"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYAK, A.D.

Effect of inoculation material of Azotobacter on its reproduction activity in a submerged culture. Mikrobiol. zhur. 27 no.1:37-41 '65. (MIRA 18:7)

1. Kiyevskiy zavod bakteriologicheskikh preparatov.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DEKHTYAR, I.Ya.; POLOTNYUK, V.V.

Changes of dislocation density during the annealing of deformed metal. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.18:32-34 '64

Changes in the rate of magnetic polatiry reversal in nickel during annealing following deformation and hardening. Ibid.: 206-211

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DEKHTYAR, I.Ya.; POLOTNYUK, V.V.

Changes in the coercive force during the annealing of a ferromagnetic material. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.17:55-59 '63. (MIRA 17:3)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

S/123/61/000/015/002/032
A004/A101

AUTHORS: Nemanov, M. S., Pinchuk, G. A., Talyzin, N. Ya., Polotnyanshchikov, V. A.

TITLE: Investigating the tendency of ЭИ-268 (Х17Н2) [EI-268 (Kh17N2)] steel to brittle failure

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 15, 1961, 17, abstract 15A111 ("Sb. nauchn. tr. Permsk. gorn. in-t", 1960, no. 6, 143-159)

TEXT: The authors have determined the characteristics of the mechanical properties of Kh17N2 steel after heat treatment for different hardness. It was found that under conditions of static, dynamic and also alternating loads, Kh17N2 steel possesses high mechanical properties and can be fully used for the manufacture of highly loaded structures. The highest strength and ductility characteristics of Kh17N2 grade steel and a reduction of its sensitivity to stress raisers can be obtained by heat treatment for high hardness.

[Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

26052
S/137/61/000/007/070/072
A060/A072

18.8200

AUTHORS: Nemanov, M. S.; Pinchuk, G. A.; Talyzin, N. Ya.; Polotnyanshchikov, V. A.

TITLE: Investigation of the tendency to brittle failure in steel ЭИ-268 (EI-268), Х17Н2 (Kh17N2)

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 7, 1961, 17, abstract 7I110 ("Sb. Nauchn. tr. Permsk. gorn. in-t.", 1960, no. 6, 143-159)

TEXT: The mechanical properties of steel Kh17N2 with composition (in %): C 0.11 - 0.17, Cr 16.0 - 18.0, Ni 1.5 - 2.5, Mn $\leqslant$ 0.8, Si $\leqslant$ 0.8, S $\leqslant$ 0.03, P $\leqslant$ 0.035 were investigated after heat-treatment for different hardness. It was established that under conditions of statical dynamical and alternating loadings steel Kh17N2 has high mechanical properties and is suitable for manufacturing high-stress structures. The top strength and ductility characteristics of steel Kh17N2 and a lowering of its sensitivity to stress concentrations may be obtained by heat-treatment for extreme hardness. When manufacturing heavily loaded parts from steel Kh17N2 it is necessary to take into account the effect of ferrite

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A060/A101

Investigation of the tendency ...

dendrites upon the increase in brittleness of steel, particularly at sub-zero temperatures. In that case the crosscutting and butt facing of ferrite dendrites in a zone of dangerous stress concentrations is inadmissible.

T. Rumyantseva

[Abstracter's note: Complete translation]

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

PECHKOVSKIY, V.V.; AMIROVA, S.A.; POLTONYANSHCHIKOVA, M.I.

Investigation of preliminary slag roasting on the vanadium recovery process. Izv. vys. ucheb. zav.; tsvet. met. 3 no.3:97-101 '60. (MIRA 14:3)

1. Permskiy gosudarstvennyy universitet, Kafedra tekhnologii neorganicheskikh veshchestv.
(Vanadium—Metallurgy) (Slag)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

PECHKOVSKIY, V.V.; AMIROVA, S.A.; KAMEKO, G.F.; POLOTNYANSHCHIKOVA, M.I.

Effect of granulation on the oxidizing roasting of vanadium slag. Izv. vys. ucheb. zav.; tsvet. met. 4 no.3:88-93 '61. (MIRA 15:1)

1. Permskiy gosudarstvennyy universitet, kafedra tekhnologii neorganicheskikh veshchestv.

(Vanadium--Metallurgy)
(Slag)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

S/137/62/000/005/031/150
A006/A101

AUTHORS: Amirova, S. A., Pechkovskiy, V. V., Prokhorova, V. G., Polotnyanshchikova, M. I.

TITLE: Roasting of granulated and moistened vanadium-containing charges in an enlarged laboratory furnace

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 18, abstract 5G108 ("Sb. nauchn. tr. Permsk. politekhn. in-t", 1961, no. 10, 111 - 119)

TEXT: The authors studied optimum conditions of roasting granulated V-charges and the possibility of combining granulation, drying and roasting of moistened V-charges in an enlarged rotating tubular furnace. For this purpose, mixtures consisting of converter slag, sylvinite, and refuse slime, were granulated and roasted. Best results were obtained when roasting granules of 2 - 5 mm fraction at 850°C with addition of sylvinite (n = 0.5) and 5% refuse. The degree of V extraction was 94 - 95%. Roasting of moistened, freshly prepared granules at 850°C makes it possible to extract up to 95% V. Roasting of the charge with simultaneous granulation of the material in the furnace is possible, the charge

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is granulated to 94 - 95%, V_2O_5 extraction is 95% at 950°C and 4 - 4.5 hours roasting time. Best results in simultaneous granulation, drying and roasting are obtained with a charge consisting of slag with addition of sylvinite (n = 0.5) and 5% refuse, with 10.5% moisture at a slope angle of the furnace of 1°30'. When employing such methods of roasting V-containing slags, V extraction increases up to 94 - 95%. There are 7 references.

