BURDUKOV, Yu.M.; YEMEL'YANENKO, O.V.; ZOTOVA, N.V.; KESAMANLY, F.P.; KLOTYN'SH, E.E.; LAGUNOVA, T.S.; NASLEDOV, D.N.; SIDOROV, V.G.; TALALAKIN, G.N.; SHCHERBATOV, V.Ye. [deceased]

Transfer effects in $A^{III}B^{V}$ type compounds. Izv. AN SSSR. Ser. fiz. 28 no.6:951-958 Je '64. (MIRA 17:7)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR.

Galvano- and thermomagnetic ...

impurity ions, positive for scattering from phonons. For specimens 1 and 2 in the temperature range investigated, $Q^{\perp}$ first tends to positive values, but then assumes high negative values due to the mixed conductivity occurring at 300 - 350°K. From $1 - r = 2.32 \cdot 10^4 Q^{\perp} K(\tilde{\mu})/u_H$ ($\tilde{\mu}$ = reduced Fermi level, $K(\tilde{\mu})$ = factor taking account of the degeneracy of the carrier gas, u_H = Hall mobility of the holes), the effective exponent of $l \sim v^r$ can be calculated, where l = mean free path of the carriers, v = their thermal velocity. r = 4 for scattering from ions, r = 0 for scattering from phonons. The measurements showed a decrease of r with increasing temperature. The authors calculated the effective mass of the holes from the differential thermo-emf ($\alpha = k/e \cdot \left[(r/2+2)F_{r/2+1}(\tilde{\mu})/(r/2+1)F_{r/2}(\tilde{\mu}) - \tilde{\mu} \right]$, and from the known hole concentration $p = (m_p^*/m)^{3/2}(4/\sqrt{\pi})(2\pi mkT/h^2)^{3/2} F_{1/2}(\tilde{\mu})$, ($F(\tilde{\mu})$ - Fermi integral) the effective hole mass m_p^* can be calculated. m_p^* decreases with increasing temperature; in specimen 3 with the strongly degenerate hole gas, it is much greater than in specimens 1 and 2. O. V.

Card 2/3

Galvano- and thermomagnetic ...

S/181/62/004/003/018/045
B152/B102

Yemel'yanenko is thanked for discussions. There are 4 figures, 2 tables, and 5 references: 3 Soviet and 2 non-Soviet. The reference to the English-language publication reads as follows: C. Hilsum, A. G. Rose-Innes, Semiconducting III-V Compounds. Pergamon Press N. Y.-London-Paris, 1961.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR
Leningrad (Physicotechnical Institute imeni A. F. Ioffe
AS USSR, Leningrad)

SUBMITTED: November 3, 1961

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

ZOTOVA, N.V.; NASLEDOV, D.N.

Galvanomagnetic and thermomagnetic properties of p-indium arsenide. Fiz. tver. tela 4 no.3:681-684 '62. (MIRA 15:4)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.
(Indium arsenide--Magnetic properties)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

ZOTOVA, N.V.; NASLEDOV, D.N.; SRESELI, O.M.

Hall e.m.f. transducers from n-type gallium arsenide. Zhur. tekh. fiz. 35 no.9:1672-1674 S '65. (MIRA 18:10)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR, Leningrad.

ZOTOVA, O.N.

Influence of some conditions of cultivation of potatoes on the vitamin C content. Biokhimiya 18, 205-9 '53. (MLRA 6:4)
(CA 47 no.17:8843 '53)

1. Kirov Agr. Inst., Omsk.

ZOTOVA, O. N.

"Variations in Vitamin C. Content in Potato Tubers with Grade and with Conditions of Cultivation and Storage." Authors' Abstracts of Dissertations Submitted to the Omsk Agriculture Inst imeni S. M. Kirov, Omsk, 1955. (Dissertation for the Degree of Candidate in Agricultural Sciences)

SO: M-955, 16 Feb 56

RUCHKIN, V.N.; ZOTOVA, O.N.

Carotene content of yellow-fleshed potato varieties under conditions prevailing in Omsk. Biokhim.pl.i ovoshch. no.6:122-131 '61. (MIRA 14:6)

1. Omskiy sel'skokhozyaystvennyy institut imeni S.M.Kirova.
(Omsk—Potatoes—Varieties) (Carotene)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

ZOTOVA, O.S., inzh.; OSOKIN, L.L.

New method for the reconditioning of twisting frame rings. Tekst. prom. 21 no.2:66 Ja '61. (MIRA 14:3)
(Spinning machinery)

1. VOLKOVA, Z. V. ZOTOVA, R.G.

2. USSR (600)

4. Mineralogy

7. Investigating the surface properties of minerals (Abstract) Izv. Glav.upr.geol.fon. No. 2, 1947.

9. Monthly List of Russian Accessions, Library of Congress, March, 1953. Uncalssified.

KRAYEVSKIY, A.A.; FEDOROVA, N.V.; ZOTOVA, S.A.; SARYCHEVA, I.K.; PREOBRAZHENSKA, N.A.

Methylene-divided polyyne compounds. Synthesis of 1,4-heptadine and 2, 5,8-undecatriyn-1-ol. Zhur.ob.khim. 34 no.2:552-554 F '64. (MIRA 17:3)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

ZOTOVA, S.A.; YASHUNSKIY, V.G.

Sydnones and sydnone imines. Part 30: Sydnone-4-carboxylic acids and their derivatives. Zhur. org. khim. 1 no. 12: 2218-2222 D '65 (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni Ordzhonikidze. Submitted December 28, 1964.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

USSR/Chemistry - Organic FD-1684

ZOTOVA, S. V.

Card 1/1 : Pub. 129-9/25

Author : Plate, A. F.; Vol'pin, M. Ye.; Zotova, S. V.

Title : Transformation of cycloolefins in the presence of ammonia over aluminum and molybdenum oxide catalyst

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol 10, 77-80, Feb 1955

Abstract : Cyclic olefins (cyclopentene and cyclohexene) behave in a manner different from that of the straight chain olefins when treated with ammonia in the presence of molybdenum oxide on aluminum oxide catalyst. There is no detectable formation of acetonitrile or of any higher nitriles. Hydrogen disproportionation and dehydrogenation predominate. Under the experimental conditions, cyclohexene and benzene react with a ammonia to form a small amount of aniline. Equation, two tables; nine references (eitht USSR

Institution : Chair of Petroleum Chemistry

Submitted : June 23, 1954

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

AUTHORS: Lukina, M. Yu., Zotova, S. V., Kazanskiy, B. A. 20-114-4-31/63
Member, Academy of Sciences, USSR

TITLE: Catalytic Transformations of 1,1,2-Trimethylcyclopropane in the Presence of Palladium Coated or Activated Charcoal (Kataliticheskiye prevrashcheniya 1,1,2-trimetiltsiklopropana v prisutstvii palladirovannogo uglya i aktivirovannogo uglya)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 792-795 (USSR)

ABSTRACT: It has been pointed out several times that cyclopropane and its homologues are capable of undergoing an isomerization into olefines in the presence of some catalysts (aluminumoxide, silica gel, platinum black). The hydrocarbons obtained were not in all cases identified with sufficient clearness. Furthermore, operative data of the reactions are often contradictory. The authors were determined to find out whether the palladium-coated and planished charcoal is capable of effecting the isomerization of a 3-part cycle. The object of the examination was 1,1,2-trimethylcyclopropane. The reaction took place in a nitrogen current at 220°C. It was found that the palladium coated charcoal under these conditions causes the isomerization of the said substance into mixture of olefines. It proceeds with about 55%. Above

Card 1/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

Catalytic Transformations of 1,1,2-Trimethylcyclopropane in the Presence of Palladium Coated or Activated Charcoal

2o 114-4-31/63

all the linkage between the strongest and weakest hydrogenated carbon atoms of the ring is broken up; to a lower degree another linkage which lies close to the quarternary carbon atom. The linkage between the two strongest hydrogenated carbon atoms, which is broken up in hydrolysis, remains unaffected in isomerization. The diagram drawn and the comparison with the reaction of the hydrolysis of 1,1,2-trimethyl cyclopropane in the presence of the platinum coated charcoal enabled the authors to draw the following conclusions: 1. In the case of the catalytic linking of hydrogen to the alkylcyclopropanes two processes may be followed: hydrogenolysis of the 3-part cycle with a break-up of the ring, and the isomerization reaction into olefines with a subsequent hydrogenation. 2. The hydrolysis of the alkylcyclopropanes does not undergo any intermediate isomerization into olefines; in the opposite case the final products of both reactions would be identical. 3.The activated charcoal can not only catalyse the isomerization reaction of the alkylcyclopropanes, but also the hydrogenation reaction of the thus produced olefine-hydrocarbons. The experimental part gives methods, yields, constants, etc. of the

Card 2/3

Catalytic Transformations of 1,1,2-Trimethylcyclopropane in the Presence of Palladium Coated or Activated Charcoal

20-114-4-31/63

substances discussed. There are 1 figure, 5 tables, and 11 references, 8 of which are Soviet.

