized are measured to compare the strength of the internal coordination bonds. It was found that the replacement of hydrogen atoms in the presence of nitrogen by alkyl groups lowers the strength of the coordination linkage between the boron and nitrogen atoms.

Card 1/2 UDC: 541.49+661.718.4

L 36992-66

ACC NR: AP6008502 4

The authors also point out that the introduction of the alkoxy group to the boron atom in γ-aminopropyl compounds weakens the donor-acceptor interaction between the boron and nitrogen atoms. It is demonstrated that the strength of the internal coordination bond between the boron and nitrogen atoms is determined by the same factors as the strength of the usual coordination bond in complex boron compounds. The boron trialkyls have a higher complexing capacity than the esters of boric and thioboric acids, and the basicity of tertiary amines with respect to the organoboron compounds decreases with an increase in the volume of the alkyl groups at the nitrogen atom. The authors thank A. N. Nikitina and V. Smorchkov for determining the dipole moments. Orig. art. has: 13 formulas.

SUB CODE: 07/ SUBM DATE: 29Jul65/ ORIG REF: 007/ OTH REF: 002

Card 2/2

L 24311-66 EWT(m)/EWP(j) WW/JW/RM

ACC NR: AP6009798 SOURCE CODE: UR/0062/66/000/002/0332/0334

AUTHOR: Mikhaylov, B. M.; Dorokhov, V. A.; Yakovlev, I. P.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Sciences, SSSR (Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Thioborating acetonitrile

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966, 332-334

TOPIC TAGS: chemical reaction, organic nitrile compound, organic sulfur compound, organoboron compound, chemical purity

ABSTRACT: The reaction of esters of dialkylthioboric acid (I) with acetonitrile was investigated. Simple and mixed ethyl, propyl and butyl esters of I were added to acetonitrile forming crystalline adducts which decomposed to the original material on heating. Reactions were run at room temperature, with or without solvent and 70-80% yields were obtained. Adducts were stable in air, alcohol, water, and HCL at room temperature. IR studies showed the adduct monomers were formed first and then dimerized. These reactions of adduct formation and decomposition may be a means of purifying esters of dialkylthioboric

Card 1/2 UDC: 542.91+661.718.4

L 24311-66

ACC NR: AP6009798 O

acids. Orig. art. has: 3 equations and 2 formulas.

SUB CODE: 07/ SUBM DATE: 07May65/ ORIG REF: 005/ OTH REF: 007

Card 2/2 fv

DOROKHOV, V. I.

Fetisov, S. G. and Dorokhov, V. I. "The eliquation of steel on chromium bottoms," Trudy Stalinskogo obl. otd-niya Vnitom, No 1, 1949, p. 46-48

SO: U-5241, 17 December 1953, (Letopis 'Zhurnal 'nykh Statey, No. 26. 1949)

133-58-4-23/40

AUTHORS: Dorokhov, V. I. and Lopatin, A. V., Candidates of Technical Science and Molotkov, V. A., Engineer

TITLE: On the Evaluation of the Quality of Boiler Plate (K otsenke kachestva kotel'nogo lista)

PERIODICAL: Stal', 1958, Nr 4, pp 348-352 (USSR)

ABSTRACT: The evaluation of the quality of boiler plate (up to 25 mm thick) according to GOST 5520-50 based on the examination of fracture for laminations is discussed. On the basis of evidence collected on the Works imeni Il'ich during the inspection of the plate and special investigations carried out in order to establish the nature of laminations and the influence of testing conditions on the results obtained the following conclusions are drawn: 1) on evaluating the quality of boiler steel according to laminations observed in the fracture of test specimens, it is necessary to differentiate laminations of the first type, i.e. such laminations which physically exist in the steel in the form of breaks of continuity before the tests, and laminations of the second type which are formed during the break of the specimen in places of liquations (segregation) strips. 2) The appearance of laminations