G. Svodtseva

[Abstracter's note: Complete translation]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

PECHKOVSKIY, V.V.; AMIROVA, S.A.; KAMEKO, G.F.; POLOTNYANSHCHIKOVA, M.I.

Investigating the granulation and firing of vanadium slag with additives. Uch. zap. Perm. gos. un. 17 no.1:83-90 '60. (MIRA 14:11)

(Vanadium)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

S/137/62/000/005/032/150
A006/A101

AUTHORS: Amirova, S. A., Pechkovskiy, V. V., Prokhorova, V. G., Polotnyanshchikova, M. I., Derendyayeva, M. P.

TITLE: Preliminary oxidizing as a means of raising the degree of vanadium extraction from converter slags

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 18, abstract 5G109 ("Sb. nauchn. tr. Permsk. politekhn. in-t", 1961, no. 10, 121 - 129)

TEXT: Studies were conducted of the optimum conditions for roasting V-charges composed of previously oxidized slag and alkaline admixtures. All experiments were made on an enlarged laboratory rotary furnace 2,500 mm long with 100 mm inner diameter. Initial material was converter slag of the following composition (in %): V_2O_5 13.5; MnO 3.8; MgO 0.95; Fe_{disp} 3.1; FeO 37.9; TiO_2 8.2; SiO_2 31.4; Cr_2O_3 9.1; CaO 1.1; Al_2O_3 2.04. KCl and commercial sylvinite containing NaCl 74.5% and KCl 22%, were employed as alkaline admixtures. The molar ratio, in composing the charge, of the alkaline admixture to

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V_2O_5 of the slag was 1 or 0.5. Oxidized slag was obtained by roasting the initial slag in an enlarged laboratory furnace for 6 hours at 850 - 880°C; it contained 11.45% V_2O_5. During its leaching out in the laboratory with H_2SO_4 of 7% concentration, 91.5% V were extracted into the solution. The prepared and thoroughly mixed charges were placed into the furnace. The duration of roasting was regulated by changing the slope angle and the rotation speed of the furnace pipe. It was found that roasting of a charge of previously oxidized slag and sylvinite permits up to 94 - 95% V extraction at 800°C during 7 hours; 91% V is extracted in the form of water soluble compounds. The addition to the charge of waste slag from the Chusovo Metallurgical Plant in a 10% amount, reduces caking and increases the degree of V extraction. There are 5 references.

G. Svodtseva

[Abstracter's note: Complete translation]

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

AMIROVA, S.A.; PECHKOVSKIY, V.V.; PROKHOROVA, V.G.; POLOTNYANSHCHIKOVA, M.I.

Study of the oxidation roasting of converter slags for the extraction of vanadium. Izv.vys.ucheb.zav.; khim.i khim.tekh. 3 no.6:1056-1061 '60. (MIRA 14:4)

1. Permskiy politekhnicheskiy institut, kafedra tekhnologii neorganicheskikh veshchestv.
(Vanadium) (Slag)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

AMIROVA, S.A.; PECHKOVSKIY, V.V.; PROKHOROVA, V.G.; POLOTNYANSHCHIKOVA, M.I.

Studying the oxidizing and chloridizing roasting of vanadium slag. Nauch.dokl.vys.shkoly; khim. i khim.tekh. no.2:398-401 '59. (MIRA 12:8)

1. Predstavlena kafedroy tekhnologii neorganicheskikh veshchestv Permskogo gosudarstvennogo universiteta im. A.M.Gor'skogo.
(Vanadium--Metallurgy) (Ore dressing)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

SOV/156-59-2-46/48

15(2)

AUTHORS: Amirova, S. A., Pechkovskiy, V. V., Prokhorova, V. G., M. I. Polotnyanshchikova

TITLE: The Examination of the Oxidizing and Chlorinating Burning of Vanadium-Slag (Izucheniye okislitel'nogo i khlorirujushchego obzhiga vanadiyevogo shlaka)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 398-401 (USSR)

ABSTRACT: The production of vanadium from converter-slag by oxilizing burning with sylvinite, potassium-, or sodiumchlorite or by treatment with dry chlorine gas is investigated. Finely crushed slag was mixed with various admixtures and burned in a laboratory furnace under a stream of air or chlorine. The portion of soluble vanadinates which had formed after the burning, was analytically determined. When treated with chlorine, the waste gas was condensated, and the content of V, Fe, and Ti was determined in the condensate. The results are shown in (Tables 1-3). The best yield of vanadium is obtained at temperatures of from 800 to 850 degrees. Higher temperatures caused overbaking and thereby reduced the yield. The use of sylvinite, potassium-, or sodiumchloride made no differences

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The Examination of the Oxidizing and Chlorinating Burning of Vanadium-Slag SOV/156-59-2-46/48

in the yield, but the reaction develops faster with the two potassiumsalts. Fine-grain crushing of the slags results in higher yields. The yield of vanadium and iron by chlorinating the slags is shown in table 4. The ironchlorides condensate much easier than the vanadium chlorides. The mixture of iron- and vanadium-chlorides could therefore be separated by distillation. The addition of carbon increases the yield of chlorides, but leads to the forming of volatile titanium-chlorides, which pass into the condensate. There are 4 tables and 9 Soviet references.