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

SUBMITTED: January 31, 1957

Card 3/3

ZOTOVA, S. V.

20-5-20/48

AUTHORS: Lukina, M. Yu., Zotova, S. V. and Kazanskiy, B. A., Academician

TITLE: Hydrogenation of Ethylcyclobutane and 1,1,2-Trimethylcyclopropane in Presence of Palladium Charcoal (Gidrirovaniye etiltsiklobutana i 1,1,2-trimetiltsiklopropana v prisutstvii palladirovannogo uglya)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 5, pp. 793 - 796 (USSR)

ABSTRACT: The cyclopentane-, cyclobutane-, and cyclopropane hydrocarbons are able to absorb hydrogen in presence of platinized charcoal under comparatively mild conditions and under a cycle fission (hydrogenolysis). Except this reaction common for all lower cycloparaffins, alkylcyclopropanes are able to suffer a second hydration reaction with a simultaneous begin of a cycle. It leads through an intermediate isomerization of the alkylcyclopropanes to olefins which then can be hydrated to paraffins. The final products of these two reactions are (as it is explained by means of the scheme), different. The hydration on platinized charcoal takes place only in the direction of the hydrogenolysis. Since platinum is for this purpose especially active, the velocity of this reaction exceeds by far that of the isomerization, so that the latter does not take

Card 1/3

Hydrogenation of Ethylcyclobutane and 1,1,2-Trimethylcyclopropane in Presence of Palladium Charcoal

place at all. It was proved already earlier by Kazanskiy and his assistants that palladium charcoal cannot catalyze the hydrogenolysis of the cyclopentane (reference 6) and its homologues (reference 7). The data for alkylcyclobutanes lack. Cyclopropane was more able to bind hydrogen to palladium on pumice at higher temperatures than to platinum. The results dtained in present paper (and in the title) are easily to be compared to those on platinized coal. The experiments have shown that ethylcyclobutane can be hydrogenolyzed on palladium charcoal at a somewhat higher temperature than on platinized charcoal. Here also the two possible bindings of the 4-part cycle were cracked, however, a branched isomer was produced in a somewhat greater quantity (60%). Considerable differences from the platinized charcoal were found in the case of 1,1,2-trimethylcyclopropane. It was proved that at 100 and 120° both possible reactions of hydration took place: hydrogenolysis as well as isomerization with a subsequent hydration. Thus the catalyzate contained all 3 possible products of the fission of the 3-part cycle. At 220° the secondary reaction took place to a greater extent, and the mixture of 2,3-dimethylbutane and 2-methylpentane amounted to already 40 % of the total mixture. The obtained results show

ZOTOVA, S.V.

20-6-19/42

AUTHORS: Bragin, O. V. , Broude, V. L. , Zotova, S. V. , Liberman, A. L. Pakhomova, O. S., and Pryanishnikova, M. A.

TITLE: Spectral Method of Determination of the Number and Position of Side Chains in the Molecules of Benzene Homologues (K voprosu o spektral'nom metode ustanovleniya chisla i polozheniya bokovykh tsepey v molekulakh gomologov benzola)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116 , Nr 6, pp. 961 - 964 (USSR)

ABSTRACT: In an earlier work the second author and the fourth one have shown that the ultraviolet absorption spectra of crystals of benzene homologues at 77°K (= temperature of liquid nitrogen) may be used for the purpose mentioned in the title. The result may be obtained quickly and by a small quantity of substance (some hundreth grams). These spectra consist of series of narrow strips which are, in compounds with the same position of the side chains, of the same type, independent of the length and the ramification of these chains. If the spectra of these compounds which have a similar substitution type within the molecules are put together, such as the first absorption strips (corresponding to the pure-electronic transition) lie together, also the following will do the same. Therewith also the relative strip-intensities are reproduced. This phenomenon was proved on a great number of examples of the monoalkylbenzene-order,

Card 1/3

Spectral Method of Determination of the Number and Position of Side Chains in the Molecules of Benzene Homologues

as well as for some simplest o- and p-dialkylbenzenes. In the present work further informations on the affirmation of the regularity mentioned are quoted. The physical characters of the hydrocarbons investigated are concentrated in table 1. It has been pointed out that the same spectrum type with the growing side chain length will be preserved. (1, 2, 4-trialkylbenzene - figure 1 A). The correspondence of the spectra of p-di-isopropylbenzene and p-xylene confirms the fact that the state branched out of both chains does not influence the position of the absorption bands. This analogy also is retained for the case that a double-binding, which is not conjugated with the benzene nucleus, is introduced into a side chain. (Comparison of ethyl- and propyl-mesitylenes with allyl-mesitylenes - figure 1 B). Quite another picture will be at an immediate conjugation of the double-binding with the benzene nucleus. So, the absorption spectrum of the 2-methyl-phenylpropene-1 also is interrupted in the temperature of the nitrogen. Here the absorption intensity is much higher, than in the case of all the other investigated substances. In spite of a same symmetry of the spectra of alkyl- and alkylene-mesitylenes (figure 1 B) and of monoalkylbenzenes (figure 1 C) an essentially dif-

AUTHORS: Lukina, M. Yu., Zotova, S. V., Kazanskiy, B. A. 62-58-3-7/30

TITLE: The Isomerization of 1,1,2-Trimethylcyclopropane in the Presence of Palladium- and Platinum-Charcoal (Izomerizatsiya 1,1,2-trimetiltsiklopropana v prisutstvii palladirovannogo i platinirovannogo uglya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 300-304 (USSR)

ABSTRACT: Dealing with the investigation of the hydrogenolysis of alkylcyclopropanes in the presence of platinum- and palladium-catalysts it was of interest for the authors to investigate the isomerizing action of the catalysts upon the three-memberes carbon cycle. The object of investigation in this case was 1,1,2-dimethylcyclopropane. The above-mentioned palladium- and platinum-charcoal served as catalysts. The investigation performed in this manner showed that palladium-plated and nonpalladium-plated charcoal at a temperature above 200° C causes a marked isomerization of 1,1,2-dimethylcyclopropane to olefins. This isomerization occurs more actively on a rise of temperature to 250° C and its depth remains constant on a further rise of

temperature to 280° C. An analysis of the product of catalysis showed that the isomerization in the presence of both catalysts approximately occurs with a 60% yield. On that occasion the linkage between the carbon atoms of the cycle which were hydrogenized least and those which were hydrogenized most strongly breaks, which is in agreement with experience. But the authors also could determine another direction of the occurring tear at the expense of the bond at the tertiary carbon atom. A scheme on the reaction of the isomerization is given on page 301. There are 4 tables and 10 references, 8 of which are Soviet.

