"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

NESMEYANOV, Nik. A.; NOVIKOV, V. M.; REUTOV, O. A.

Addition of mercuric chloride to the Wittig reagents and the synthesis of mercury-containing phosphorylide. Izv AN SSSR Ser Khim no. 4:772-773 Ap '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet.

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ACCESSION NR: AP4041165 S/0030/64/000/005/0057/0064

AUTHOR: Reutov, O. A. (Corresponding member of Academy of Sciences SSSR)

TITLE: New data on the mechanism of the substitution reaction in organic chemistry

SOURCE: AN SSSR. Vestnik, no. 5, 1964, 57-64

TOPIC TAGS: nucleophylic substitution reaction, electrophylic substitution reaction, homolytic substitution reaction, radical substitution reaction, saturated carbon substitution, organic mercuric compound, symmetrization, isotope exchange reaction, four member cyclic structure, bimolecular electrophylic substitution, stereochemical configuration preservation, monomolecular substitution reaction, tautomeric transformation

ABSTRACT: This study explains the substitution reactions. As examples of "non-classical substitution" the author cites the heterolytic reaction of propylamine with nitrous acid and the free radical reaction of butyryl peroxide with carbon tetrachloride, (in which the hydroxyl and the chlorine are being linked to the third carbon atom in the original molecule). The paper emphasizes the substances and reactions involved in classical substitutions. It stresses the reactions of electrophylic substitution and of homolytic or radical substitution. The studies

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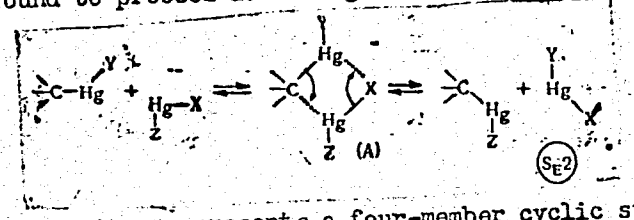
on electrophylic-type substitution reactions were conducted on organic mercury compounds which are also the preferred substrate at the Universities of California and London. The reaction of symmetrical organomercury compounds with mercury halide was one of the seven examples under discussion. The mechanism of five of these reactions was found to proceed according to the general pattern of



Here the intermediate structure represents a four-member cyclic structure. It is concluded that the reactions of bimolecular electrophylic substitution at the saturated carbon atom proceeded so as to preserve the stereochemical configuration. The character of the reaction (verified by the isotope technique) proves that severing the original metal-carbon bond is more important than the formation of a new bond. The author reports a new type of substitution mechanism explained as the monomolecular substitution at the saturated carbon atom. This was achieved by using dimethylsulfoxide as solvent, and proceeded along the pattern:

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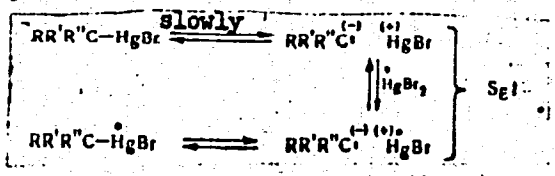
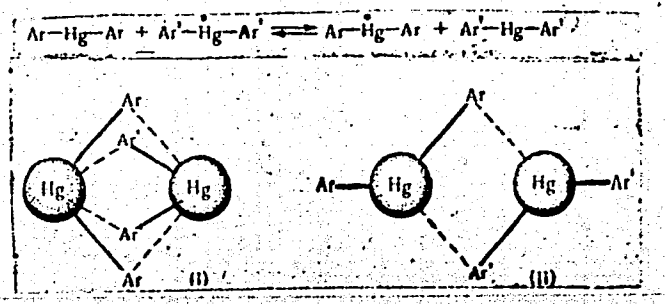
ACCESSION NR: AP4041165



In substitution reactions involving free radicals the stereochemical configuration was altered. The homolytic substitution reactions (not of the free radical type) were found to proceed in nonpolar and in weakly polar solvents. The author calls attention to a homolytic reaction of isotope exchange between various symmetrical organo-mercury compounds (Ar_2Hg and Ar_2Hg). This reaction presumably proceeds according to the pattern:



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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACCESSION NR: AP4041165

I. P. Beletskaya, T. A. Smolina, Yu. G. Bundel', V. I. Sokolov, E. V. Uglova, V. I. Karpov, V. A. Kalyavin, G. A. Artamkina, and G. M. Ostapchuk participated in this work. Orig. art. has: 17 formulas.

ASSOCIATION: Moskovskiy universitet (Moscow University); Institut Elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elementoorganic Compounds, Academy of Sciences SSSR)

SUBMITTED: 00 DATE ACQ: ENCL: 00

SUB CODE: GC NO REF SOV: 000 OTHER: 000

Card 4/4

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KAZITSYNA, L.A.; KIKOT', B.S.; REUTOV, O.A.

Infrared absorption spectra of diazomium salt solutions in the region 2200 - 2300 cm^{-1}. Izv. AN SSSR. Ser. khim. no.6: 955-959 Je '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, O.A.; UGLOVA, E.V.; BELETSKAYA, I.P.; SVETLANOVA, T.B.

Reactions of substitution by halogen of a mercury atom combined to saturated carbon atom. Report No.7: Kinetics and stereochemistry of the reaction of optically active sec. butylmercury bromide in carbon tetrachloride. Izv. AN SSSR. Ser. khim. no.8:1383-1387 Ag '64.

(MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

OSTAPCHUK, G.M.; KARPOVA, M.P.; BUNDEL', Yu.G.; REUTOV, O.A.

Isomerization of n-propyl radical in bromoform solution.
Izv. AN SSSR. Ser. khim. no.8:1534-1536 Ag '64.
(MIRA 17:9)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; ARTAMKINA, G.A.; REUTOV, O.A.

Kinetics of symmetrization of organomercury salts. Report No.8: Effect of polar factors on the rate of symmetrization of ethyl esters of α-bromomercuryarylacetic acids. Izv. AN SSSR. Ser. khim. no.10:1737-1742 O '64. (MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; ARTAMKINA, G.A.; SHEVLYAGINA, Ye.A.; REUTOV, O.A.

Synthesis of some organomercury salts of the type $XC_6H_4CH(HgBr)CO_2C_2H_5$. Zhur.ob.khim. 34 no.1:321-324 Ja '64. (MIRA 17:3)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, O.A.

Recent data on the mechanism of substitution reactions in organic chemistry. Vest. AN SSSR 34 no.5:57-64 My '64. (MIRA 17:6)

1. Chlen-korrespondent AN SSSR.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KAZITSYNA, L.A.; KUZNETSOVA, A.V.; KORYTINA, O.A.; REUTOV, O.A.

Structure of p-dimethylaminophenyldiazonium. Dokl. AN SSSR 154 no.2:379-382 Ja'64. (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. 2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KAMYAVIN, V.A.; SKOLINA, T.A.; REUTOV, O.A.

Mechanism of isotopic exchange between organomercury salts and mercury halide. Dokl. AN SSSR 155 no. 3:596-599 Mr '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova i Institut elementoorganicheskikh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; PETROVA, T.P.; REUTOV, O.A.

Influence of the substituents in the electrophilic bimolecular substitution reaction. Dokl. AN SSSR 155 no. 5: 995-997 Ap '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

NESMEYANOV, Nik.A.; PRAVDINA, V.V.; REUTOV, O.A.

Arsenic ilides stabilized by acyl derivatives. Dokl. AN SSSR 155 no.6:1364-1367 Ap '64. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KALYAVIN, V. A.; SMOLINA, T. A.; REUTOV, O. A.

Monomolecular mechanism of isotopic exchange between benzylmercuri halides and radioactive mercury halides. Dokl. AN SSSR 156 no. 1:95-98 My '64. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova i Institut elementoorganicheskikh soyedineniy AN SSSR.
2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

PTITSYNA, O.A.; LYATIYEV, G.G.; REUTOV, O.A.