PRESENTED BY: Kafedra tekhnologii neorganicheskikh veshchestv Permskogo gosudarstvennogo universiteta im. A. M. Gor'kogo (Chair for Technology of Inorganic Materials Perm' State University imeni A. M. Gor'kiy)

SUBMITTED: December 29, 1958

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, O.Ya.

Kinetics of chemical reactions in a fluidized catalyst bed.
Khim.prom. no.11:763-766 N '61. (MIRA 15:1)
(Fluidization) (Chemical reaction, Rate of)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, O.Ya.

Kinetic method for the quantitative determination of the gap in reaction systems with different intensities of reagent mixing. Inzh.-fiz.zhur. no.7:127-131 Jl '60. (MIRA 13:7)

1. Institut organizheskikh poluproduktov i krasiteley im.K.Ye. Voroshilova, g.Moskva.
(Fluidization) (Hydrodynamics)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, V.V.; NIKOLAYEVA, L.A.

Electron microscopy of steel aging. Metalloved. i term. obr. met. no.8:13-15 Ag '64. (MIRA 17:10)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

L 44714-65 EPA(s)-2/EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) Pt-7 IJP(c)
GG/JD

ACCESSION NR: AT5008872 S/2601/64/000/020/0080/0084

AUTHOR: Polotnyuk, V.V.

TITLE: Effect of interstitial atoms on the coercive force of ferromagnetics

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 20, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 80-84

TOPIC TAGS: interstitial atom, coercive force, nickel magnetic property, ferrocarbon alloy, plastic deformation

ABSTRACT: The effect of redistribution of interstitial impurities on the coercive force in nickel of varying degrees of purity and in an Fe-C alloy was investigated. In the case of nickel, it was found that the coercive force of an annealed sample at low temperatures increases, and that of a deformed sample decreases. A discrepancy was observed between the coercive force at room temperature after deformation at this temperature and the coercive force observed after heating to room temperature a sample deformed at a low temperature. This "hysteresis" of the coercive force is interpreted. When a sample deformed at -195C is heated to 20C, its coercive force decreases markedly, this effect being more pronounced the purer the sample; this is thought to be caused by the migration

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ACCESSION NR: AT5008872

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of dislocated atoms, created by low-temperature plastic deformation, to equilibrium positions in the face-centered lattice of nickel. The dependence of the coercive force of the alloy Fe-0.01% C on the annealing temperature was also investigated. It is concluded that the change in coercive force can be recommended as a method that is sensitive to the presence and redistribution of interstitial atoms. "In conclusion, the author thanks Prof. I. Ya. Dekhtyar for suggesting the topic and for a discussion of the work." Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of the Physics of Metals, AN UkrSSR)

SUBMITTED: 16Mar64 ENCL: 00 SUB CODE: EM, SS

NO REF SOV: 004 OTHER: 001

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Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DEKHTYAR, I.Ya.; POLOTNYUK, V.V.

Change in the coercive force following the annealing of deformed nickel alloys with additives of cerium, praseodymium, and gadolinium. Ukr. fiz. zhur. 7 no.12:1324-1334 D '62. (MIRA 15:12)

1. Institut metallofiziki AN UkrSSR, Kiyev.
(Nickel alloys--Magnetic properties) (Metals, Effect of temperature on)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DEKHTYAR, I.Ya.; POLOTNYUK, V.V.

Changes in the density of dislocations during the annealing of a deformed metal. Fiz. met. i metalloved. 16 no.6:929-931 D '63. (MIRA 17:2)

1. Institut metallofiziki AN UkrSSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

ACCESSION NR: AP4044133 S/0129/64/000/008/0013/0015

AUTHOR: Polotnyuk, V. V.; Nikolayeva, L. A.

TITLE: Electron microscopic investigation of steel aging

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1964, 13-15, and insert facing p. 40

TOPIC TAGS: steel, steel aging, steel structure, electron microscopy, alloy steel, impact strength, hardness / steel 3kp

ABSTRACT: Aging phenomena in 3kp steel containing 0.18% C, 0.45% Mn, 0.028% S, 0.027% P, 0.008% Si, and 0.009% N were investigated microscopically to clarify further the relationship between the shape, size and distribution of microstructural formations and the hardness and other physical properties of steel. Steel samples retreated in various ways (normalization at 920C for 1 hr.; water-quenched from 690C for 1 hr.; water-quenched from 920C for 1 hr., tempered at 690C for 1 hr. and then water-quenched; or water-quenched from 690C for 1 hr. and aged at 250C for 1 hr.) were subjected to various combinations of aging conditions, from aging at 500C (and unspecified higher temperatures) for 1 hr. to aging at 20C for two years. The rather heterogeneous dependence of hardness and impact strength on aging temperature shown in the Enclosure was the clearest result of the study.

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

ACCESSION NR: AP4044133

From microscopic observations, the conclusion is drawn that the aging sensitivity of steel can be related to cementite distribution and carbide types; carbides of the non-equilibrium type have an inhibitory effect on aging. Orig. art. has: 1 figure, 1 table and 6 electronmicrographs.