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

SUBMITTED: October 19, 1956

5(3,2)

AUTHORS: Lukina, M. Yu., Zotova, S. V., Kazanskiy, B. A., Academician

SOV/20-123-1-28/56

TITLE: Effect of the Nature of the Carrier Exerted on the Direction of Catalytic Hydrogenation of Hydrocarbons of the Cyclopropane Series (Vliyaniye prirody nositeley na napravleniye reaktsii kataliticheskogo gidrirovaniya uglevodorodov ryada tsiklopropana)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 105-108 (USSR)

ABSTRACT: The authors have already previously reported (Ref 1) that in the literature on the mentioned problem many opposing views are presented. They concern the direction of cleavage of the 3-membered ring. Most of the authors assume that the linkage between the two most hydrogenized carbon atoms (Refs 1-6) is being cleaved under a hydrogen affiliation (I). But there are also cases described of a ring cleavage in other directions (II) (Refs 7-9). Ya. M. Slobodin and coworkers (Ref 9) conclude that an intermediate stage of isomerization of the alkyl cyclopropane to an olefin is interpolated; the olefin afterwards being hydrogenated. The existence of an olefin in the products

of an incomplete hydrogenation was proved by the Raman spectra. Reference 9 does not present any definite causes of the various cleavage directions of the 3-membered cycle. There is, however, one important factor which is capable of affecting the mentioned direction of cleavage, viz. the carrier of the hydrogenating metal, in so far as the employed catalysts are mostly used on carriers. As was previously proved by B. A. Kazanskiy (Refs 10, 11), silica gel and activated charcoal are able to catalyze the isomerization of cyclopropane hydrocarbons to olefins. It was but natural to assume that the hydrogenating metals, if they are applied on carriers which are able to cause isomerization resembling the two just mentioned cases, will lead under suitable conditions to different cleavage direction of the ring than this would be the case with inert carriers. Actually, in the first case that olefin is hydrogenated which is formed in the isomerization of alkyl cyclopropane (equation III); in the second case, the cyclopropane hydrocarbon itself will be hydrogenated (equation I). The relative isomerizing activity of such catalysts on carriers will thus determine the cleavage direction of the 3-membered ring.

Effect of the Nature of the Carrier Exerted on the Direction of Catalytic Hydrogenation of Hydrocarbons of the Cyclopropane Series SOV/20-123-1-28/56

In the present paper the authors describe tests concerning the isomerization of cyclopropane hydrocarbons to olefins in the presence of: aluminum silicate, kieselguhr and pumice. On aluminum silicates, ethyl cyclopropane was nearly completely isomerized to a mixture of olefins of normal structure already at 50°; on kieselguhr, to 75 % at 120°, on pumice at 120° no isomerization occurred, only at 170°- 20 % were obtained, then at 220° - 45 %. Thus, the influence of a carrier being active as regards isomerization exerted upon the direction of the hydrolysis of the 3-membered ring is unquestionable. There are 5 figures and 15 references, 6 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)

5 (3)

AUTHORS: Lukina, M. Yu., Zotova, S. V., Kazanskiy, B. A., Academician

SOV/20-127-2-29/70

TITLE: Catalytic Transformation of Alkyl Cyclopropanes in the Presence of Platinum and Palladium Applied to Ashless Activated Charcoal

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 2, pp 341-344 (USSR)

ABSTRACT: The authors showed recently (Ref 1) that the hydration of alkyl cyclopropanes in the presence of platinized charcoal differs from the hydration in the presence of palladium applied to charcoal (see Scheme). In the first case and at 120° as well as at 220° only the hydrogenolysis of the three-membered ring takes place, in the second case, however, the isomerization of the alkyl cyclopropane to olefines with a subsequent hydrogen addition to the latter proceeds besides the above mentioned reaction. The quantity of the products of the side reaction increases up to 40 % with the temperature rise up to 220°. This side reaction proceeds either on the account of palladium or charcoal, if palladium is able to cause an isomerization of the three-membered ring in contrast to platinum (first case). The second case is as well possible, since the charcoal does not remain inert (according to Ref 2) in this reaction. If this last assumption is right, it

cannot be explained why these properties of the charcoal do not appear in the case of the platinum catalyst; or it is a consequence of the lower palladium activity in the hydrogenolysis reaction, as the authors assumed earlier (Ref 1). Thus it was the authors' object to investigate and compare the properties of these two metals themselves. This should be the case in the isomerization and hydrogenolysis of the alkyl cyclopropanes under elimination of the effect of the carrier. The charcoal mentioned in the title was used since the platinum- and palladium blackness did not cause at all an alkyl cyclopropane analysis at 120°. The charcoal was produced by the carbonization of sugar. The cyclopropanes were not subjected to any changes in the case of a passage through such a charcoal at 220°. Pt- and Pd-catalysts of 20 % were produced on the basis of this charcoal. The isomerization (in the absence of hydrogen) was carried out at 220°. This temperature was assumed as optimum temperature in the previous papers of the authors (Refs 1-3). Now neither the properties of the alkyl cyclopropanes were changed nor the catalysates contained unsaturated compounds. Thus it was proved that neither Pt nor Pd isomerize under these conditions the three-membered ring.

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Catalytic Transformation of Alkyl Cyclopropanes in the Presence of Platinum and Palladium Applied to Ashless Activated Charcoal

SOV/20-127-2-29/70

1,1,2-trimethyl-cyclopropane was used for experiments in the presence of hydrogen. The hydration on the mentioned catalyst is not complete at 120°. This makes possible a comparison of their activity. It was found that no isomerization had occurred. The hydrogenolysis proceeded on platinum with 65 %, on palladium with 50 %. Thus the latter turned out to be less active. Thus it was confirmed that in the case of palladium the isomerization is caused by the carrier, not by the metal. The differences in the effect of the two metals in the hydration depend on their individual activity. The hydrogenolysis rate surpasses in the case of the more active metal that of the isomerization caused by the carrier to such an extent that the influence of the latter is not expressed at all. The two reaction rates compete with each other in the case of the less active metal and the side reaction caused by the carrier proceeds besides the hydrogenolysis. There are 1 figure, 3 tables, and 5 references, 4 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)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

ZOTOVA, S.V.; LEMA, G.V.; LUKINA, M.Yu.

Synthesis and catalytic hydrogenation of 2-phenylbenzylamine. Dokl. AN SSSR 164 no.6:1303-1306 O '65. (MIRA 18:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
Submitted March 30, 1965.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

ZOTOVA, S.V.; LOZA, G.V.; LUKINA, M.Yu.

Easy ethylenimine ring opening under conditions of catalytic hydrogenation. Izv. AN SSSR. Ser. khim. no.11:2037-2039 '65. (MIRA 18:11)

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

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

STERIN, Kh.Ye.; ALEKSANYAN, V.T.; UKHOLIN, S.A.; BRAGIN, O.V.; GAVRILOVA, A.Ye.; ZOTOVA, S.V.; LIBERMAN, A.L.; MIKHAYLOVA, Ye.A. SMIRNOVA, E.N.; STERLIGOV, O.D.; KAZANSKIY, B.A.

Raman spectra of some tri- and tetraalkylbenzenes and condensed aromatic hydrocarbons. Izv. AN SSSR. Otd.khim.nauk no.8:1444-1450 Ag '61. (MIRA 14:8)

1. Komissiya po spektroskopii AN SSSR i Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Benzene--Spectra)
(Hydrocarbons--Spectra)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

LUKINA, M.Yu.; ZOTOVA, S.V.; MARKOV, M.A.; OVODOVA, V.A.; KAZANSKIY, B.A., akademik

Transformations of isopropenylcyclopropane in the presence of kieselguhr. Dokl. AN SSSR 139 no.2:381-384 Jl '61. (MIRA 14:7)

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

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

KAZANSKIY, B.A.; LUKINA, M.Yu.; NAKHAPETYAN, L.A.; ZOTOVA, S.V.; LOZA, G.V.; SHATENSHTEYN, G.A.; OVODOVA, V.A.; UVAROV, O.V.; SOKOLOV, N.M.; SMOL'NIKOV, V.P.