Reaction of diphenyliodonium fluoboride with aliphatic amines.
Dokl. AN SSSR 157 no. 2:364-366 Jl '64. (MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KALYAVIN, V.A.; SMOLINA, T.A.; REUTOV, O.A.

Bromine anion catalysis of the monomolecular isotope exchange of benzyl mercury halides with mercury halide. Dokl. AN SSSR 157 no.4:919-921 Ag '64 (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova i Institut elementoorganicheskikh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Reutov).

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KAZITSYNA, L.A., KIKOT' B.S.; VINOGRADOVA, L.Ye.; REUTOV, O.A., akademik

Products of interaction between quinone diazides and metal halides. Dokl. AN SSSR 158 no.6:1369-1372 O '64.

(MIRA 17:12)

1. Moskovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BUNDEL', Yu.G.; [illegible], O.A., akademik

Isomerization of the n-propyl radical. Dokl. AN SSSR 159 no.3: 588-590 N '64 (MIRA 18:1)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, Oleg Aleksandrovich, akademik; MEL'NIKOVA, Zh.M., red.

[Architects of molecules; stereochemistry] Arkhitektory molekul; stereokhimiia. Moskva, Znanie, 1965. 47 p. (Novoe v zhizni, nauke, tekhnike. XI Seriia: Khimiia, no.7) (MIRA 18:7)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; FEDOROV, L.A.; MOSKALENKO, V.A.; REUTOV, O.A.

Nuclear magnetic resonance spectrum of dibenzyl mercury. Izv. AN SSSR. Ser. khim. no.5:933 '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

PENTIN, Yu.A.; BELETSKAYA, I.P.; PRAYSNAR, B.; REUTOV, O.A.

Infrared and ultraviolet spectra of organomercury compounds. Report No.1: Infrared spectra of benzyl mercury halides. Izv. AN SSSR. Ser. khim. no.7: 1180-1188 '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

NESMEYANOV, Nik.A.; PRAVDINA, V.V.; REUTOV, O.A.

Reactions of stable arsenic ylides with aldehydes. Izv. AN SSSR. Ser. khim. no.8:1474-1476 '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

SOKOLOV, V.I.; REUTOV, O.A.

Asymmetrical noncarbon atom. Usp. khim. 34 no.1:3-26 Ja '65. (MIRA 18:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KA[illegible]YNA, [illegible]; [illegible]; [illegible], O.A., [illegible]

Structure of isomeric diazo cyanides. Dokl. AN SSSR 160 no.3 [illegible] (MIRA 18:3)
600-603 Ja '65.

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; KARPOV, V.I.; REUTOV, O.A., akademik

Mechanism of electrophilic and homolytic substitution at the olefin carbon atom. Dokl. AN SSSR 161 no.3:586-589 Mr '65. (MIRA 18:4)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; KARPOV, V.I.; MOSKALENKO, V.A.; REUTOV, O.A., akademik

Protolysis mechanism of cis- and trans-β-chlorovinyl mercury chlorides under the effect of HCl and DCl. Dokl. AN SSSR 162 no.1:86-89 My '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

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PTITSYNA, O.A.; PUDEYEVA, M.Ye.; BEL'KEVICH, N.A.; REUTOV, O.A., akademik

Photochemical reaction of triphenylphosphine arylation by diaryl iodonium fluoborides. Dokl. AN SSSR 163 no.2:383-385 Jl '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, O.A., akademik

Four-link transition state in SE2-reactions at a saturated carbon atom. Dokl. AN SSSR 163 no.4:909-912 Ag '65. (MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BELETSKAYA, I.P.; FEDOROV, L.A.; REUTOV, O.A., akademik

Protolysis of dibenzylmercury according to the S e-1 mechanism. Dokl. AN SSSR 163 no.6:1381-1384 Ag '65. (MIRA 18:8)

1. Moskovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

KAZITSYNA, L.A.; UPADYSHEVA, A.V.; REUTOV, O.A., akademik

Diazonium chloride - diazo amide equilibrium in the case of p-N-benzenesulfonylaminophenyl diazonium chloride. Dokl. AN SSSR 164 no.1:110-111 S '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

PTITSYNA, O.A.; PUDEYEVA, M.Ye.; REUTOV, O.A., akademik

Reactions between triphenylphosphine and fluoborides of asymmetric salts of diaryl iodonium. Dokl. AN SSSR 165 no.3: 582-585 N '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

PTITSYNA, O.A.; PUDEYEVA, M.Ye.; REUTOV, O.A., akademik

Photochemical reaction between triphenylphosphine and diphenyliodonium fluoborate. Dokl. AN SSSR 165 no.4:838-841 D '65. (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AP7010709 SOURCE CODE: UR/0020/66/171/001/0111/0114

AUTHOR: Nesmeyanov, Nik, A.; Reutov, O. A. (Academician)

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Synthesis and properties of a new phosphorylide (phosphinmethylene) with conjugation of the phosphoran-phosphonium type

SOURCE: AN SSSR. Doklady, v. 171, no. 1, 1966, 111-114

TOPIC TAGS: phosphorus compound, organic chemical synthesis, phenyl compound, dye chemical

SUB CODE: 07

ABSTRACT: Triphenylphosphine-triphenylphosphoniummethylene in which the positive charge is distributed uniformly between both triphenylphosphine radicals was recently described. It was found that this compound is photochromic and produces electron paramagnetic resonance signals after illumination. The authors synthesized a vinylog of this compound according to the following scheme:

UDC: 547.241

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ACC NR: AP7010709

$$BrCH_2CH(OH)CH_2Br + 2R_3P \rightarrow [R_3P^+-CH_2CH(OH)CH_2-\overset{+}{P}R_3]\,2Br^- \xrightarrow{-180^\circ}$$

(II) Metaphosphoric acid

$$\rightarrow [R_3\overset{+}{P}-CH=CH-CH_2-\overset{+}{P}R_3]\,2Br^- \xrightarrow{NH_3} [R_3\overset{+}{P}-CH=CH-CH=PR_3]\,Br^-$$

(III) (IVa)

R is phenyl in all cases. $[R_3P=CH=CH=CH=PR_3]^+X^-$ (IV) b) $X^- = I^-$, c) $X^- = BR_4^-$.

When IVa is mixed with a methanol solution of an excess of mercury bromide, a compound is formed with the following probable structure:

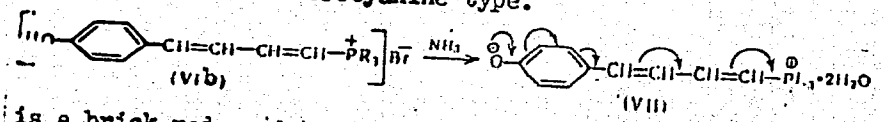
$$[R_3P=CH-CH=CH-\overset{+}{P}R_3]\,Br^- + 3HgBr_2 \rightarrow [R_3P-\underset{\underset{HgBr}{|}}{CH}-CH=CH-\overset{+}{P}R_3]\,2HgBr_3^-. \quad (V)$$

Reaction of IVa with aldehydes takes place as follows:

$$[R_3P=CH-CH=CH-\overset{+}{P}R_3]\,Br^- + R'CHO \rightarrow R_3PO +$$

$$+ [R'CH=CH-CH=CH-\overset{+}{P}R_3]\,Br^- \text{ (VI) a) } R'=p\text{-}NO_2C_6H_4,\ \text{b) } R'=p\text{-}HOC_6H_4.$$

Salt VIb was not precipitated but was converted instead by the action of ammonia to a betaine VII, a new dye of the merocyanine type.