ASSOCIATION: none

SUBMITTED: 00 ENCLOSURE: 01 SUB CODE: MM

NO REF SOV: 004 OTHER: 006

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DEKHTYAR, I.Ya.; POLOTNYUK, V.V.

Effect of changes in the density of dislocations during deformation and annealing on the magnetic characteristics of nickel. Sbor. nauch. trud. Inst. metallofiz. AN URSR no.20:67-79 '64. (MIRA 18:5)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, V.V.

Effect of interstitial atoms on the coercive strength of ferromagnetic materials. Sbor. nauch. trud. Inst. metallofiz. AN URSR no.20:80-84 '64. (MIRA 18:5)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DUBROVA, T.V.; POLOTNYUK, V.V.

Comparison of changes in the domain structure of Fe - 3% Si single crystals due to elastic and plastic deformations. Ukr. fiz. zhur. 10 no.2:219-221 F '65. (MIRA 18:4)

1. Institut metallofiziki AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, V.V.

Effect of hardening conditions on the coercive force of nickel, Sbor. nauch. rab. Inst. metallofiz. AN URSR no.18: 212-125 '64 (MIRA 17:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

S/185/62/007/012/011/021
D234/D308

AUTHORS: Dekhtyar, I.Ya. and Polotnyuk, V.V.

TITLE: The change of coercive force after annealing deformed Ni alloys with additions of cerium, praseodymium and gadolinium

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 12, 1962, 1324 - 1333

TEXT: The concentration of Ce, Pr, Gd was 0.1 to 0.4 % by weight. Specimens (0.8 mm in diameter) were annealed in Ar at 1000°C for 2 hours, then subjected to torsional deformation up to nd/1 = 0.7, and heated to 250° - 670°C at 10^{-3} mm Hg, after which the coercive force was measured. Conclusions: 1) Increase of Ce, Pr, Gd concentrations leads to a nearly linear increase of the coercive force, both after initial annealing and after deformation, with maximum variation in the case of 0.4 % admixtures (by about 15 % after deformation). 2) The rate of variation of the coercive force is not affected by admixtures up to 0.1 % but

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is considerably increased by larger admixtures. 3) X ray investigation of the alloy with 0.4 % Cd showed no recrystallization below 520°C, even on prolonged annealing. At 570°C recrystallization was observed 5 minutes after the beginning of annealing. For the low-temperature stage it is calculated that

$$\ln (1 - \Delta H_c/\Delta H_{c\ max}) = - \alpha N_d (AD \tau / kT)^{2/3} \quad (8)$$

and, for the high-temperature stage,

$$\Delta H_c/H_{c\ max} = (kT/\beta \sigma_{max}) \ln (1 + \tau/\tau_0) \quad (19)$$

Both relations are confirmed. There are 6 figures and 2 tables.

ASSOCIATION: Instytut metalofizyky AN URSR, Kyyiv (Institute of Metal Physics AS UkrSSR, Kiev)

SUBMITTED: May 23, 1962

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DEKHTYAR, I.Ya.; DUBROVA, T.V.; POLOTNYUK, V.V.

Decrease of the distance between domain boundaries following plastic deformation of a single crystal of Fe + 3% Si. Ukr. fiz. zhur. 10 no.8:922-924 Ag '65. (MIRA 18:8)

1. Institut metallofiziki AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOBROVOL'SKIY, S. V.; POLOTNYUK, V. Ya.

Reaction of simple ethers with aniline and ammonia. Report No.3: Alkylation of aniline with dimethyl ether. Org. poluprod. i kras. no.184-195 '59. (MIRA 14:11)

(Alkylation)
(Methyl ether)
(Aniline)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, V. YA.

Distr: 4E4j

27

Reaction of ethers with aniline and ammonia. I. Reaction of diphenyl ether with aniline and ammonia. S. V. Dobrovolskii and V. Ya. Polotnyuk (K. E. Voroshilov Sci. Research Inst. Org. Intermed. and Dyes, Moscow). *Zhur. Obshchei Khim.* 27, 2161-6(1957).—Reactions of Ph_2O with $PhNH_2$ and NH_3 were studied in a flow reactor at 450-600°; kinetic curves are shown. The main product of reaction with $PhNH_2$ is Ph_2NH, along with much PhOH; at 550-600° side reactions take place and yield diphenylene oxide and C_6H_6. Aluminosilicate catalyst is much more effective in this reaction than is Al_2O_3. The main reaction with NH_3 yields $PhNH_2$ along with PhOH and Ph_2NH. The equil. consts., K_p, were calcd. for the principal reactions as follows: for reaction of Ph_2O with $PhNH_2$ at 450° 222, at 500° 180, at 550° 148, at 600° 125; PhOH with $PhNH_2$ 186, 180, 190, and 209; $PhNH_2$ with $PhNH_2$ 0.24, 0.21, 0.19, and 0.17; Ph_2O with NH_3 903, 850, 812 and 740; and PhOH with NH_3 46.9, 34.7, 26.8 and 21.2. G. M. Kosolapoff

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1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, O. Ya., Candidate of Chem Sci (diss) -- "Catalytic vapor-phase interaction between the simple ethers and aniline". Moscow, 1959. 11 pp (Min Higher Educ USSR, Moscow Order of Lenin Chem-Tech Inst im D. I. Mendeleyev), 110 copies (KL, No 22, 1959, 110)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Kinetics of consecutive reactions in a recirculating-flow system [with summary in English]. Zhur.fiz.khim. 32 no.12:2792-2796 D '58. (MIRA 12:2)

1. Institut organicheskikh poluproduktov i krasiteley imeni K.Ye. Voroshilova, Moskva.
(Chemical reaction, Rate of)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Reaction of simple ethers with aniline and ammonia. Part 2: Reaction of anisole with aniline. Zhur. ob. khim. 27 no.12:3196-3201 D '57. (MIRA 11:3)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.