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of the second type depends on the temperature of the test, spread of applying the load, structural state of the metal of the specimen and other test conditions. All factors promoting brittle fracture of the specimen lead to a decrease of dimensions and number of such laminations or even to their complete disappearance. Therefore, the evaluation of the quality of steel from the appearance of fracture without taking into consideration test conditions cannot be considered as reliable. 3) Therefore, the test for fracture according to GOST 5520-50 should be replaced by an investigation of the macrostructure of plate. 4) In view of the development of the production of thick plate GOST 5520 should be extended to plates up to 200 to 250 mm thick. In view of a large range of thickness of boiler plates, scales of macro-structures for various thickness ranges should be included into the standard. For plates 50 to 150 mm thick the scale used on the works imeni Il'ich (Fig.7) can be used. There are 7 figures and 2 references, both of which are Soviet. In the editorial note further discussion on the subject is invited.

Card 2/2

ASSOCIATION: Zavod im. Il'icha (Works imeni Il'ich)

1. Metal plates--Quality control 2. Metal plates--Test results
3. Metal plates--Inspection 4. Boilers--Material

S/137/60/000/010/006/040
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 10, p. 60, # 22882

AUTHORS: Skoblo, S.Ya., Dorokhov, V.I., Molotkov, V.A., Pereverzeva, Ye.G.

TITLE: Investigation of the Heterogeneity of 7-ton and 16.5-ton Killed Steel Sheet Ingots

PERIODICAL: Sb. nauchn. tr. Zhdanovsk. metallurg. in-t, 1960, No. 5, pp. 95-114

TEXT: Results are given of investigations of various indices showing the heterogeneity of killed Ст.3 (St.3) steel sheet ingots of 7-ton weight and of Ст.22К (St.22K) ingots of 16.5-ton weight. The steels were melted in a basic open-hearth furnace by the scrap-ore process. The 7-ton ingots were syphon-cast into a compact-bottom mold of H/D = 2.8 and 3 - 5% conicity. The 16.5-ton ingots were top-cast through an intermediate ladle with 2 buckets into an upward expanding through-mold of H/D = 2.4 and 1 - 3% conicity. The 7-ton ingots are characterized by a sharply marked axial (particularly in the middle portion of the height) and off-axial heterogeneity. The 16.5-ton ingots are characterized by a stronger axial and off-axial heterogeneity. The main defects of the ingot macro-structure

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S/137/60/000/010/006/040
A006/A001

Investigation of the Heterogeneity of 7-ton and 16.5-ton Killed Steel Sheet Ingots

are segregational streaks, enriched with P and sulfide impurities, occuring at the side of the ribs and penetrating into the body to a depth of 50-80 mm. The authors established the high isotropic degree of the mechanical properties of the sheet ingot cast metal. The mechanical properties of the metal in flat sheet ingots show a higher relative homogeneity than those of multi-face ingots. The distribution of C, S and P is characterized by their moderate segregation on the upper levels of the ingot and considerable negative segregation in the zone of the precipitation cone. A higher conicity of the ingots will reduce the negative segregation of carbon. The amount of non-metallic impurities and the ability to pickling of the specimens, characterizing the compactness of the metal, increase from the surface to the axis of the ingot. The mechanical properties of the metal decrease in the same direction, which indicates their direct connection with the amount of non-metallic impurities and the compactness of the metal. The average content of non-metallic impurities in the 7-ton syphon-cast ingots is somewhat higher than in top-cast 16.5-ton ingots.

Ye.K.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

DOROKHOV, V.I.

Use of calcium silicide for the deoxidation and alloying of steel with silicon. Trudy Ukr. nauch.-issl. inst. met no.6:69-89 '60. (MIRA 14:3)

(Steel--Metallurgy)
(Calcium silicide)

S/137/62/000/003/022/191
A006/A101

AUTHORS: Kazachkov, Ye. A., Skoblo, S. Ya., Kiryushkin, Yu. I., Dorokhov, V. I., Sapelkin, N. F.