Production of high purity cyclopropane. Khim. prom. no. 6:462-465 S '60. (MIRA 13:11)

(Cyclopropane)

ZOTOVA, S. V. Cand Chem Sci -- (dmiss) "Study in the field of [redacted] catalytic conversions of alkylcyclopropanes." Mos, 1959. 15 pp (Acad Sci USSR. Inst of Organic Chemistry im N. D. Zelinskiy), 110 copies (KL,49-59, 138)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

KROTKOV, B.P.; ZOTOVA, T.I.

Regular patterns in the distibution of bauxite deposits in the Urals. Dokl. AN SSSr 108 no.6:1144-1147 Je '56. (MLRA 9:10)

1. Institut geologicheskikh nauk Akademii nauk SSSR. Predstavleno akademikom A.V. Betekhtinym.
(Ural Mountains--Bauxite)

L 21725-66 EWT(m)/EWP(t) IJP(c) JD

ACC NR: AP6008065 SOURCE CODE: UR/0032/66/032/002/0195/0196

AUTHOR: Kaverin, S. V.; Znysheva, L. N.; Zotova, T. M.

ORG: Gorky Physicotechnical Research Institute (Gor'kovskiy issledovatel'skiy fiziko-tekhnicheskiy institut)

TITLE: Preparation of carbon replicas from cross sections of germanium film

SOURCE: Zavodskaya laboratoriya, v. 32, no. 2, 1966, 195-196

TOPIC TAGS: germanium, electron microscopy, carbon

ABSTRACT: A method is proposed for producing replicas for electron microscopic analysis from cross sections of germanium films deposited on glass and on single crystals of germanium and silicon. The germanium film is deposited by vaporization in vacuum. The glass substrate is broken together with the germanium film and a 100-200 angstrom layer of aluminum is deposited on the fractured section by vaporization in a vacuum followed by a carbon film. The carbon film covers the fracture and its adjacent layer of aluminum. The specimen is etched in aqua regia to free the carbon replica. The film is then carefully washed in water before mounting on the microscope stage. Photomicrographs are shown of cross sections of germanium films on various substrates. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 001/ OTH REF: 000

UDC: 537.533.35

Card 1/1 dda

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

TOLMACHEV, A.M.; ZOTOVA, T.V.; YELISEYEVA, N.M.

Dependence of a single separation coefficient of hydrogen isotopes from the cation composition of type A and X zeolites. Zhur. fiz. khim. 39 no.4:1021-1025 Ap '65. (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova. Submitted Nov. 23, 1964.

Zinc in food products and its sanitary-hygienic significance. V. P. Zotova and N. I. Orlov. *Voprosy Pitaniya* 4, No. 6, 40-55(1935).—Analyses are given for food products where zinc poisoning was discovered, and the source of the zinc is indicated. Zn contents in such cases varied from 400 to 7000 mg. per kg. of product. Mushrooms are especially rich in zinc. Data on about 50 species of mushrooms show variations in Zn content from 50 to 200 mg. per kg. of dry wt. of plant material.

F. H. Ruthruff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

PANCHENKOV, G.M.; TOLMACHEV, A.M.; ZOTOVA, T.V.

Separation of hydrogen isotopes in the sorption of hydrogen on synthetic zeolites. Zhur. fiz. khim. 38 no.5:1361-1365 My '64. (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova. Submitted July 24, 1963.

[illegible] Urban. Rank

[illegible] for suburban and intracity transportation. Mech. Transp. [illegible] '69. (Index 19-5)

KLOPOV, Sergey Vasil'yevich; ALEKSEYEV, Vladimir Khrisanfovich; ZOTOVA, Vera Mikhaylovna; KUDINOV, Aleksandr Georgiyevich; MARKIN, Arkadiy Borisovich; SEMENTSOV, V.A., otv.red. [deceased]; NEMCHENKO, V.S., red.izd-va; YEGOROVA, N.F., tekhn.red.

[Power resources and power engineering in southern areas of the Yakut A.S.S.R.] Energeticheskie resursy i energetika iuzhnykh raionov IAkutskoi ASSR. Moskva, Izd-vo Akad.nauk SSSR, 1959. 58 p. (MIRA 12:10)
(Yakutia--Power resources)

USSR/Farm Animals - Fur Animals Q

Abs Jour : Ref Zhur - Biol., No 15, 1958, 69391

Author : Zotova, V.S.

Inst : Scientific Research Institute of Agriculture of the Extreme North

Title : Vitaminic Value of Vegetable Feeds for Silvery-Black Foxes

Orig Pub : Byul. nauchno-tekhn. inform. N.-i. in-t s. kh. Kraynego Severa, 1957, No 3, 15-17

Abstract : The preparation of vitaminic winter feed supplements from wild green plants for silvery-black foxes at the fur farm im. Chkalov is described. The highest content of vitamin C was found in freshly dried leaves of the willow, rowan tree and willow herb [Chamaenerion angustifolium]. The acerose leaves contain 79-233 mg% of vitamin C.

Card 1/2

USSR/Farm Animals - Fur Animals Q

Abs Jour : Ref Zhur - Biol., No 15, 1958, 69391

In silage prepared from cabbage leaves, leaves of root vegetables, and wild greens, the vitamin C content was 17.5-65 mg%.

Card 2/2

VASIL'YEV, A. N., BUKOVSAYA, Z. I., ZOTOVA, V. G.

Fur Farming - Yakutia

Fur farming in the Yakut A. S. S. R. Kar. i zver. 6 No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

VASIL'YEV, A.I.; BUKOVSKAYA, Z.I.; ZOTOVA, V.S.

Yakutia - Fur Farming

Fur farming in the Yakut A.S.S.R., Kar. i zver 6 No. 1, 1953

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

ZOTOVA, V.V., kand.tekhn.nauk.

Maximum use of ship loading capacity for lumber transportation.
Rech.transp. 16 no.10:10-12 O '57. (MIRA 10:12)
(Lumber--Transportation)

MAYORSKIY, Gennadiy Ivanovich; RODINA, Antonina Platonovna; PROTASOV, V.S., retsenzent; ZOTOVA, V.V., retsenzent; MAKRUSHINA, A.N., red.izd-va; BOBROVA, V.A., tekhn.red.

[Inland water transportation rates] Tarify rechnogo transporta. Moskva, Izd-vo "Rechnoi transport," 1959. 150 p. (MIRA 13:3)
(Inland water transportation--Rates)

ZOTOVA, V.V., kandidat tekhnicheskikh nauk.

Analysis of rates for river trnasportation. Trudy GIIVT no.12: 3-12 '54. (MLRA 10:2)

(Inland water transportation)

ZOTOVA, Vera Vasil'yevna; MAYORSKIY, G.I., retsenzent; KRAYEV, I.S., red.; LOBANOV, Ye.M., red.izd-va; BOBROVA, V.A., tekhn.red.

[River transportation rates] Tarify rechnogo transporta. Moskva, Izd-vo "Rechnoi transport," 1959. 87 p. (MIRA 12:6)
(Inland water transportation--Rates)

PAKHOMOV, V.B., kand. tekhn. nauk; NAUMOV, A.I., inzh.; SHEIMANOV, V.S., inzh.; KONSTANTINOV, V.P., inzh.; KOSTIN, A.M., inzh.; SEMENOV, YU.K., inzh.; PYATLIN, A.A., kapitan; VAGANOV, G.I., kand. tekhn. nauk; SVIRIDOV, A.A., inzh. KHODUNOV, M.Ye., kand. yurid. nauk; SAPOGOVA, A.Ye., inzh.; SOYUZOV, A.A., doktor tekhn. nauk, prof., red.; VASIL'YEV, A.V., kand. tekhn. nauk; ALEKSEYEV, V.I., red.; KUSTOV, L.I., red.; VITSINSKIY, V.V., red.; BORISOV, I.G., red.; SOLAREV, N.F., red.; ANDRIYENKO, V.I., red.; SUTYRIN, M.A., red.; GOLOVNIKOV, V.I., red.; ZOTOVA, V.V., red.