This betaine is a brick red powder which reprecipitates with two tightly bound

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ACC NR: AP7010709

molecules of water of crystallization. The compound forms intensely colored solutions: yellow in alcohol, crimson in chloroform, dichloroethane and acetone, and red-violet in tetrahydrofuran. These solutions are noticeably thermochromic. When the temperature is raised, the color of the solutions becomes more intense and deeper the original color is restored when the solution is cooled to the former temperature. Each step of the synthesis is described in detail. [JPRS: 40,351]

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AP6031302

SOURCE: UR/0366/66/002/009/1716/1716

AUTHOR: Nesmeyanov, N. A.; Reutov, O. A.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Alkylation of triphenylphosphine with arsonium salts

SOURCE: Zhurnal organicheskoy khimii, v. 2, no. 9, 1966, 1716

TOPIC TAGS: triphenylphosphine alkylation, arsonium salt, organic salt, phenyl compound

ABSTRACT: In absolute dimethylformamide, arsonium salt (I) reacts with triphenylphosphine to form II:

$$\underset{(I)}{[R_3As^+-R']X^-} + R_3P \longrightarrow R_3As + \underset{(II)}{[R_3P^+-R']X^-}$$

where $R = C_6H_5$; a) $R' = CH_2C_6H_5$, $X = I$; b) $R' = C_6H_5COCH_2$, $X = Br$; c) $R' = CH_3$, $X = I$. Reaction temperature and time depend on the nature of the radicals in the arsonium salt. The reaction of triphenylphosphine with Ia is completed in 10 hr at 60—80°C to form IIa, mp 245—248°C; with Ib the reaction is completed in 8 hr at 120°C to form IIb, mp 265—270°C; with Ic the reaction is completed in 7 hr at 140—150°C to form IIc, mp 177—180°C. [WA-50; CBE No. 12]

SUB CODE: 07/ SUBM DATE: 21Apr66

Card 1/1

UDC: 661.718.1;661,781

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 20222-66 EWT(m)/EWP(j) RM

ACC NR: AP7000493 SOURCE CODE: UR/0020/66/168/003/0595/0598

PTITSYNA, O. A., PUDEYEVA, M. Ye., REUTOV, O. A., (Academician) Moscow State University imeni M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

"Thermal Reaction between Triphenyl Phosphine and Diphenyliodonium Fluoroborid"

Moscow, Doklady Akademii Nauk SSSR, Vol 168, No 3, 1966, pp 595-598

Abstract: A radical mechanism is proposed for the homolytic decomposition of diphenyliodonium fluoroboride in the reaction with nucleophilic reagents. The applicability of this mechanism to the formation of tetraphenylphosphonium fluoroboride during heating of triphenyl phosphine with tetraphenyliodonium fluoroboride was verified. The reaction conditions were varied to conduct each of the two processes, photochemical and thermal, separately. Approximately 50% yields were obtained for the separate reactions, as compared with a 90% yield for the reaction under normal conditions of the Makarova-Nesmeyanov reaction. The thermal and photochemical reactions were found to proceed according to a radical chain mechanism, not a heterolytic mechanism. In both of the separate reactions, the diphenyliodonium salt decomposes entirely, although tetraphenylphosphonium fluoroboride is obtained in only an approximately 50% yield. There is consequently a substantial "useless" decomposition of the diphenyliodonium salt, evidently due to a side reaction leading to benzene formation. Orig. art. has: 1 formula and 1 table. [JPRS: 37,023]

TOPIC TAGS: chemical decomposition, organic phosphorus compound

SUB CODE: 07 / SUBM DATE: 28Oct65 / ORIG REF: 003

Card 1/1

UDC: 547.539.4 + 547.558.1

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 33268-66 EWP(j)/EWT(m) RM

ACC NR: AR6016191 SOURCE CODE: UR/0058/65/000/011/D025/D025

AUTHOR: Kazitsyna, L. A.; Kikot', B. S.; Ashkinadze, L. D.; Reutov, O. A. 63 B

TITLE: Correlation of frequencies and intensities of ir absorption bands of diazonium salts $X-C_6H_4N_2Cl$ with the constants of the substitutes

SOURCE: Ref. zh. Fizika, Abs. 11D188

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 130-137

TOPIC TAGS: ir absorption, absorption band, diazonium salt, chemical bonding, line intensity

ABSTRACT: The authors measured the integral intensities of the absorption bands, corresponding to the valence vibrational bond N≡N, for methanol solutions of diazonium chlorides $X-C_6H_4N_2Cl$, where X = П-CH_3O, П-CH_3, П-Cl, H, M-Cl, П-NO_2, and M-NO_2. It is shown that the integral intensity changes in the range from 0.62×10^{-4} for M-NO_2 to 3.85×10^{-4} $cm^{-2}mole^{-1}liter$ for П-CH_3O. It is also found that logarithms of the integral intensities and the frequencies of the valence vibrations of the N≡N bond of diazocations, measured for dilute solutions of diazonium chlorides, depend linearly on the values of the Hammett constants of the substitutes of the benzene ring. For the substitutes П-CH_3O and П-OH, the linearity of these dependences is retained only if the values of σ^+ are used in place of the Hammett constants σ. [Translation of abstract]

SUB CODE: 20, 07

Card 1/1

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 26573-66 EWT(m)/EWP(j) RM/WW

ACC NR: AP6016976 SOURCE CODE: UR/0020/65/165/003/0582/0585

AUTHOR: Ptitsyna, O. A.; Pudeyeva, M. Ye.; Reutov, O. A. (Academician)

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universite

65
B

TITLE: Reactions between triphenylphosphine and fluoborides of nonsymmetrical diaryliodium salts

SOURCE: AN SSSR. Doklady, v. 165, no. 3, 1965, 582-585

TOPIC TAGS: chromatography, organic phosphorus compound, photochemistry, boron compound, fluorinated organic compound

ABSTRACT: Fluoborides of nonsymmetrical diarliodonium salts: m-nitrophenyl-phenyliodonium, p-anisylphenyliodonium, p-anisyl-m-nitrophenyliodonium, m-carbethoxyphenyl-phenyliodonium, o-nitrophenyl-phenyliodonium, and p-chlorophenyl-phenyliodonium salts, were reacted with triphenylphosphine in acetone for six to eight hours at 1:1 ratios of the initial reagents. After the reaction, the acetone was evaporated, and the residue repeatedly washed with ether to remove aryl iodides and unreacted triphenylphosphine. Then the tetraarylphosphonium fluoborides were separated from the diaryliodonium fluoboride by thin-layer chromatography. A substantial influence of polar factors was observed in the photochemical reaction between diaryliodonium fluoborides and triphenyl-phosphine: in most cases phosphonium salts were obtained only with the more electron acceptor substituent. Only in the decomposition of the p-chlorophenyl-phenyliodonium salt, in which the radicals are close in electronegativity, are the phosphonium salts obtained in almost equivalent amounts. The data obtained

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 26573-66

ACC NR: AP6016976

are in good agreement with the previously proposed chain radical mechanism. The thermal reaction between triphenylphosphine and ArAr'IBF$_4$ (m-nitrophenyl-phenyliodonium, p-anisyl-phenyliodonium, p-anisyl-m-nitrophenyliodonium, and m-carboxyphenyl-phenyliodonium fluoborides) was investigated for comparison (heating at 97° in darkness for 10 hours in the presence of n-propanol). The data of the thermal reaction and those of the photochemical reaction between triphenylphosphine and diaryliodonium salts are practically the same. In both cases the radical with more electron-acceptor substituent is predominantly (or exclusively) transferred to triphenylphosphine. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 15May65 / ORIG REF: 002 / OTH REF: 004

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 17628-66 EWT(m)/EWP(j)/T/ETC(m)-6 DS/WW/RM

ACC NR: AP6001729 SOURCE CODE: UR/0020/65/165/004/0830/0841

AUTHORS: Ptitsyna, O. A.; Pudeyeva, M. Ye.; Reutov, O. A. (Academician)

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Investigation of the photochemical reaction between triphenylphosphine and iodonium diphenylfluoboride

SOURCE: AN SSSR. Doklady, v. 165, no. 4, 1965, 830-841

TOPIC TAGS: chemical kinetics, solution kinetics, oxidation kinetics, chemical reaction kinetics, photochemistry, mercury lamp

ABSTRACT: The mechanism of the photochemical reaction between triphenylphosphine and iodonium diphenylfluoboride was investigated. The investigation is an extension of previously published work of O. A. Ptitsyna, M. F. Turchinskiy i dr. (Izv. AN SSSR, OKhN, 1963, 1527). The effect of various solvents and reagent mixture ratios on the product yield was determined. The radiation source in all experiments was a mercury lamp PRK-4. A reaction mechanism is proposed. Orig. art. has: 2 tables and 9 equations.