TITLE: Investigating the thermal work of molds for forging ingots

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 44, abstract 3V268 ("Sb. nauchn. tr. Zhdanovsk. metallurg. in-t", 1960, no. 6, 68-109)

TEXT: The thermal work of molds was investigated during the solidification of three different sizes of forging ingots, cast into octahedral through-molds with a floating riser. One of the ingots weighing 24.5 tons was cast into a mold at top position of the floating riser; the second ingot weighing 24.5 tons - at a lower position of the floating riser, and the third ingot, weighing 42.5 tons, at a considerable immersion of the floating riser into the mold. All the ingots were cast from grade 55X (55Kh) steel from different heats, melted in basic open hearth furnaces. The temperature distribution at various spots across the mold walls was determined during the solidifying of the ingot from readings of 24 - 26 thermocouples, which were placed on the mold walls at different depths and several height levels. Moreover, during the solidification process, periodic

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S/137/62/000/003/022/191
A006/A101

measurements were taken of the air temperature in the lower, middle and top section of the caisson, where the molds were placed. Data on the temperature distribution in the mold walls were used to determine the amounts of heat, its storing at any moment of time, and the amount of heat transferred to the surrounding medium by convection or radiation. On the basis of data on heat losses of the ingots, the advance of the crystallization front in the ingots during their solidification was established. The heat balance structure of the ingot solidification process was revealed. It was established that at the moment of completed solidification with a heavier weight of the ingot there is a rapid increase in the fraction of heat, transferred to the surrounding medium by radiation from the mold surface, and a decrease in the fraction of heat stored by the mold walls.

P. Arsent'yev

[Abstracter's note: Complete translation]

DOROKHOV, V.I.

In the Ukrainian Scientific Research Institute of Metals.
Stal' 21 no.8:686,731 Ag '61. (MIRA 14:9)
(Metallurgical plants--Equipment and supplies)
(Rolling (Metalwork))

S/133/62/000/012/004/012
A054/A127

AUTHOR: Dorokhov, V.I.

TITLE: At the Ukrainskiy nauchno-issledovatel'skiy institut metallov (Ukrainian Scientific Research Institute of Metals)

PERIODICAL: Stal', no. 12, 1962, 1,106 - 1,107

TEXT: 1) In cooperation with the Kommunarskiy metallurgicheskiy zavod (Kommunarsk Metallurgical Plant) and TsNIIChM, a new technology for two-ply sheets has been developed. Instead of being cast, the combination of basic layer and cladding metal is electro-welded. The seam is gas-impermeable, which prevents oxidation of the inner contact surface and permits fracture-free rolling. The slabs of the basic layer are planed on one side, the laminates forming the second layer are nickel-coated on the upper surface. A refractory layer is applied between the laminations to prevent their sintering together. After rolling, the two-ply sheets are heat-treated, cut to size, pickled and surface-finished. This technology is adapted for low-carbon steel (as basic layer), the coating is made of 1Х18Н9Т (1Kh18N9T) steel and НТ-2 (NP-2) nickel. The two-

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At the Ukrainskiy nauchno-issledovatel'skiy S/133/62/000/012/004/012
A054/A127