(Anisole) (Aniline)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

AUTHORS: Dobrovol'skiy, S. V., Polotnyuk, V. Ya. 79-12-5/43

TITLE: The Reaction of Mono-Ethers on Aniline and Ammonia (Vzaimodeystviye prostykh efirov s anilinom i ammiakom). II. The Reaction of Anisol on Aniline (II. Vzaimodeystviye anizola s anilinom).

PERIODICAL: Zhurnal Obshchey Khimii, 1957, Vol. 27, Nr 12, pp. 3196-3201 (USSR)

ABSTRACT: The reaction of the mixed mono-ethers on amines was hitherto not investigated. In the present work the results of the investigation are reported, which were collected on the occasion of the interaction of the vapors of aniline and anisol above an aluminium-silicate catalyst and activated aluminium-oxide. As far as in literature no data exist about the character of the interaction between aniline and anisol, a previous thermodynamic computation of the equilibrium constants of some reactions was carried out, in order to approach the clearing up of the reaction process. At 200-350°C above the catalysts mentioned in the anisol molecule a crack of the CH_3-O-binding takes place, which is accompanied by an alkylation process. The binding C_6H_5-O remains existing under the same conditions, so that aniline will not be arylated. The character of the alkylation process depends on the nature of the catalyst. Above

Card 1/2

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

The Reaction of Mono-Ethers on Aniline and Ammonia. II. The Reaction of Anisol on Aniline. 79-12-5/43

the activated aluminium-oxide the aniline in the amino group and the phenol in the nucleus are alkylated. Above the synthetic aluminium silicate, apart from the above-mentioned processes, the alkylation process takes place in the nucleus. The dealkylation of methyl-aniline and of dimethyl-aniline with phenol was carried out for the first time in the gaseous phase. The reaction schemes demonstrating the reaction between anisol and aniline, as well as the results of the thermodynamic computation of the reactions between two compounds are mentioned. There are 2 figures, 3 tables, and 7 references, 4 of which are Slavic.

ASSOCIATION: Scientific Research Institute for Organic Intermediate Products and Dyes (Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley).

SUBMITTED: December 8, 1956

AVAILABLE: Library of Congress

Card 2/2

1. Mono-ethers-Chemical reactions 2. Amines-Chemical reactions
2. Anisol-Chemical reactions 4. Aniline-Chemical reactions
5. Activated aluminum oxide catalyst-Applications 6. Synthetic aluminum silicate catalyst-Applications

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Kinetics of consecutive reactions in a recycling flow system. Part 2: Consecutive monomolecular multistage reactions. Zhur. fiz. khim. 35 no.5:1054-1057 My '61. (MIRA 16:7)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley imeni Voroshilova.
(Chemical reaction, Rate of)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

5(4) SOV/76-32-12-21/32

AUTHORS: Dobrovol'skiy, S. V., Polotnyuk, V. Ya.

TITLE: On the Kinetics of Reaction Series in a Recirculating Flow System (O kinetike posledovatel'nykh reaktsiy v protochno-tsirkulyatsionnoy sisteme)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 12, pp 2792 - 2796 (USSR)

ABSTRACT: This is a mathematical study of the kinetics of homogeneous and heterogeneous mono- and bimolecular reaction series. For the simplest case of a monomolecular reaction, the quantity of the forming intermediate compound is calculated as a function of the throughput rate. The quantity of the initial compound decreases steadily, that of the intermediate compound passes through a maximum, and the quantity of the final compound increases in proportion to the throughput rate. U_0/V being θ (U_0 - volume of the gas mixture entering the reaction apparatus in l/h, V- volume of the reaction space in l), the condition for the maximum of the intermediate compound is

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$$\theta_{max} = \sqrt{k_1 k_2}$$

k_1, k_2 - velocity constants of the 2 reactions from initial compound to intermediate compound and from intermediate compound to end compound). Furthermore:

$(x-y)_{max} = 1/(1+\sqrt{K})^2$ (x - quantity of the reacting initial compound in relation to its total quantity, y - quantity of the end compound formed in relation to the total quantity of the initial compound, $K = k_2/k_1$). Similarly, heterogeneous reaction series (taking place on the surface of catalysts) and bimolecular reaction series are studied. Here, analogous formulae are found. In a simple flow system the intermediate compound content is always higher than in a circulation system. There are 22 references, 9 of which are Soviet.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

On the Kinetics of Reaction Series in a Recirculating Flow System SOV/76-32-12-21/32

ASSOCIATION: Institut organicheskikh poluproduktov i krasiteley im. K. Ye. Voroshilova, Moskva (Institute of Organic Intermediate Products and Dyes imeni K. Ye. Voroshilov, Moscow)

SUBMITTED: June 6, 1957

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

SOV/79-29-2-41/71

AUTHORS: Dobrovol'skiy, S. V., Polotnyuk, V. Ya.