SUB CODE: 07/ SUBM DATE: 19May65/ ORIG REF: 004/ OTH REF: 001

UDC: 547.539.4+547.558.1

Card 1/1

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 20347-66 EWT(m)/EWP(j) WW/JW/RM

ACC NR: AP6012085 SOURCE CODE: UR/0062/65/000/001/0194/0196

AUTHOR: Nesmeyanov, N. A.; Zhuslikova, S. T.; Reutov, O. A.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

36
B

TITLE: Interaction between phosphorylides and diphenyliodonium salts

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 194-196

TOPIC TAGS: organic phosphorous compound, boron compound, fluoride, organic synthetic process

ABSTRACT: The reaction between phosphorylides and diphenyliodonium boronfluoride results in the formation of the boronfluoride of non-arylated phosphonium salts. An exception is the acetylmethylene-triphenylphosphorane which is arylated on the oxygen of the carbonyl group.
Alpha-phenyl-carbomethoxymethylene-triphenylphosphorane, alpha-phenyl-carbomethoxymethyl-triphenylphosphonium boronfluoride, carbomethoxymethyl-triphenylphosphonium boronfluoride, and diphenyliodonium boronfluoride were synthesized. [JPRS]

SUB CODE: 07 / SUBM DATE: 05Jun64 / ORIG REF: 002 / OTH REF: 001

Card 1/1 BK UDC: 542.91+661.718.1

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BUNDEL', Yu.G.; SAVIN, V.A.; LUBOVICH, A.A.; REUTOV, O.A., akademik

Effect of the aqueousness of the medium on the type of hydride transitions and the degree of isomerization in the acetolysis of deuterocyclohexyl-p-toluenesulfonates. Dokl. AN SSSR 165 no.5:1078-1080 D '65. (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet. Submitted May 28, 1965.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

SOKOLOV, V.I.; TROITSKAYA, L.L.; REUTOV, O.A.

Methoxymercuration of the cycloolefins C_nH_{2n-2}, n= 7,8,9.
Zhur. org. khim. 1 no.9:1579-1582 S '65. (MIRA 18:12)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted October 26, 1964.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

SOKOLOV, V.A.; TROITSKAYA, L.L.; [illegible], [illegible], [illegible]

Trans-cycloöctene in oxymercuration reaction. Dokl. AN SSSR 166 no.1:136-139 Ja '66. (MIRA 19:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted June 26, 1965.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REÚTOV, O.S.; GUGNYAK, A.B.

Semiautomatic relaxometer. Zav.lab. 29 no.12:1500 '63. (MIRA 17:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

TUGOV, I.I., kand.tekhn.nauk, nauchnyy sotrudnik; REUTOV, O.S., inzh., nauchnyy sotrudnik

Nonwoven fabrics with a base of short vicose fibers. Tekst.prom. 22 no.11:69-72 N '62. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi (VNIIPIK).
(Nonwoven fabrics) (Rayon)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

MAKAROV-ZEMLYANSKIY, Ya.Ya.; FEL'DMAN, R.I.; REUTOV, O.S.; GOLDOVSKIY, Ye.A.

Chitosan as a substitute for food products and rubber. Leg. prom. 18 no.6:28-30 Je '58. (MIRA 12:10)
(Chitin) (Leather substitutes)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, P.S.

Bone forceps with rotating replaceable jaws. Ortrop.travm.i protez. 21 no.3:51-52 Mr '60. (MIRA 14:3)

1. Iz kliniki ortopedii i travmatologii (nach.-prof. I.L.Krupko) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(FORCEPS) (BONES--SURGERY)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, P.S. (Leningrad K-9, Klinicheskaya ul., d.3., kv.5)

Abstracts of articles received by the editors. Ortop., travm. i protez. 24 no.10:74-75 O '63. (MIRA 17:5)

1. Iz kliniki travmatologii i ortopedii (nachal'nik - prof. I.L.Krupko) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, P.S.

Case of osteochondrosis dissecans of the talocrural joint. Ortop., travm. i protez. 21 no.8:68-69 Ag '60. (MIRA 13:11)

1. Iz kafedry ortopedii i travmatologii (nachal'nik - prof. I.L. Krupko) Voyenno-meditsinskoy akademii ordena Lenina im. S.M.Kirova.
(OSTEOCHONDROSIS)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

SALASKIN, [illegible]; REUTOV, S.V.

Design of machinery for vacuum forming. Trudy MIKHM 27:158-166 '64.
(MIRA 18:8)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

S/119/63/000/001/016/016
D201/D308

AUTHOR: Reutov, V.A.

TITLE: New vibration meters and measuring benches

PERIODICAL: Priborostroyeniye, no. 1, 1963, 29-30

TEXT: A short review of the following equipment designed by the SKB 'Vibropribor' and manufactured by the Taganrog factory of measuring instruments: 1) Universal balancing instrument УПБ-1 (UPB-1). For range 0 - 250 microns vibration measurements and dynamic balancing of rotating masses. Frequency 15 - 100 c/s (900 - 6000 rpm). Consists of a straboscope, seismic type of vibration transducer and frequency meter. The instrument has a phase correction compensator, filters for fundamental frequency detection and a peak voltmeter as the indicating instrument. 2) Portable universal vibration meter ВПУ-1 (VPU-1). For vibration measurements at locations not easily accessible. Amplitude measurement range 0 to 500 microns, frequency range 15 to 100 c/s, max. operational overload 8 dynes. Components: seismic-type pick-up ВД-4М (VD-4M), measuring

Card 1/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

New vibration meters ... S/119/63/000/001/016/016
D201/D308

block, mains and battery power supplies. 3) Calibrating vibration bench type BYT-300/6 (VUT-300/6). For calibration of balancing instruments and vibration meters. The bench incorporates a microscope for the control of oscillation amplitude measurements and reference pick-ups. The vibration amplitude is set up on an eccentric, amplitude range 0 to 300 microns; frequency of produced oscillations 8 to 100 c/s. A selsyn transformer compensates for possible phase shifts between the eccentric and the bench. The bench proved to be reliable in operation. The whole device is mounted on a special foundation weighing 10 to 12 t. There are 3 figures.

Card 2/2

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, V.A., inzh.

New vibration-measuring instruments and stands. Priborostroenie no.1:29-30 Ja '63. (MIRA 16:2)

(Vibration—Measurement)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

RIUTOV, V.A.

Technological conditions for the setting of fondant centers starch and for a shortened setting period for rolled out fondant and fruit candies. Ref. nauch. rab. VKNII no.1:6-8 '57. (MIRA 11:3)
(Confectionery)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, V.A.