[Manual for the navigator of a river fleet] Spravochnik sudovoditelia rechnogo flota. Izd.2., dop. Moskva, Transport, 1965. 423 p. (MIRA 18:2)

1. Gor'kovskiy institut inzhenerov vodnogo transporta (for Pakhomov, Semenov, Vaganov, Vasil'yev). 2. Moskovskiy rechnoy tekhnikum (for Naumov). 3. Volzhskoye ob"yedinennoye rechnoye parokhodstvo (for Shelmanov, Sapogova). 4. Ministerstvo rechnogo flota (for Konstantinov, Sviridov). 5. Kazanskiy port (for Kostin). 6. Moskovskoye rechnoye parokhodstvo (for Pyatlin).

ZOTOVA, Vera Vasil'yevna

Tarify Rechnogo Transporta (Tariffs of River Transport) Moskva, Izd-vo "Rechnoy Transport", 1959.

87 p. Graphs, tables. Bibliography: p. 87.

IVANOVSZKY, L.; ZOTOVA, Vera Vladimirovna [translator]; MURATOV, Vadim Nikolayevich, kandidat geologo-mineralogicheskikh nauk, redaktor; KONINA, I.N., vedushchiy redaktor; GRIGAD'YEVA, I.M., tekhnicheskiy redaktor

[A wax encyclopedia; in two volumes. Translated from the German] Entsiklopediia voskov; v dvukh tomakh. Rasshirennoe perer. izd. s alfavitnym predmetnym ukazatelem. Perevod s nemetskogo V.V.Zotovoi. Pod red. V.N.Muratova. Leningrad, Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, Leningradskoe otd-nie. Vol.1. [Waxes and their principal characteristics] Voski i ikh vazhneishie svoistva. 1956. 145 p. (MLRA 10:1)
(Waxes)

TOKAREVA, L.G.; MIKHAYLOV, N.V.; POTEMKINA, Z.I.; KOVALEVA, M.V.; BORIK, A.G.; ZEMSKOVA, G.N.; ZOTOVA, Ya.E.

Stabilization of polyamide fibers. Khim.volok. no.3:15-21 '61. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna (for Tokareva, Mikhaylov, Potemkina, Kovaleva). 2. Klinskiy kombinat (for Borik, Zemskova). 3. Mytishchinskiy zavod (for Zotova).

(Textile fibers, Synthetic)

ZOTOVA, Ye.F.

Determining the sulfur content in coal and coke by combustion. Koks i khim. no.9:27-28 '61. (MIRA 15:1)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Coal) (Coke) (Sulfur)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

BORODIN, L.F.; ZOTOVA, Ye.N.

Parameters of transmission systems for discrete messages.
Nauch.dokl.vys.shkoly; radiotekh. i elektron.no.1:27-36 '58.
(MIRA 12:1)

1. Institut radiotekhniki i elektroniki AN SSSR.
(Information theory)

ZOTOVA, Ye.N.

Comparative analysis of binary and error-correcting codes. Nauch. dokl.vys.shkoly; radiotekh. i elektron,no.1:37-45 '58. (MIRA 12:1)

1. Institut radiotekhniki i elektroniki AN SSSR.
(Information theory)

ZOTOVA, Ye.V.

S

8

Compound Steel for Guillotine Knives. E. Zotova. (Stal, 1939, No. 6, pp. 40–41). (In Russian). Compound steel is used for long guillotine knife-blades to avoid distortion on quenching. The author describes the experimental production of compound ingots from which this steel strip was obtained. The ingots were cast in open-top moulds; the iron, which should have a carbon content of 0·10–0·15%, being poured into the larger portion of the mould while a low-alloy tool steel is poured, at the same time, through a funnel, into one corner of the mould, which is partitioned off by means of a small steel angle. The preliminary experiments in general gave satisfactory results, a good bond between the iron and the steel being obtained. The knives made from the strip were used in machines for cutting veneer and were found to be as good as the imported ones.

1. ZOTOVA, Ye. V.

2. USSR (600)

Gor'kiy Automobile Plant imeni Molotov "Band Saws for Metal" Stanki i Instrument, 12, No 3, 1941.

9. [redacted] Report U-1503, 4 Oct 1951

ZOTOVA, Ye. V., Engineer; NEFEDOV, A. A., Engineer

"The Selection of Steel and the Heat Treatment Condition for Blades Cutting Wire up to 65 Millimeters in Diameter", Stanki I Instrument, 17, Nos 2-3, 1946

BR-52059019

ZOTOVA, Ye.V.

13

Methods of Mechanical Testing for Special Saw Steels. (In Russian.) E. V. Zotova and A. A. Nefedov. *Factory Laboratory* (U.S.S.R.), v. 13, June 1947, p. 737-740.

It is shown that mechanical properties (tensile strength, Rockwell hardness, and plasticity) do not fully characterize the above. More reliable results are said to be obtained by use of less severe methods, especially by torsion testing. Influence of temperature of tempering on mechanical properties of a series of saw steels is charted and tabulated.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4

ZOTOVA, Ye.V.

Effect of alloying elements on the corrosion resistance of chromo-nickel-nolybdenum-copper steels in sulfuric acid solutions. Khim. prom. no.4:239-243 Je '58. (MIRA 12:1)
(Steel alloys--Corrosion)

AUTHOR: Zotova, Ye.V. SOV/133-58-6-25/33

TITLE: The Influence of Alloying Elements on Properties of Chromium-Nickel-Molybdenum-Copper Steel (Vliyaniye legiruyushchikh elementov na svoystva khromonikel'molibdenomedistoy stali)

PERIODICAL: Stal', 1958, Nr 6, pp 550 - 556 (USSR)

ABSTRACT: The influence of alloying elements on the resistance to corrosion and intercrystalline corrosion of the above steel was investigated. A few groups of steels containing Cr 5-27%, Ni 9-30%, Mo 0-4% and Cu 0-4% were taken for the investigation. Some steels contained also titanium or niobium and 0.02-0.30% of carbon. Steels were smelted in a high-frequency furnace and hot-rolled into sheets 3 mm thick and then hardened from 1 100 °C in water. Chemical composition, structure and properties of steels investigated are given in Table 1; microstructure after hardening and various methods of heat treatment - Figure 2; the influence of chromium and nickel on corrosion in sulphuric acid solutions at 80 °C (A) and at boiling temperature (B) - Figure 3; the influence of molybdenum under the same conditions - Figure 5 and copper - Figure 6; changes in the corrosion resistance of the steel in nitric-sulphuric acid mixture (76% H_2SO_4 and 0.5% HNO_3) at 120-125 °C (duration of the test

Card 1/5

The Influence of Alloying Elements on Properties of Chromium-Nickel-Molybdenum-Copper Steel

300 hours) with the content of chromium and nickel - Figure 7; the same in a pickling liquor (10 - 14% H_2SO_4 with an additive ChM) - Figure 8; the influence of carbon, titanium and niobium on intercrystalline corrosion of the steel - Table 2. It is concluded that:

1) The influence of the individual elements on the general corrosion of chromiumnickelmolybdenumcopper steel in sulphuric acid medium depends on both the composition of steel and the concentration of sulphuric acid. At a certain temperature: a) chromium decreases the corrosion of steel in 5-30% H_2SO_4 (at 80 °C) and nickel in 5 - 60% H_2SO_4; b) molybdenum as well as copper decreases the corrosion of steel in 5-60% H_2SO_4; c) carbon and carbide forming elements, titanium and niobium, have no substantial influence on the general corrosion of steel in sulphuric acid.

2) Steel with austenite-martensite structure despite a low rate of their corrosion in 5-60% sulphuric acid, suffer corrosion cracking. Steels with austenite-ferrite structure

The Influence of Alloying Elements on Properties of Chromium-Nickel-Molybdenum-Copper Steel

are very resistant to corrosion in 5-30% sulphuric acid at 80 °C

3) The influence of alloying elements on the tendency to intercrystalline corrosion depends mainly on the initial structure of steel after hardening. A tendency to intercrystalline corrosion appears in steel with an austenitic structure and towards general corrosion with an austenitic-martensite structure; steels with an austenitic-ferritic structure are resistant to both intercrystalline and general corrosion.