TITLE: Reaction of Ether With Aniline and Ammonia (Vzaimodeystviye prostykh efirov s anilinom i ammiakom). III. Alkylation of Aniline With Dimethylether (III. Alkilirovaniye anilina dimetilovym efirom)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 545-551 (USSR)

ABSTRACT: The catalytic alkylation of aniline with ethers in the vapor phase is of considerable practical interest (Ref 1). Dimethylaniline was manufactured from aniline and dimethyl ether in the presence of active aluminum oxide (Ref 2). In the reports on the alkylation of aromatic amines with ethers primarily problems of applied chemistry were treated: for example the choice of the catalyst, selection of the most favorable conditions, etc (Refs 3-8). Yet investigations, which deal with the kinetics and mechanism of these reactions are missing. For this reason special attention was paid to the kinetics of the alkylation of aniline with dimethylether. This reaction proceeds very smoothly in the presence of active aluminum oxide between 235 and 300° without any by-processes (Refs 7-9). The preceding thermodynamic calculation of the reactions

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

SOV/79-29-2-41/71

Reaction of Ether With Aniline and Ammonia. III. Alkylation of Aniline With Dimethylether

$$C_6H_5NH_2 + (CH_3)_2O \rightleftharpoons C_6H_5NHCH_3 + CH_3OH \quad (I)$$

$$C_6H_5NHCH_3 + (CH_3)_2O \rightleftharpoons C_6H_5N(CH_3)_2 + CH_3OH \quad (II)$$

indicated a favorable course of the process as far as the formation of aliphatic-aromatic amines is concerned (Table 1). The thermodynamic calculation was conducted according to the method described earlier (Ref 18) by use of the most certain thermodynamic constants (Refs 10-13). In table 1 the equilibrium constants K_p and the yields are mentioned; the latter were calculated with respect to the equimolecular mixtures. Consequently it was shown that the above-mentioned methylation of aniline by means of consecutive substitution of the hydrogen atom at nitrogen passes through the alkyl groups. An empirical equation was established for the calculation of the reaction constant. There are 6 figures, 3 tables, and 19 references, 9 of which are Soviet.

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

SOV/79-29-2-41/71

Reaction of Ether With Aniline and Ammonia. III. Alkylation of Aniline With Dimethylether

ASSOCIATION: Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley (Scientific Research Institute of Organic Semi-products and Dyes)

SUBMITTED: July 3, 1957

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTNYUK, V.YA.

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Reaction of ethers with aniline and ammonia. Part 1: Reaction of diphenyl ether with aniline and ammonia. Zhur. ob. khim. 27 no.8:2161-2166 Ag '57. (MLRA 10:9)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley im. K.Ye. Voroshilova.
(Phenyl ether) (Aniline) (Ammonia)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Reaction of simple ethers with aniline and ammonia. Report No. 1: Reaction of diphenyl ether with aniline and ammonia. Org. poluprod. i kras. no.1:168-176 '59. (MIRA 14:11)
(Phenyl ether) (Aniline) (Ammonia)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOBROVOL'SKIY, S.V.; POLOTNYUK, V.Ya.

Reaction of simple ethers with aniline and ammonia. Report No.2: Reaction of anisole with aniline. Org. poluprod. i kras. no.1:177-183 '59. (MIRA 14:11)
(Anisole)
(Aniline)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

KOZAK, M.N., inzh.; POLOTSKAYA, G.N., inzh.; ROSLYAKOV, P.S.; PERFILOV, I.F., inzh., red.; KASITSYNA, K.N., inzh.,red.

[Nondestructive test of concrete in structural elements; work practice of the Likhobory Combine of the Production Enterprises of the Construction and Assembly Trust of the Council of National Economy of the Moscow City Economic Region and the Magnitostroy Trust] Sposoby opredeleniia prochnosti betona v konstruktsiiakh bez ikh razrusheniia; opyt Likhoborskogo kombinata proizvodstvennykh predpriiatii tresta "Mosgorsovnarkhozstroi" i tresta "Magnitostroi." Moskva, Gosstroiizdat, 1962. 21 p. (MIRA 17:10)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Likhoborskiy kombinat proizvodstvennykh predpriyatiy Stroitel'no-montazhnogo tresta Soveta narodnogo khozyaystva Moskovskogo gorodskogo ekonomicheskogo rayona (for Kozak, Polotskaya). 3. TSentral'naya laboratoriya tresta "Magnitostroy" (for Roslyakov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

YURENEV, P.N.; ALEKSEYEVA, T.A.; POLOTSKAYA, Ye.L.

Allergic reactivity in myocardial infarct. Kardiologiia no.1:9-14 '64. (MIRA 17:10)

1. Gospital'naya terapevticheskaya klinika pediatricheskogo fakul'teta (zav. kafedroy - prof. P.N. Yurenev) II Moskovskogo meditsinskogo instituta imeni Pirogova i allergologicheskaya laboratoriya (zav.- chlen-korrespondent AMN SSSR prof. A.D. Ado) AMN SSSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKAYA, Ye.L., kand. med. nauk; LEVINA, S.I.

Isolated allergic myocarditis. Sov. med. 27 no.1:50-54 Ja '64. (MIRA 17:12)

1. Kafedra gospital'noy terapii (zav.- doktor med. nauk P.N. Yurenev) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i Gorodskoy klinicheskoy bol'nitsy No.64 (glavnyy vrach G.V. Rodygina).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKAYA, Ye.L., kand.med.nauk; ZHURAVLEVA, M.V.