Technological conditions for a shortened setting period for fruit-jelly and praline wafers. Ref. nauch. rab. VKNII no.1:9-10 '57. (Confectionery) (MIRA 11:3)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AP7001531 SOURCE CODE: UR/0193/66/000/012/0045/0046

AUTHOR: Netrebenko, K. A.; Reutov, V. B.

ORG: none

TITLE: Transistorized digital potentiometer

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 12, 1966, 45-46

TOPIC TAGS: transistorized circuit, logic circuit, potentiometer

ABSTRACT: An automatic transistorized digital potentiometer used for input to the Dnepr digital computer is described. The potentiometer (see Fig. 1), developed by the Cybernetics Institute of the Academy of Sciences USSR, is used in the Revda Copper Smelting Plant to control slow time-varying processes. It consists of three basic circuit blocks: a null, a divider, and a power supply circuit. The divider circuit consists of a digital voltage divider, a register that controls the divider, a pulse distributor, and an indicator that can provide visual display of the results in either binary or octal code. The measured voltage U_x and the compensating voltage U_k are applied to the null circuit input which determines and remembers, for a given time interval, the sign of the voltage difference between U_x and U_k. The input (U_x and U_k) is modulated by an electromechanical switch at the clock frequency rate. Signal F at the output of the null circuit is applied to the divider circuit and controls the balancing process, (by generating a compensating voltage). The power

Card 1/3 UDC: 621.317.727.1:621.382.3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AP7001531

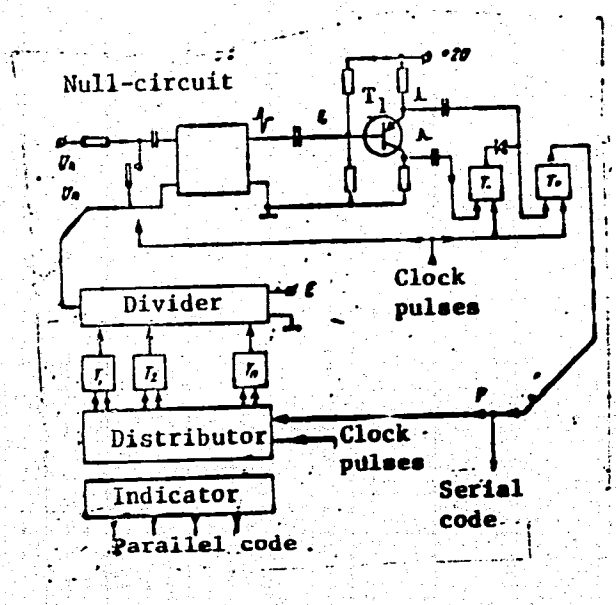

Fig. 1. Transistorized digital potentiometer

supply is fed from a 50 cps, 220-v line; it consists of rectifiers, voltage regulators and a reference voltage source. Some of the potentiometer characteristics are: operating speed, approximately one measurement per second; accuracy, about 1%

Card 2/3

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AP7001531

of the full scale; sensitivity in the 0—10-v range, about 10 mv. If the potentiometer is connected to a thermocouple and other low-voltage transducers, the threshold sensitivity can be brought to 20 μv. Orig. art. has: 1 figure. [IV]

SUB CODE: 09/ SUBM DATE: none/ ATD PRESS: 5110

Card 3/3

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

L 6363-66 EEC(k)-2/EWT(1)/EWA(h)

ACC NR: AP5026757 SOURCE CODE: UR/0286/65/000/017/0037/0037

AUTHOR: Reutov, V. B.

ORG: none

22
B

TITLE: A digital ohmmeter. Class 21, No. 174260

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 37

TOPIC TAGS: digital system, ohmmeter

ABSTRACT: This Author's Certificate introduces a digital ohmmeter which contains a parallel voltage divider and a null indicator. Scale linearity is obtained by using a calibrated ballast resistor connected to the output of a multiple column parallel voltage divider in series with the resistance to be measured. The null indicator is used for determining the moment when the voltage across the ballast resistor is equal to the voltage which makes up a definite fraction of that used to supply the voltage divider.

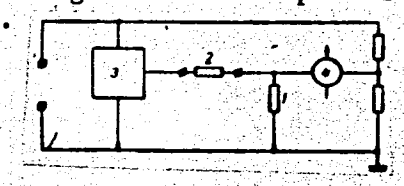

Fig. 1. 1--ballast resistor; 2--resistance to be measured; 3--parallel voltage divider; 4--null indicator

UDC: 621.317.734

SUB CODE: EC/ SUBM DATE: 01Jul63/ ORIG REF: 000/ OTH REF: 000

Card 1/1

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

BENYAKOVSKIY, M.A.; GUTNIK, M.V.; TOROPOV, G.M.; BUTYLKINA, L.I.; REUTOV, Yu.G.; SHIKHANOVICH, B.A.; FIRSOV, P.A.; NAGAYEV, S.A.

Mastering the operation of the plant for cold-rolled sheet production. Stal' 25 no.8:726-730 Ag '65. (MIRA 18:8)

1. Cherepovetskiy metallurgicheskiy zavod.

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOV, Yu.V., inzh.

More about spare parts. Mekh.stroi. 19 no.7:21 Jl '62. (MIRA 15:7)

(Construction equipment—Maintenance and repair)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOVA, A.

Help and control. Sov.torg. 35 no.7:32-33 Jl '62. (MIRA 15:11)

1. Zaveduyushchiy obshchestvennym otdelom torgovli ispolnitel'nogo komiteta gorodskogo soveta deputatov trudyashchikhsya, g. Belgorod.
(Belgorod--Retail trade--Auditing and inspection)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

GLUSHKOV, V. (Khar'kov); GRUBE, G. (Alma-Ata); FINOGENOV, N. (Petrozavodsk); MARTINOVICH, A. (Murmansk); KALLING, V. (Tallin); TAMAROVSKIY, V. (Magadan); PAPANDOPULO, S. (Tbilisi); REUTOVA, I. (Novosibirsk)

Our outside correspondents report. Grazhd.av. 18 no.7:24-25 Jl '61. (MIRA 14:8)

1. Vneshtatnyye korrespondenty zhurnala "Grazhdanskaya aviatsiya".

(Aeronautics, Commercial)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOVA, N. S.

15-57-1-1042D

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, p 167 (USSR)

AUTHOR: Reutova, N. S.

TITLE: Engineering and Geological Properties of the Khvalynsk Chocolate Clays (as Exemplified by Some Left Shore Regions of the Akhtuba River and by the Region of the Town of Engel's [Inzhenerno-geologicheskiye svoystva khvalynskikh shokoladnykh glin (na primere nekotorykh rayonov levoberezh'ya r. Akhtuby i rayona g. Engel'sa]

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Geological and Mineralogical Sciences, presented to the Laboratory of Hydrogeological Problems of the AS USSR (Labor. Gidrogeol. problem AN SSSR), Moscow, 1956.

Association: Labor, gidrogeol. problem AN SSSR (Laboratory of

Card 1/2

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15-57-1-1042D

Engineering and Geological Properties (Cont.)

Hydrogeological Problems of the AS USSR)

Card 2/2

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REUTOV, V.S.

Fitting two auxiliary cams on the chain transfer.
Sbor.rats.predl.vnedr.v proizv. no.1:22 '61. (MIRA 14:7)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Rolling mills--Technological innovations)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

OSECHENSKAYA, G.V.; ZHUKOVA, Ye.A.; KOVALEVA, L.G.; REUTOVA. M.B.

Clinical diagnosis of chloroma. Probl. gemat. i perel. krovi no.6:17-20 '65. (MIRA 18:11)

1. Gematologicheskaya klinika (zav. - prof. M.S.Dul'tsin) TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - dotsent A.Ye.Kiselev) Ministerstva zdravookhraneniya SSSR, Moskva.