ply sheets cut to (6 - 35) x (1,200 - 1,700) x (4,000 - 10,000) mm satisfy the standards. Their shear resistance is 16.5 - 30 kg/mm^2 (against the standard 15 kg/mm^2). The sheet surface is of a high quality [ГОСТ 5520-50 (GOST 5520-50] and finishing can be carried out more easily than in the case of cast two-ply sheets. 2) In cooperation with the zavod "Zaporozhstal'" ("Zaporozhstal'" Plant) Z-sections from 09Г2 (09G2) and 20 Сп (20Sp) steel grades, sections for the transverse border of platform wagons and bent square sections with parting at the angle and sides have been produced on a pilot plant scale. The new method made it possible to eliminate the forming of a screw shape in rolling the Z-sections. The 60 x 60 x 5 mm square sections could be produced with more accurate dimensions and smaller gaps at the seam edges with a parting at the side. "Zaporozhstal'" produces Z-sections, trough-shaped sections, channel sections, panel-profiles for all-metal cars, window-frame sections, etc. The use of bent sections saves about 17 rubles per ton of steel. New methods for designing and calculating grooves for the U-sections have been developed; the change of the metal pressure on the rolls, the torques for Z-shaped and bent sections have been investigated. 3) New systems of grooves have been developed for rolling ribbed and corrugated sheets. A new calibrating scheme has been established, involving

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At the Ukrainskiy nauchno-issledovatel'skiy ....

S/133/62/000/012/004/012
A054/A127

the sinking of the corrugated sheet, which considerably reduces the thinning of the metal in the bends and improves the shape of the finished section. Grooves have been designed for corrugated sheets with wide and narrow zones at the edge. The sinking method of calibration has been adapted for the 18-stand section mill (1 + 4 x 400 - 1,500) of the "Zaporozhstal'" Plant. The new grooves permitted the reduction in length of slabs for ribbed sheets by 10 mm and their width by 7 mm. 4) Closed square and rectangular sections used mainly in agricultural machinery are usually produced by the welding of two angle irons or channel irons. At the shape rolling mill of the institute tests were made (at 1 : 1 scale) with new groove systemsto produce such sections by calibration. Part of the grooves is adapted for the 14-stand mill (2 + 7 x 80 + 500) at "Zaporozhstal'". The sections rolled on this equipment have the parting line at the center of the side. The new method increased the strength of the sections by 24.8%, their yield point by 19.5%, whereas their relative elongation was reduced by 42%.

Card 3/3

DOROKHOV, V.I.

Research carried out at the Ukrainian Institute of Metals.
Stal' 22 no.12:1087, 1106-1107, 1122-1123, 1130, 1136 D '62.
(MIRA 15:12)
(Ukraine—Metallurgical research)

S/126/62/013/006/012/018
E111/E352

AUTHORS: Glushko, P.I., Dorokhov, V.I. and Nechiporenko, Ye.P.

TITLE: Contribution to the kinetics of the oxidation of molybdenum disilicide

PERIODICAL: Fizika metallov i metallovedeniye, v. 13, no. 6, 1962, 923 - 924

TEXT: The results of a study of the kinetics of the oxidation of molybdenum disilicide in air at 900 - 1 300 °C are given. Specimens were prepared by heating molybdenum plates with silicon powder at a pressure of 10^{-5} mm Hg and a temperature of 1 350 °C. After metallographic and diffraction analysis for $MoSi_2$ the oxidation kinetics were studied in the interval of 900 - 1 200 °C and a duration of 6 h. The rate of oxidation per unit surface was determined from the gain in weight. The activation energy was found to be 82 ± 2.5 kcal/mole and the process followed the equation:

$$W = K\tau^n ,$$

where W is the change in weight, τ the time, K the rate constant (1.998×10^{-4} at 900 - 2.590×10^{-2} at 1 200 °C)

Card 1/2

Contribution to S/126/62/013/006/012/018
E111/E352

and n a kinetic parameter (0.72 at 900 - 0.42 at 1 200 °C).
There are 3 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR
(Physicotechnical Institute of the AS UkrSSR)

SUBMITTED: November 28, 1961

Card 2/2

DOROKHOV, V.I.; MURAV'YEV, V.N.; TURUBINER, L.M.

Investigating oxide inclusion in killed carbon steel. Sbor. trud. UNIIM no.9:420-432 '64 (MIRA 18:1)

DOROKHOV, V.I., kand. tekhn. nauk; KLEMESHOV, G.A., kand. tekhn. nauk

Secondary oxidation of steel. Stal' 24 no.11:995-997 N '64.
(MIRA 18:1)

1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.