Concerning the correlation of the Schoenlein-Henoch disease with rheumatic fever. Vop.revm. 3 no.1:79-82 Ja-Mr '63. (MIRA 16:4)

1. Iz terapevticheskogo otdeleniya (zav. - doktor med.nauk T.I.Meyerzon) Moskovskoy gorodskoy bol'nitsy No.22 (glavnyy vrach M.Ye.Glinka) i patologoanatomicheskogo otdeleniya (zav. - kand.med.nauk N.N.Pokrovskaya) gorodskoy klinicheskoy bol'nitsy No.5 (glavnyy vrach L.I.Erman), Moskva.
(COLLAGEN DISEASES)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

MORDYUK, N.S.; POLOTSKIY, I.G.

Mechanism underlying the attenuation of elastic oscillations during phase transformations in Cu--Be and Cu--In alloys. Akust. zhur. 10 no.3:374-377 '64. (MIRA 17:11)

1. Institut metallofiziki AN UkrSSR, Kiyev.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

ORNATSKAYA, V.A., dotsent, kand. tekhn. nauk; POLOTSKIY, I.Ch.

Evaluating the performance of the worm-type warp regulator in the automatic control of looms. Tekst. prom. 24 no.11: 24-28 N '64. (MIRA 17:12)

1. Kafedra proyektirovaniya mashin i avtomatov Vsesoyuznogo zaochnogo instituta tekstil'noy i legkoy promyshlennosti (VZITLP) (for Ornatskaya). 2. Starshiy inzh.-konstruktor TSentral'nogo nauchno-issledovatel'skogo instituta sherstyanoy promyshlennosti (TsNIISHerstI) (for Polotskiy).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, G.M., inzh.

Disinfection and sterilization by means of irradiation with gamma rays. Tekst.prom. 24 no.1:89-91 Ja '64. (MIRA 17:3)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, G.M., inzh.

Wool scouring with the extraction method. Tekst. prom. 24 no.8:83 Ag '64. (MIRA 17:10)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, G.M., inzh.

New method for wool scouring. Tekst. prom. 23 no.9:90 S '63. (MIRA 16:10)

(Wool—Cleaning)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

GURETSKIY, A.A.; POLOTOVSKIY, G.M.

Using high-frequency currents in heating dirty wool. Tekst. prom. 18 no. 7:58-60 Jl '58. (MIRA 11:7)
(Woolen and worsted manufacture)
(Electric heating)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, I.G.; MORDYUK, N.S.

Damping of elastic vibrations in Cu-Be and Cu-In alloys during phase transformations. Sbor. nauch. rab. Inst.metallofiz. AN URSR no.18:163-169 '64 (MIRA 17:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

L 6882-65 EWT(m)/EWP(q)/EWP(b) ASD(m)-3/AFWL/SSD/RAEM(t) JD/JG
ACCESSION NR: AP4044623 S/0046/64/010/003/0374/0377

52
51

AUTHORS: Nordyuk, N. S.; Polotskiy, I. G.

TITLE: On the mechanism of damping of elastic oscillations during phase transformations in Cu-Be and Cu-In alloys

SOURCE: Akusticheskiy zhurnal, v. 10, no. 3, 1964, 374-377

TOPIC TAGS: elastic oscillation, oscillation damping, annealing, phase transformation, internal friction, solid solution

ABSTRACT: The copper alloys tested contained 1.8% beryllium or 15% indium by weight. The effect of the annealing temperature and the soaking time on the damping of the elastic oscillations during phase transformations in the indicated alloys was investigated and the results compared with the theory. The damping was measured by recording the freely-damped longitudinal and transverse vibrations during isothermal annealing, using a previously described installation

Card 1/3

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L 6882-65
ACCESSION NR: AP4044623

(N. S. Mordyuk, "Voprosy fiziki metallov i metallovedeniye" 1962, No. 16, 190--193, AN UkrSSR), in which measurements could be made over a wide range of temperatures and in the frequency range from 0.5 to 75 kcs. Plots of the damping decrement are presented. Metallographic tests have shown that isothermal annealing of the alloy at 300° leads to structural changes characteristic of heterogeneous decay. The peaks on the damping curves are due to decay of the supersaturated solid solution of the beryllium in copper, accompanied by separation of the γ phase. The decay of the supersaturated solid solution is also accompanied by an increase in the Young modulus. It is concluded that the peaks of internal friction observed are due to phase transformations and not to thermal conductivity or other factors. The results are in good agreement with the theory proposed by M. A. Krivoglaz (Fizika metallov i metallovedeniye, 1960, v. 10, 4, 497--512). Orig. art. has: 4 figures and 3 formulas.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of Metal

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

ACCESSION NR: AP4044623

Physics, AN UkrSSR, Kiev)

SUBMITTED: 24Apr63

ENCL: 00

SUB CODE: MM, NR REF SOV: 005 OTHER: 005

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, I.G.; LEVIN, G.I.

Effect of ultrasound on structure formation in primary crystallization.
Kristallografiia 7 no.4:645-647 Jl-Ag '62. (MIRA 15:11)

1. Institut metallofiziki AN UkrSSR.
(Ultrasonic waves--Industrial applications)
(Crystallization)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, L.M., kand. tekhn. nauk; TARKHOV, N.A., inzh.