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AT6036557 SOURCE CODE: UR/0000/66/000/000/0161/0162

AUTHOR: Yegorov, P. I.; Benevolenskaya, T. V.; Korotayev, M. M.; Reutova, M. B.; Filatova, L. M.; Tsyganova, N. I.

ORG: none

TITLE: The functional state of several internal organs during exposure to radial and coriolis accelerations during multi-day experiments in a slowly rotating room [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 161-162

TOPIC TAGS: biologic acceleration effect, coriolis acceleration, biologic metabolism, blood chemistry, immunology, biologic secretion

ABSTRACT: Six healthy subjects aged 27-36 and resistant to vestibular stimuli were clinically examined before and after studies in a slowly rotating MVK room. A detailed physical examination of internal organs was conducted along with special clinical, biochemical, and immunobiological examinations of the functional condition of these organs.

The experiment resulted in substantial changes in the functional state of

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ACC NR: AT6036557

a number of organs and systems. These changes were a function of rotation rate and duration of exposure. At a rate of 40° /sec in a three-day experiment, the following changes were noted: hypoglycemia and inadequate reaction of beta cells of the pancreas to insulin secretion; a sharp increase in blood potassium level and decreased kidney filtration function; increased liver bilirubin secretion; a trend towards increased blood creatinine, protein, hemoglobin, erythrocyte, and leukocyte level; change in the value, flexibility, and type of oculocardiac reflex; increased blood cholinesterase activity; and a sharp decrease in blood properdin.

At a rate of 10° /sec in a seven-day experiment, the following changes were noted: lowered EKG T-spike from all leads, decline in the adaptability of the cardiovascular system to physical exercise, intensified oculocardiac reflex, increased blood calcium and decreased potassium, decreased blood cholinesterase activity, and increased blood properdin. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

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L 09271-67 - EWT(1) SOTB DD/GD

ACC NR: AT6036466 SOURCE CODE: UR/0000/66/000/000/0010/0011

AUTHOR: Agadzhanyan, N.A.; Kalinichenko, I. R.; Kuznetsov, A. G.; Lepikhova, I. I.; Nikulina, G. A.; Osipova, M. M.; Reutova, M. B.; Sergiyenko, A. V.; Shevchenko, Yu.V.

ORG: none

23
B+1

TITLE: Effect of rapidly increasing hypoxia on the human organism [Paper presented at conference on problems of space medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 10-11

TOPIC TAGS: hypoxia, spirography, electrocardiogram, human physiology

ABSTRACT:

In order to determine the time available for taking countermeasures during a rapid drop in partial oxygen pressure, the resistance of the body to rapidly increasing hypoxia was studied in 28 human subjects by the rebreathing method using a spirograph filled at the start with 8.5 *l* of atmospheric air. The O_2 content of this air decreased as the oxygen was used up; CO_2 was chemically absorbed.

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ACC NR: AT6036[illegible]

The external appearance of the subjects, their behavior, and reported subjective sensations were monitored as a check on their general condition; data were recorded on conditioned reflex activity, brain biocurrents, motor coordination, the functional state of the cardiovascular and respiratory systems and blood oxygen absorption levels; and studies of the composition of peripheral blood and the functional state of the adrenal cortex were made.

The results showed that rapidly increasing hypoxia produces functional changes leading to loss of consciousness if oxygen is not quickly administered. Reserve time (time from beginning to breathe the hypoxic mixture until the hypoxic mixture is cut off) amounted on the average to 6 min 23 sec (3 min 27 sec to 10 min 02 sec). This was equivalent to an "altitude ceiling" of 10150 m (9100 to 11400 m). The O_2 content in the respired air at the end of the experiment was 4.44% (pO_2 = 31.3 mm Hg); blood oxygen saturation dropped to an average of 53.2% (42% to 64%). Hypoxia symptoms observed during the experiment included: cyanosis of the epidermis and mucosa; dyspnea, drowsiness, impaired handwriting, and sometimes even muscle spasms in the hands. Many subjects complained of respiratory distress, dizziness, dimness of vision, heat, headache, etc.

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[illegible] time required to solve arithmetical problems increased, the motor coordination was impaired. Both the time required to solve problems and the number of errors increased more than three-fold over initial data.

Three phases were distinguished in EEG changes: 1) suppression of the alpha rythm; 2) reactivation of alpha rhythm; 3) onset of slow waves (2 to 4 per inch).

Frequency and depth of respiration and minute volume increased during hypoxia, and the oxygen requirement and O_2 utilization coefficient decreased. Arterial oxygen saturation decreased from 46% to 98% at the start to 49% to 55% at the end of the experiment.

EKGs made during rapidly increasing hypoxia showed a progressive increase in the pulse rate and a decrease in the amplitude of R and T waves.

Peripheral blood composition immediately and one hour after exposure to hypoxia showed increased erythrocyte counts and hemogolobin content. The amount of 17-oxycorticosteroids in the plasma increased from 16 to 17 γ% at the onset of [illegible] to 44.2 γ % during the aftereffect period.

[illegible] Report 65-1167

Card 3/3 SUB CODE: 06 / SUBM DATE: 00May66

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACC NR: AT6036558 SOURCE CODE: UR/0000/66/000/000/0162/0163

7

AUTHOR: Yegorov, P. I.; Dupik, V. S.; Yermakova, N. P.; Korotayev, M. M.; Kochina, Ye. N.; Mikhaylovskiy, G. P.; Neumyvakin, I. P.; Petrova, T. A.; Reutova, M. B.; Filatova, L. M.; Tsyganova, N. I.; Yakovleva, I. Ya.

ORG: none

TITLE: The effect of hypokinesia and homogenized food rations on the functional state of the human organism [Paper presented at the Cc .ference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 162-163

TOPIC TAGS: isolation test, hypodynamia, human physiology, space physiology, cardiovascular system, space nutrition

ABSTRACT: For a period of 7 days, four specially chosen healthy subjects 21--29 years old lay flat in bed under conditions of limited isolation. Two of the subjects received a special ration of homogenized foods, while the other two received a ration identical in calorie content (2200 kcal) and chemical composition, but prepared by ordinary cooking methods. Water consumption was unlimited.

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In the course of the experiment, respiratory volume and vital capacity decreased in all subjects; the subjects receiving the special rations showed a more pronounced increase in oxygen consumption and consequently in basal metabolism level.

Cardiovascular system changes were seen in the EKG's of all subjects (decreased voltage of R and T peaks, bradycardia, and rotation of the axis to the right), and persisted more than 12 days after the experiment.

Hemodynamic studies using N. N. Savitskiy's method revealed a decrease in the speed of pulse wave propagation along arteries of the muscular type, and changes in peripheral resistance and blood minute volume. Disturbances of intranasal circulation were revealed by the rhinopneumometry method. These shifts in vascular tonus were more pronounced in the group receiving special food rations.

Following the experiment all the subjects exhibited orthostatic weakness, and in the two subjects receiving the special food ration, an active orthostatic test involving standing for 30 min induced collapse (on the 3rd and 23rd min of the test).

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ACC NR: AT6036558

Pronounced functional shifts of a transient nature were noted in the gastrointestinal tract (diminished gastric secretion after the experiment in the group receiving special rations; and changes in protein, carbohydrate, and cholesterin metabolism, and impairment of the bilirubin-excretory function of the liver in all subjects).

After the experiment all subjects showed a weight loss of up to 3350 kg, although disturbances of kidney function took the form of decreased diuresis, decreased creatinine clearance, and impaired water excretion during water loading tests.

Changes in mineral metabolism during the experiment consisted of increases in the blood plasma levels of potassium and calcium in all subjects, and toward the end of the experiment, decreased chlorides in the 24-hr urine of the subjects receiving special rations.