4) The sensitivity of austenitic steels towards intercrystalline corrosion decreases with increasing chromium content and with decreasing nickel content; molybdenum and copper have no substantial influence on the tendency of steel to intercrystalline corrosion.

5) The influence of carbon on the tendency of steel to intercrystalline corrosion is substantial in particular for some steels. However, steels with a very low carbon content, smelted from electrolytic iron, practically shown no tendency to intercrystalline corrosion. Titanium and niobium decrease

The Influence of Alloying Elements on Properties of Chromium-Nickel-Molybdenum-Copper Steel

the tendency of steel to intercrystalline corrosion and at a certain ratio of their content to that of carbon a steel insensitive to intercrystalline corrosion can be obtained.
6) A hypothesis of two-stage transformation of metastable austenite can explain the mechanism of the appearance of intercrystalline corrosion of the steel studied. (According to the hypothesis, the transformation of austenite on the grain boundaries takes place in two stages: a) the decomposition at primary austenite at 600 - 800 °C with the formation of carbide phase of the type $Me_{23}C_6$ and secondary austenite, less alloyed with chromium (first stage); b) the transformation of secondary austenite $\gamma - \alpha$ during cooling - non-diffusion type (second stage).
7) On the basis of the results obtained, the following steels are recommended: a) austenitic - Kh15N19M3D3, Kh19N19M3D3 and Kh19N23M3D3 stable in solutions of sulphuric acid at temperatures not exceeding 80 °C. In the case of application of these steels for welded apparatus, it is necessary to alloy the metal with titanium or niobium at a ratio of Ti(Nb) to C

The Influence of Alloying Elements on Properties of Chromium-Nickel-Molybdenum-Copper Steel

not less than 12; b) austenitic-ferritic steels Kh23N9M3D3, Kh27N9M3D3, Kh27N15M3D3 and Kh27N19M3D3 stable in sulphuric acid solutions of a concentration up to 30% at temperatures not exceeding 80 °C; these steels have no tendency to intercrystalline corrosion; due to their low plasticity in the hot state, these steels could be better utilised for cast parts. There are 2 tables, 8 figures and 9 references, 7 of which are Soviet, 1 English and 1 German.

ASSOCIATION: TsNIIChM

Card 5/5 1. Steel alloys--Corrosion 2. Steel alloys--Test results
3. Steel alloys--Welding

SOV/68-58-8-17/28

AUTHOR: Zotova, Ye.V.

TITLE: The Corrosion of Steel in the Equipment Used in Coke-Chemical Production (Korroziya staley v apparatakh koksokhimicheskogo proizvodstva)

PERIODICAL: Koks i Khimiya, 1958, Nr 8, pp 49 - 51 (USSR)

ABSTRACT: The results of investigations of corrosion of steels under operating conditions of by-product plants carried out by TsNIICHM and UKhIN under laboratory and works conditions are described. The following steels were tested: a) low-carbon steels St.3 and 10; b) chromium nickel steel 1Kh18N9T, experimental molybdenum containing steel Kh18N28M3D3 and nickel-silicon steel N3035. Welded and whole steel specimens prepared from hot and cold rolled sheets with pickled surface were used for the tests. The corrosion resistance of steel specimens tested in the saturator for 5 856 hours - Table 1, tested in the washing apparatus for 700 hours - Table 2, tested in the washing apparatus of the naphthalene plant (2 months) - Table 3, tested in the deflegmator of an ammonia still (3 300 hours) - Table 4, in the tar distillation still (915 hours) - Table 5 and tested in a tar-pitch column - Table 6.

Cardl/2

SOV/[illegible]-[illegible]-[illegible]-17/23

The Corrosion of Steel in the Equipment Used in Coke-Chemical Production

Laboratory tests of chromium nickel molybdenum steels with various chromium and nickel content in sulphuric acid at 80 °C for 100 hours indicated that their corrosion resistance depends on the concentration of sulphuric acid (no data given). Steel Kh27N9M3D3 was found to be very stable in 5-40% sulphuric acid at 80 °C and its use for pumps for mother liquor is recommended. It was also established that a simultaneous addition of molybdenum and copper to chromium-nickel steels increases its corrosion resistance in sulphuric acid. Cast N85S10D5 steel was also found to be very resistant to sulphuric acid corrosion and can be used for the manufacture of washing apparatus and its fittings. There are 6 tables, 2 figures and 3 Soviet references.

ASSOCIATION: TsNIIChM

Card 2/2

1. Coal industry 2. Industrial equipment--Corrosion
3. Steel--Test results

ZOTOVA, Ye. V., Candidate Tech Sci (diss) -- "The effect of alloying elements on the corrosion resistance of chrome-nickel-molybdenum-copper steels". Moscow, 1959. 14 pp (Main Admin of Sci Res and Design Organizations of the Gosplan USSR, Central Sci Res Inst of Ferrous Metallurgy), 110 copies (KL, No 22, 1959, 115)

S/137/61/000/006/084/092
A005/A101

AUTHORS: Zotova, Ye.V., Talayeva, G.V.

TITLE: Corrosion resistance of stainless steels in the settling and plasticizing baths of viscose fiber production

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 6, 1961, 50, abstract 61388 ("Vestn. tekhn. i ekon. inform. N.-i. in-t tekhn. ekon. issled. Gos. kom-ta Sov. Min. SSSR po khimii", 1959, no. 5 (17), 56 - 57)

TEXT: Because of their effect on stainless steels, settling and plasticizing baths should be considered as highly aggressive media. The settling bath is less aggressive, and high-alloy stainless steels are more stable in it than in a plasticizing bath. Highest resistance to corrosion in general in settling and plasticizing baths is offered by Х23Н28М3Д3 (Kh23N28M3D3) and Н40М3Д3Б (N40M3D3B3) steels which can be used only for the manufacture of heat-exchange devices, intended for operation in a settling tank.

The authors' summary

[Abstracter's note: Complete translation]

Card 1/1

PHASE I BOOK EXPLOITATION SOV/4535

Vsesoyuznyy soyet nauchno-tekhnicheskikh obshchestv

Mezhkristallitnaya korroziya i korroziya metallov v napryazhennom sostoyanii (Intercrystalline and Stress Corrosion of Metals) Moscow, Mashgiz, 1960. 358 p. 5,000 copies printed.

Ed.: I.A. Levin, Candidate of Technical Sciences; Ed. of Publishing House: I.I. Lesnichenko, Engineer; Tech. Ed.: V.D. Kl'tina; Managing Ed. for Literature on Metalworking and Instrument Making (Mashgiz): V.V. Rzhevinskiy, Engineer; Editorial Board: I.A. Levin, Candidate of Technical Sciences (Chairman), V.F. Batrakov, Candidate of Technical Sciences, V.M. Mikiforova, Candidate of Technical Sciences, and A.V. Pamovskaya, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for technical personnel concerned with problems of corrosion of metals.

COVERAGE: The collection contains discussions of intercrystalline corrosion of stainless steels and stress corrosion of carbon steels, low-alloy and stainless steels, and light-weight and nonferrous alloys. The tendency of steels of various composition and system to corrode under certain conditions is discussed and the nature of corrosion and corrosion cracking is analyzed. No personalities are mentioned. Most of the articles are accompanied by bibliographic references, the majority of which are Soviet.

II. INTERCRYSTALLINE CORROSION OF STAINLESS STEELS

Card 4/9

18.7100,18.8300

77157
SOV/129-60 -1-5/22

AUTHOR: Zotova, Ye. V.