DOROKHOV, V.I. (Khar'kov); KLEMESHOV, G.A. (Khar'kov)

Changes of oxygen concentration in equilibrium with deoxidizing elements during steel deoxidation, pouring and crystallization processes. Izv. AN SSSR. Met. no.4:29-36 Jl-Ag '65.

(MIRA 18:8)

DOROKHOV, V.I.; GERSHGORN, M.A.; KONKIN, V.D.; KLEMESHOV, G.A.

Removal of sulfur from cast iron by vacuuming. Met. i gornorud. prom. no.3:73-74 My-Je '65. (MIRA 18:11)

DOROKHOV, V.

PLOTNIKOV, N.P., glavnyy redaktor; SVETLICHNYY, V.I.; DOROKHOV, V.; MUROMSKIY, P.G.; SPYSHNOV, P.A.; SMIRNOV, G.Ya.; KUPRIYANOV, Ye.M.; NAZINKOV, P., redaktor; LIL'YE, A., tekhnicheskiy redaktor.

[New technology on Moscow construction projects] Novaia tekhnika na stroikakh Moskvy. [Moskva], Moskovskii rabochii, 1954. 433 p. [Microfilm] (MLRA 8:2)

1. Nachal'nik Tekhnicheskogo upravleniya Mossoveta (for Plotnikov). 2. Zamestitel' nachal'nika Glavmosstroya (for Svetlichnyy). 3. Glavnyy inzhener Spetsial'nogo konstruktorskogo byuro Arkhitekturno-planirovochnogo upravleniya Mossoveta (for Dorokhov). 4. Nachal'nik Tekhnicheskogo upravleniya Ministerstva promyshlennosti stroitel'nykh materialov RSFSR. (for Muromskiy) 5. Nachal'nik Otdela po sanitarno-tekhnicheskim sooruzheniyam Gosudarstvennogo Komiteta Soveta Ministrov SSSR po delam stroitel'stva (for Spyshnov). 6. Glavnyy inzhener tresta "Moszhilmekhanizatsiya," (for Smirnov). 7. Direktor po nauchnoy chasti Vsesoyuznogo nauchno-issledovatel'skogo instituta organizatsii i mekhanizatsii stroitel'stva. (for Kupriyanov) (Moscow--Building) (Moscow--Architecture--Desings and plans)

Dorokhov, V.L.

USSR/Plant Physiology - Photosynthesis. I-1

Abs Jour : Ref Zhur - Biol., No 5, 1958, 19916

Author : Dorokhov, V.L.
Inst : -
Title : The Influence of Non-Root Feeding on Photosynthesis Intensity.

Orig Pub : Fiziol. rastyenii, 1957, 4, No 2, 183-191

Abstract : The determination of photosynthesis intensity of sugar-beet Ivanovka variety 1305 was carried out in an air current on leaves, attached to the plants. Non-root and root feeding was done by means of solutions, containing N in the form NH_4NO_3, P and K the form of KH_2PO_4 and K_2HPO_4. The non-root feeding intensified photosynthesis by 30-60%. The intensity of photosynthesis increased immediately after spraying the plant leaves with a solution of NPK, reached its maximum the first 2-3 days, then gradually decreased to the seventh day

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Abs Jour : Ref Zhur - Biol., No 5, 1958, 19916

following the spraying. Repeated feeding caused a more significant increase in the intensity of the photosynthesis. Most effective was the feeding with a 1.5% solution of NPK. Feeding with a 3-4.5% solution of NPK caused a temporary drop in the intensity of photosynthesis and the appearance of burns. The positive action of the feedings on the intensification of the photosynthesis decreased at the end of the vegetation period.
The work was carried out in the Institute of Plant Physiology and Agrochemistry of the Academy of Sciences Ukrainian Soviet Socialistic Republic.