Audiometry revealed neurodynamic disturbances of the functional state of the auditory analyzer (asymmetry and elevation of differential thresholds of sound intensity and height).

A change was noted in the level of the dark adaptation curve. A considerable increase in light sensitivity in the 60th min was noted in the subjects receiving ordinary food, and a lesser increase in the subjects receiving special rations. Analysis of nyctograms taken during the initial period of dark adaptation showed no substantial shifts. [W.A. No. 22; ATD Report 66-116

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

SHCHEGOLEVA, R.P.; REUTOVA, N.P.; GOLUBEVA, L.S.; POPLAVSKAYA, V.L.; KAZANSKAYA, L.N.

Ceramic metal chromium and chromium-nickel stainless steels. Sbor. trud. TSNIICHM no.43:81-98 '65. (MIRA 18:10)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

TREPLENKO, V.G.; REUTOVA, N.P.; SOKOLOV, V.I.; KRASNYKH, V.I.

Preparing high-purity iron and making alloys on its base.
Sbor. trud. TSNIIGRM no.43:169-172 '65. (MIRA 18:10)

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L 2847-66 EWP(e)/EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(k)/EWP(z)/EWP(b) LJP(c)
MJW/JD/WB

ACCESSION NR: AT5022891 UR/2776/65/000/043/0081/0098

60
58
B+1

AUTHOR: Shchegoleva, R. P.; Reutova, N. P.; Golubeva, L. S.; Poplavskaya, V. L.; Kazanskaya, L. N.

44,55

TITLE: Powdered-metal stainless chrome and chrome-nickel steels

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metallurgy), 81-98

TOPIC TAGS: powder metallurgy, stainless steel, chromium steel, nickel steel, corrosion resistance

ABSTRACT: It is shown that the powders of stainless chrome and chrome-nickel steels in the ferritic, austenitic, and martensitic-austenitic classes, prepared by the method of the combined reduction of metal oxides by means of CaH_2, are suitable for the industrial fabrication of porous and compact sheets and strips by the direct method of powder rolling. The flowsheet of production of these powders has the following sequence: raw materials -- iron powder (carbonyl and other types of Fe), chromium oxide (Cr_2O_3), nickel (electrolytic, carbonyl)

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powder or NiO, Ni_2O_3, calcium hydride (CaH_2); charge blending (2.5 hr); reduction at 1175°C for 6-8 hr, $Cr_2O_3 + 3CaH_2 = 2Cr + 3CaO + 3H_2$; crushing of sinter; slaking with H_2O and pulverization; hydrocyclone treatment of pulp; leaching -- $Ca(OH)_2 + 2HCl = CaCl_2 + 2H_2O$; washing to remove $CaCl_2$; centrifuging; vacuum drying, 60-70°C. Sintered stainless steels display high physical properties, which warrants recommending them for the fabrication of the elements and devices performing in aggressive media. When pressed under a pressure of 10 t/cm^2 and subjected to deformation and heat treatment, powdered-metal stainless steels are not inferior to steels produced by the smelting method as regards their physical properties and corrosion resistance. Thus, for example, corrosion tests of Kh18N15 stainless austenite steel in a 65% solution of boiling HNO_3 demonstrated the high corrosion strength of this steel, not inferior to that of deformed cast steel (corrosion rate 0.1-0.16 g/m^2-hr). Evidently these good qualities of powdered-metal stainless steels are attributable to the low content of impurities in the powders prepared by the combined oxide reduction method. Orig. art. has: 10 figures, 9 tables.

ASSOCIATION: none

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NO REF SOV: 007 OTHER: 007

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L 2851-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) LJP(c) JD/HW

ACCESSION NR: AT5022903 UR/2776/65/000/043/0169/0172 52 45 B+1

AUTHOR: Teplenko, V. G.; Reutova, N. P.; Sokolov, V. I.; Krasnykh, V. I.

TITLE: Production of high-purity iron and of alloys based on this iron

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metallurgy), 169-172

TOPIC TAGS: high purity metal, metal purification, carbonyl iron, iron powder, electric furnace, metal pressing

ABSTRACT: Since the properties of a number of special alloys, given the current techniques of production, are chiefly determined by the purity of the raw materials used, their preparation requires highly pure iron containing at least 99.96% Fe_{total}, 0.001-0.002% C and less than 0.004% S. The use of highly pure charge as well as improvements in the smelting process have currently made possible the production of iron of 99.8-99.9% purity (armco iron, Swedish iron) by means of conventional metallurgical techniques. Moreover, pure iron in powdered form is obtained on an industrial scale by electrolysis or by the carbonyl method.

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Carbonyl iron is distinguished by its virtually nil content of metal impurities but it is relatively highly contaminated with carbon, oxygen, and nitrogen due to the secondary processes occurring between the active particles of iron and the gaseous phase. In this connection, the authors describe the procedure they developed for refining low-grade carbonyl iron powder (0.85-1.0% C, 0.75% N, 0.6% O) by means of vertical electric furnaces with a hydrogen atmosphere so as to obtain ultra-fine iron sponge containing 0.001-0.002% C, less than 0.004% S and N, traces of P, and 0.01% O. Specimens of this refined carbonyl iron, prepared by powder-metallurgical techniques (hydrostatic pressing at 1000 atm, sintering of the obtained 500-600 g briquets in a hydrogen atmosphere with a dew point of -30°C at 1400°C for 14 hr, forging at 1000-700°C into rods of 16 mm diameter which were rolled into standard specimens for tensile tests and resistivity measurements), displayed high plastic properties and a lower resistivity (0.743 ohm-mm^2/m) than commercial pure iron (0.0971 ohm-mm^2/m). The use of this type of refined iron in place of armco iron in the smelting of precision steels yields alloys with magnetic properties that are 1.5-2.0 times as high. In addition, this may lead to the development of new alloys with special physical properties, since this highly pure iron has already been utilized to develop monocrystals of Co-Fe alloys and Ni-Fe alloys as well as in the production of ultra-pure wire contain-

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ACCESSION NR: AT5022903

ing less than 0.005% C, which has made it possible to solve the problem of regulating the gaseous phase during case-hardening. Orig. art. has: 4 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 004 OTHER: 000

High Pressure

BVK

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

ACCESSION NR: AR4018321 S/0137/64/000/001/G039/G040

SOURCE: RZh. Metallurgiya, Abs. 1G273

AUTHOR: Borok, B. A.; Teplenko, V. G.; Solov'yeva, Z. V.; Reutova, N. P.

TITLE: Basic principles and technology of production of powder alloys

CITED SOURCE: Tr. Kuyby*shevsk. aviats. in-t, vy*p. 16, 1963, 23-30

TOPIC TAGS: powder alloy production, oxide powder production, steel powder production

TRANSLATION: A description is given of a method for the preparation of multicomponent alloys via joint reduction of a mixture of component oxides by Ca hydride, e.g., $nCr_2O_3+mNiO+pFe_2O_3+sTiO_2+kCaH \rightarrow 2nCr\cdot mNi\cdot 2pFe\cdot sTi+kCaO+H_2$, where $k = 3n+m+3p+2s$. The alloys obtained are homogeneous in composition and crystal structure and are in exact agreement with the corresponding phase diagram. Metal powders can be added to the charge along with the oxides in order to decrease the exothermic effect. A selective reduction of the oxide mixtures takes place in conformity with their free energies of formation at comparatively low temperatures (600-800°). At higher temperatures, the oxides react with one another to form complex oxides and

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their reduction by CaH_2 follows a complex course. CaO formed during reduction acts as a separator which prevents the particles from sintering. When the CaO content of the reaction products is insufficient to eliminate sintering, an additional amount of CaO is added to the charge. NaCl can also be used as the separator. CaO is removed from the final product by quenching with water and subsequent treatment with a dilute HCl solution, washing the $CaCl_2$ off with water, and drying the powder in vacuum desiccators. The method described is used in the production of powders of stainless steels 1Kh18N9T, 1Kh17N2, 0Kh18N9, nichromes Kh20N80 and Kh25N75, and other alloys. V. Neshpor

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X

ACCESSION NR: AP4040471 S/0226/64/000/003/0050/0063

AUTHOR: Borok, B. A.; Shchegoleva, R. P.; Golubeva, L. S.; Teplenko, V. C.; Reutova, N. P.; Ruch'yeva, N. A.