TITLE: Susceptibility of OKh23N28M3D3 (EI943)-Steel to Intercrystalline Corrosion

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, 1960, Nr 1, pp 15-17 (USSR)

ABSTRACT: According to the State Standard (GOST 6032-57) susceptibility to intercrystalline corrosion is determined for the following group of chromium-nickel-molybdenum-copper steels: Kh23N23M3D3 (EI533), OKh23N28M3D3 (EI943), and Kh23N28M3D3 (EI629). The specimens are boiled in an aqueous solution of copper sulfate and sulfuric acid with either zinc dust or copper chips added. Inspection is carried out by bending (90°) and 10-fold magnification of the specimen surfaces. The author investigated OKh23N28M3D3-steel which is resistant toward the action of sulfuric acid solutions at elevated temperatures and is used for thin-walled welded tubes. Chemical

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Susceptibility of OKh23N28M3D3 (EI943)-Steel to Intercrystalline Corrosion

77157
SOV/129-60-1-5/22

composition: 0.03% C, 22.3% Cr, 26.35% Ni, 3.75% Mo, 2.75% Cu, 0.58% Mn, 0.45% Si, 0.30% Ti, 0.006% S, and 0.028% P. Cold-rolled 2.5-mm-thick strip served as test material. The metal was molten and rolled at "Elektrostal'" Plant (zavod Elektrostal') and heat treated and pickled at "Hammer and Sickle" Plant (zavod Serp i molot). Specimens were heated to 1,100° and 1,300° C in a tunnel-type furnace, air-cooled, and held at 600 and 700° C for 3, 20, and 120 minutes. The author found that regardless of the solution used, the hardening temperature was a decisive factor in the sensitivity toward intercrystalline corrosion. After hardening from 1,300° C, secondary heating at 600 and 700° C, and holding for 120 minutes, specimens revealed an increased tendency toward intercrystalline corrosion as compared to hardening from 1,100° C, secondary heating at 700° C, and holding for 20 minutes. The author explains this phenomenon by partial dissolving of titanium carbides in austenite due to the liberation of the carbide

Card 2/3

phase. He also states that the dechromization of boundary areas during the secondary heating results in the loss of the ability of boundary areas toward passivation. There are 3 references, 2 Soviet, 1 German.

ASSOCIATION: Central Scientific Research Institute of Ferrous Metallurgy (TsNIIChM)

ZOTOVA, Ye.V., kand.tekhn.nauk

Nickel-molybdenum alloys for corrosive media. Khim. mash. no.4:10-12 Jl-Ag '60. (MIRA 13:7)
(Nickel-molybdenum alloys)
(Corrosion and anticorrosives)

ZOTOVA, Ye.V., kand.tekhn.nauk

Chromium-nickel-molybdenum -copper steel resistant to sulfuric acid pickling solutions. Metalloved. i term. obr. met. no. 11:12-15 N '60. (MIRA 13:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

(Chromium-nickel steel--Corrosion)
(Sulfuric acid)

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ZOTOVA, Ye.V., inzh.

Tendency of chromium-nickel-molybdenum-copper steels toward intercrystalline corrosion. Sbor. trud. TSNIICHM no.17:295-310 '60. (MIRA 13:10)

(Nickel-chromium-molybenum alloys--Corrosion)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

S/081/61/000/020/052/089
B102/B147

AUTHORS: Babakov, A. A., Zotova, Ye. V.

TITLE: Corrosion of steels in the production of low-nitrose sulfuric acid

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 261, abstract 20I163 (Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii, no. 17. 1960, 322 - 326)

TEXT: The corrosion rate of low-carbon Cr-Ni-Mo-Cu steels containing 3% of Mo and 3% of Cu in low-nitrose H_2SO_4 was found to depend considerably on the Cr content and less on the Ni content. It is pointed out that in the composition range of 19 - 23% of Cr and 23 - 28% of Ni with constant content of Mo and Cu (3%) there exist steels which are subject to minimum corrosion. These steels should have a minimum C content. [Abstracter's note: Complete translation.]

Card 1/1

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

33820
S/137/62/000/001/163/237
A006/A101

18.1250 1416

AUTHOR: Zotova, Ye. V.

TITLE: Corrosion-resistant nickel alloys

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 1, 1962, 52, abstract 1I361 (V sb. "Stal'", Mosoow, Metallurgizdat, 1961, 441 - 446)

TEXT: Experimental rolling was performed with thin sheets of a 200 x 1 mm strip for electric-welded pipes, and wire of Ni-Mo alloys, НИМО-20 (NIMO-20), НИМО-25 (NIMO-25) and НИМО-28 (NIMO-28) and NiCrMo alloy НИХМО-15-15 (NIKhMO-15-15). These alloys contain over one half of Ni and are resistant in hot acid media. The melts were produced in high-frequency furnaces under a vacuum of 15 - 30 mm Hg; the metal was thoroughly deoxidized and cast into 17-kg ingots, which after cleaning were reduced to billets of 40 x 100 x 400 mm and then rolled on a two-high mill to 3 and 7 mm thickness. The microstructure and mechanical properties of the alloys were studied, resulting from different types of heat-treatment (water quenching from 1,150°C, and various normalization and annealing conditions). The low ductility, preventing formerly the assimilation of these alloys into chemical machinebuilding, was eliminated. The author studied

Card 1/2

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Corrosion-resistant nickel alloys

the corrosion resistance of the alloys in a boiling H_2SO_4 solution (with 5 - 50% concentration). Least resistance was shown by NIMO-20 alloy containing 19% Fe; an alloy with Fe $\geqslant$ 6% proved most efficient in a medium of hot or boiling strong acids.

Ye. Bukhman

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

S/184/61/000/004/004/004
D041/D112

AUTHOR: Zotova, Ye.V., Candidate of Technical Sciences

TITLE: The mechanical properties of Kh23N28M3D3T steel

PERIODICAL: Khimicheskoye mashinostroyeniye, no. 4, 1961, 33-35

TEXT: The X 23N28M3D3T (Kh23N28M3D3T) chrome-nickel-molybdenum-copper-steel of the austenite class has a sufficient resistance to corrosion in sulfuric acid solutions at increased temperatures (up to 90°C) and is used as a construction material for manufacturing various chemical apparatus. The metallurgical plants produce two brands of this steel, EI629 (EI629) and EI943 (EI943), differing in carbon content. The article contains a short survey of the chemical composition and the physical and mechanical properties of this steel. It has a specific weight of 7.9 G/cm^3, a smelting temperature of 1400°C., a scale resistance of 1000°C., a thermal capacity of 0.12 cal/g·degrees, a thermal conductivity of 0.033 cal/cm·sec . degrees, a linear expansion coefficient of $17.7 \cdot 10^{-6}$; an electric resistance of 0.75 ohm mm^2/m and a magnetic penetration, after hardening, of 1.003 . The mechanical properties of the Kh23N28M3D3T steel obtained under laboratory conditions are given in table 2.

Card 1/2

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The mechanical properties ....

(1) Температура испытания в °С	(2) $\sigma_в$ в кг/мм²	(3) $\sigma_т$ в кг/мм²	(4) δ в %	(5) ψ в %
600	49,6	15,6	41,5	61,8
700	32,9	13,7	45,7	60,0
800	18,6	13,7	46,7	60,2
900	14,2	—	47,8	68,8
1000	6,4	—	58,3	70,5
1100	4,6	—	49,1	74,1
—30	65,9	30,3	48,0	66,1
—75	72,4	31,6	57,7	69,9

Table 2: Mechanical properties of Kh23N28M3D3T steel obtained under laboratory conditions. 1 - testing temperature in °C; 2 - strength limit in kG/mm²; 3 - fluidity limit in kG/mm²; 4 - relative elongation in %; 5 - relative contraction in %. There are 6 figures and 2 tables.

Card 2/2

GLADYREVSKAYA, S.A., kand.tekhn.nauk; ZOTOVA, Ye.V., kand.tekhn.nauk

Use of "St.3EI943" two-ply steel for the manufacture of acid tank cars. Vest.TSNII MPS 20 no.8:51-54 '61. (MIRA 15:1)
(Tank cars)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

ACCESSION NR: AP4037067 S/0129/64/000/005/0049/0051

AUTHOR: Zotova, Ye. V.

TITLE: Heat treatment of corrosion-resistant Cr-Mo steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1964, 49-51

TOPIC TAGS: corrosion resistance, Cr, Mo steel, mechanical testing softening, carbide phase separation, coagulation

ABSTRACT: Since Mo additions to "Kh13" and "Kh17" Cr-steels are known to enhance corrosion resistance, the author investigated the mechanical properties of Cr-Mo steels with a different C content. The "Kh12M1" and "Kh17M2" specimens had the following composition (in %): 0.06-0.29 and 0.13-0.85 C; 12.38-12.40 and 17.0-17.46 Cr; 1-1.02 and 1.86-2.17 Mo respectively. The ingots were reduced to 15 x 15 mm rods for impact testing and sheet bars were rolled to a 3 mm-thick sheet for rupture testing. The specimens were subjected to hot deformation at 1100-800 C. The author found that the specimens were not softened during tempering up to 500 C and that appreciable softening set in above that temperature as a result of the separation and coagulation of the carbide phase from the martensite base. Orig.

Card 1/2

ACCESSION NR: AP4037067

art. has: 3 figures and 2 tables.

ASSOCIATION: TsNIICHM

SUBMITTED: 00 DATE ACQ: 05Jun64 ENCL: 00

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

Card 2/2

ACC NR: AP6031719 (N) SOURCE CODE: UR/0370/66/000/005/0102/0106

AUTHOR: Gulyayev, A. P. (Moscow); Zotova, Ye. V. (Moscow); Ustimenko, M. Yu. (Moscow); Posysayeva, L. I. (Moscow)

ORG: none

TITLE: Development of high-strength corrosion-resistant alloy

SOURCE: AN SSSR. Izvestiya. Metally, no. 5, 1966, 102-106

TOPIC TAGS: IRON BASE ALLOY, CHROMIUM BASE ALLOY, NICKEL BASE ALLOY, corrosion resistant alloy, high strength alloy, age hardenable alloy, iron chromium nickel alloy, molybdenum containing alloy, copper containing alloy, titanium containing alloy, aluminum containing alloy/OKh14O3MDTYu alloy

ABSTRACT: OKh23N28M3D3T (EI943) steel has adequate corrosion resistance in sulfuric acid at temperatures up to 80C but its low strength limits its use in the modern chemical industry. Therefore, efforts have been made to develop an alloy which will combine the necessary corrosion resistance with adequate strength. A series of iron-chromium-nickel-base alloys additionally alloyed with titanium, niobium, aluminum, molybdenum and copper were tested. On the basis of experimental findings, the new OKh14O3MDTYu alloy (Electrostal Plant designation EP543) was developed. The alloy contains : 0.06 carbon, 0.8% silicon, 0.8% manganese, 14—17% chromium, 39—42% nickel, 4.5—6% molybdenum, 0.7—12% aluminum and 2.7—3.3 copper. The alloy is age-hardenable. Alloy solution-heat treated and aged at 700—800C has the following minimum values of

 UDC: 669.018.8

L 04772-67 EWT(m)/EWP(t)/ETI IJP(c) JD/HM/WB

ACC NR: AP6025721 SOURCE CODE: UR/0365/66/002/004/0450/0454

AUTHOR: Babakov, A. A.; Posysayeva, L. I.; Zotova, Ye. V.

ORG: Central Scientific Research Institute of Ferrous Metallurgy (Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: Physical-mechanical and technological properties of OKh23N28M3D3T (EI943) steel, resistant to sulfuric acid

SOURCE: Zashchita metallov, v. 2, no. 4, 1966, 450-454

TOPIC TAGS: corrosion resistant steel, austenite steel, steel property, welding, arc welding, metal deformation/OKh23N28M3D3T steel

ABSTRACT: The properties of OKh23N28M3D3T (EI943), one of the austenitic steels developed at TsNIIChERMET and the Institute of Physical Chemistry AN SSSR, are examined. EI943 has increased corrosion resistance to different aggressive media--sulfuric, phosphoric, oxalic, formic acids-- by which Kh18N10T and Kh17N13M3T steels are rapidly attacked. EI943 has a tendency toward embrittlement upon prolonged holding at 800-900°. This steel is not subject to intercrystalline corrosion after hardening at 1020-1050° in water and holding at 700° for 20 minutes. EI943 has good deformation properties under both hot and

Card 1/2 UDC: 620.193.41:669.228

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L 04723-67
ACC NR: AP6025721

cold working conditions, good technological effectiveness and weldability, especially with the use of argon arc welding. Because of these properties this steel lends itself to industrial use in media too corrosive for Kh17N13M3T and where N70M28 (EP-496) or Kh15N55M16 (EP-576) alloys are too expensive. Orig. art. has: 3 tables and 2 figures.

SUB CODE: 11/ SUBM DATE: 22Nov65/ ORIG REF: 007

Card 2/2 88

ZOTOVA, Ye.V.

Investigating the properties of chromium-molybdenum stainless steels. Sbor. trud. TSNIICHM no.39:94-100 '65. (MIRA 18:7)

ZOTOVA, Ye.V.

Heat treatment of corrosion-resistant chromium-molybdenum steels. Metalloved. i term. obr. met. no.5:49-51 My '64. (MIRA 17:6)

1. TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii.

ZOTOVA, Ye.V.

Effect of molybdenum on the properties of austenitic chromium-nickel cuprous steel. Sbor. trud TSNIICHM no.35:69-77 '63.

Effect of heat treatment on the corrosion resistance of high-alloy austenitic steel. Ibid.:78-84 (MIRA 17:2)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065510008-4"

S/0137/64/000/002/I070/I070

ACCESSION NR: AR4027944

SOURCE: RZh. Metallurgiya, Abs. 2I415

AUTHOR: Zotova, Ye. V.

TITLE: Effect of heat treatment on the corrosion resistance of high-alloy austenitic steel

CITED SOURCE: Sb. tr. Tsentr. n.-i. in-t chernoy metallurgii, vy*p. 36, 1963, 78-84

TOPIC TAGS: austenitic steel, steel corrosion resistance, high alloy steel corrosion

TRANSLATION: A study was made of the effect of heat treatment on the corrosion of high-alloy austenitic steels based on 18-23% Cr, 28% Ni, and Mo, Cu, and Ti additions. Hardening at temperatures between 1000 and 1250° has no appreciable effect on the corrosion rate of the steels Kh18N28M3D3 and Kh18N28M3D3T in 5-90% sulfuric acid at 80° and in 5-40% sulfuric acid at the boiling point. A tendency toward a decrease in the corrosion rate of Kh18N28M3D3 steel in 5-70% sulfuric acid at 80° after quenching from 1200° was observed. The effect of tempering on the corrosion

Card 1/2

ACCESSION NR: AR4027944

of steel of the type of Kh23N28M2 (with and without Ti) and Kh23N28M2D2 (with and without Ti) is manifested in different ways depending upon the nature of the corrosive medium and, to a considerable extent, on the chemical composition of the steel. Kh23N28M2 steel is most adversely affected by tempering; Ti promotes an increase in the corrosion resistance of the steel after tempering, and the retention of Cr in the solid solution. The influence of a Cu addition in the steel sharply raises its resistance to corrosion in sulfuric acid, and for this reason the effect of heat treatment is less appreciable in steel of this type. The effect of tempering on the intercrystalline corrosion in a solution of Cu sulfate and sulfuric acid is manifested particularly in the case of Kh23N28M2 steel, and more strongly the higher the quenching temperature. Author's summary

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Card 2/2

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Card 1/2

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ACCESSION NR: [illegible]

[illegible] of steels of the austenite class and the degree of strengthening of the ferrite-austenite and ferrite classes structure. The austenite steels are strengthened [illegible] steels of the ferrite-austen- [illegible] the greatest plasticity [illegible] have a [illegible]

SUBMITTED: 00 DATE ACQ: 02Aug63 ENCL: 00

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

Card 2/2