TITLE: Properties and microstructure of sintered Kh18N15 stainless steel made by joint reduction method

SOURCE: Poroshkovaya metallurgiya, no. 3 (21), 1964, 50-63

TOPIC TAGS: stainless steel, sintered stainless steel, carbonyl iron, sintered steel property, steel corrosion resistance, sintered steel structure

ABSTRACT: Investigations have been made of the properties of sintered Kh18N15 chromium-nickel stainless steel made from powder produced by the joint reduction of chromium and nickel oxides mixed with iron powders (Process A) and of steel made from mechanically mixed powders of carbonyl iron, reduced chromium, and electrolytic nickel (Process B). It was found that the density of compacts A was lower that that of B, but the latter had a very low compression strength. Adequate fluidity of powders and strength of compacts

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make powder A a very suitable material for rolling porous strips and sheets in continuous rolling mills. Compacts B sinter more easily than compacts A, but they are much more susceptible to oxidation during the sintering. Compacts A, sintered at 1350C for 10 hr; had a density of 96—97% (compared to 71—85% for compacts B), tensile strength 47.8—53.5 dan/mm^2, elongation 29.2—43.4% and impact toughness (unnotched specimens) 19.8—29 kgm/cm^2. Sintered Kh18N15 steel has an austenitic structure with a low content of finely dispersed carbides. In the annealed state the steel has a high corrosion resistance; its corrosion rate in boiling 65% nitric acid is 0.1 g/m^2 • hr compared to 0.2 g/m^2 • hr for conventionally made X18H15. This is explained by a low content of impurities in powder A. Orig. art. has: 8 tables and 9 figures.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific Research Institute of Ferrous Metallurgy)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

PRIKLONSKIY, V.A., doktor geologo-mineralogicheskikh nauk; GOR'KOVA, I.M. OKNINA, N.A.; REUTOVA, N.S.; CHEPIK, V.F.; RODIONOV, N.V., redaktor izdatel'stva; POLYAKOVA, T.V., tekhnicheskiy redaktor.

[Engineering geology characteristics of Khvalynian clays in relation to their formation (exemplified by some trans-Volga regions] Inzhenerno-geologicheskie osobennosti Khvalynskikh glinistykh porod v sviazi s usloviami ikh formirovaniia (na primere nekotorykh raionov Zavolzh'ia). Moskva, Izd-vo Akademii nauk SSSR 1956. 152 p. (Akademiia nauk SSSR. Laboratoriia gidrogeologicheskikh problem. Trudy vol.13) (MLRA 10:3)
(Clay)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

REUTOVA, N.S.

Engineering and geological properties of Khvalynian chocolate-colored clays as related to the conditions of their formation. Trudy Lab. gidrogeol. probl. 15:162-171 '57. (MIRA 12:12)
(Engel's region--Clay) (Akhtuba Valley--Clay)
(Soil mechanics)

APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8"

"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

GOR'KOVA, I.M., nauchnyy sotrudnik; KOROBANOVA, I.G., nauchnyy sotrudnik; OKNINA, N.A., nauchnyy sotrudnik; REUTOVA, N.S., nauchnyy sotrudnik; SAFOKHINA, I.A., nauchnyy sotrudnik; CHEPIK, V.F., nauchnyy sotrudnik; POPOV, I.V., doktor geol-mineral.nauk, otv.red.; SIMKINA, G.S., tekhn.red.

[Nature of stability and deformation characteristics of clay rocks in connection with conditions determining their formation and wetting] Priroda prochnosti i deformatsionnye osobennosti glinistykh porod v zavisimosti ot uslovii formirovaniia i uvlazhneniia. Moskva, Izd-vo Akad.nauk SSSR, 1961. 152 p. (Akademiia nauk SSSR. Laboratoriia gidrogeologicheskikh problem. Trudy, vol.29). (MIRA 14:6)

(Clay)

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REUTOVA, N. S.:

Reutova, N. S.: "The engineering-geological properties of Khvalynsk chocolate clay (On the example of certain regions of the left bank of the river Akhtuba, and the region around the city of Engel's)." Academician F. P. Savarenskiy. Moscow, 1956. (Dissertation for the Degree of Candidate in Geologicomineralogical Science)

SO: Knizhnaya letopis', No 27, 1956. Moscow. Pages 94-109; 111.

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RLUTOVA, R.L.; STOLYARENKO, N.V.

Protein and lipoprotein fractions of the blood serum during pneumonia in children with and without anemia. Preliminary report. Sov. med. 28 no.7:68-69 Jl '64. (MIRA 18:8)

1. Kafedra detskikh bolezney (zav. - prof. A.I.Miloserdova) Kuybyshevskogo meditsinskogo instituta.

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VASILENKO, N.A.; CHERNOBAYEVA, M.M.; REUTOVA, S.L.

Ammonia-phosphoric acid method for processing weak sulfur dioxide and the production of "ammofos." Khim.prom. no.6:400-405 Je '61. (MIRA 14:6)

1. Nauchnyy institut po udobreniyam i insektofungitsidam imeni Ya.V.Samoylova.
(Sulfur dioxide) (Ammonium sulfate)
(Fertilizers and manures)

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REUTOVA, V.A.; KOROYEV, A.I.

Hereditary anomaly of the oculomotor apparatus. Zhur. nevr. i psikh. 62 no.5:[redacted]5-679 '62. (MIRA 15:6)

1. Kafedra nervnykh bolezney (zav. - prof. S.A. Rossin) i kafedra glaznykh bolezney (zav. - prof. M.N. [redacted]ugulov) Severo-[redacted]tinskogo meditsinskogo instituta, Ordzhonikidze.
(EYE--MUSCLES--ANOMALIES)

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"APPROVED FOR RELEASE: 06/20/2000 CIA-RDP86-00513R001444720001-8

S/250/62/006/009/004/004
I046/I246

AUTHORS: Zhbankov, R. G., Krivosheyev, N. P., and Reutovich, G. V.

TITLE: Infrared spectroscopy in investigations of synthetic blood substitutes

PERIODICAL: Akademiya nauk BSSR. Doklady, v. 6, no. 9, 1962, 592–594

TEXT: The new method of infrared spectroscopy for water-soluble plasma substitutes detects fine structural changes in synthetic blood-substituting polymers. A thin ~ 3–5 μ layer of the solution to be analyzed is applied directly onto a KRS-5 plate with a sufficiently wide transmission band. Spectra of polyglucine films (a glucose polymer with M = 6000 obtained by hydrolysing and fractionating native dextrine, a by-product of life processes of the microbe *Lenconostoc mesenterondes*, under certain conditions) show definite regular changes with addition of salts into the solution; the changes are independent of the salt added (the 870, 950, 1240 and 1420 cm^{-1} bands increase in intensity and the 850 cm^{-1} band grows weaker when NaCl, KCl, or KBr is added) and have nothing in common with the spectral features of the salts in question. The changes in the infrared spectra are thus associated with changes in the macromolecules of blood substitute, and give definite indication of alterations in the toxic properties of the substitute. There are 2 figures.

PRESENTED: by B. I. Stepanov, Academician, AS BSSR

SUBMITTED: December 23, 1961

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