Vibrational mill for electrode manufacture. Svar. proizv. 12:17-20 D '63. (MIRA 18:9)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

MORGULIS, M.L., kand. tekhn.nauk, nauchnyy sotr.; POLOTSKIY, L.M., kand. tekhn.nauk, nauchnyy sotr.; DOBSHITS, M.L., inzh., red.

[Devices for determining the resistance of hard materials to grinding; from materials of the All-Union Research Institute of New Building Materials of the Academy of Construction and Architecture of the U.S.S.R.]Pribory dlia opredeleniia soprotivliaemosti tverdykh materialov izmel'cheniiu; po materialam VNIINSM ASiA SSSR. Moskva, Gosstroiizdat, 1962. 19 p. (MIRA 15:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Morgulis, Polotskiy).
(Building materials--Testing)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

PROCESSES AND PROPERTIES INDEX

S4

3960. Electromagnetic Measurement of Internal Friction. L. **Pelotowsky.** *Phys. Zeits. d. Sowjetunion*, 3, 6, *pp.* 555-560, 1933. *In German.*—Torsional oscillations are set up in a bar of metal by means of a valve oscillator. The eddy currents generated in the bar by the field from a coil connected to the oscillator react with a static magnetic field to produce the necessary impulses. The motion of the other end of the bar is made to operate a similar electromagnetic device, which records the torsional oscillations; and from the logarithmic decrement of these oscillations the coefficient of internal friction η is calculated. For Al, Cu, and steel, η passes through a minimum value as the amplitude decreases. For amplitudes ϕ above this value η is a quadratic function of ϕ. By employing the third overtone of the bar evidence is obtained showing that the internal friction does not depend upon the frequency. T. D. A.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

Methods of determination of the limits of metal fatigue and energy loss in samples with fluctuations in the dynamic regime. L. Pokrovskii. *Zavodskaya Lab.* 3, 332-7(1934).—A discussion with about 50 references.
Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, L. S.

42277: POLOTOVSKIY, L. S. - Rabota generatora toka v perekhodnykh rezhimakh.- V sb: D. S. Polotovskiy. Trudy Leningr. voen.-vozdush. inzh. akad., VYP. 20, 1948, s. 65-76.

SO: Letopis' Zhurnal'nykh Statey, Vol. 47, 1948

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, L. S. and MEYERSON, I. G.

"Electrical Engineering" (Elektrotekhnika), Military Publishing House, 1949, 240 pp.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

KALANTAROV, P.L.; NEYMAN, L.R. [authors]; KAPLYANSKIY, A.Ye., doktor tekhnicheskikh nauk, professor; POLOTOVSKIY, L.S., kandidat tekhnicheskikh nauk, dotsent [reviewers].

Discussing a textbook in theoretical electric engineering for schools of higher education: "Theoretical bases of electric engineering." P.L.Kalantarov, L.R. Neiman. Reviewed by A.E.Kaplianskii, L.S.Polotovskii. Elektrichestvo no.10: 78-80 O '53. (MLRA 6:10)

(Electric engineering) (Kalantarov, P.L.) (Neiman, L.R.)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, L. S.

21 621.3.014.31 : 621.316.3

2538. EXTINCTION OF A D.C. ARC IN A ROTATING MAGNETIC FIELD/A.E.Kaplyanskii, L.S.Polotovskii, N.F.Sokolov and P.I.Petrov.

Elektrichestvo, 1956, No. 12, 29-32. In Russian.

An experimental investigation showed that the extinction of the arc by a rotating magnetic field of commercial frequency is in many cases more efficient, in others not less efficient, than arc-quenching by means of a constant or pulsating field. The supply of arc-quenching devices with 3-phase current does not offer difficulties, since in practice the direct-current concerned will almost exclusively be rectified 3-phase current. In some cases the use of a rotating field will reduce the dimensions of the arc-quenching device, this rendering the method suitable for use in d.c. switchgear, electronic converters and contact rectifiers. The latter use was tried out on a model of a mechanical 3-phase rectifier the contacts of which were placed in a rotating magnetic field. Without application of the field strong sparking at the contacts occurred at currents of only 0.5 A and 30 V. With the field applied, visible sparking did not occur up to the limiting current loading of 150 A of the model. The flux density of the rotating field must be 360-500 Gauss.

B.F.Kraus

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, Lev Solomonovich; SHCHEDRIN, N.N., prof., retsenzent; KAPLYANSKIY, A.Ye., prof., red.; ZHITNIKOVA, O.S., tekhn.red.

[High-voltage d.c. capacitance machinery] Emkostnye mashiny postoiannogo toka vysokogo napriazheniia. Moskva, Gos.energ. izd-vo, 1960. 146 p. (MIRA 14:3)
(Electric machinery--Direct current)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

PHASE I BOOK EXPLOITATION SOV/5393

Polotovskiy, Lev Solomonovich

Yemkostnyye mashiny postoyannogo toka vysokogo napryazheniya (High-Voltage Direct-Current Capacitive Machines) Moscow, Gosenergoizdat, 1960. 153 p. 8,000 copies printed.

Ed.: A. Ye. Kaplyanskiy; Tech. Ed.: O. S. Zhitnikova.

PURPOSE: This book is intended for engineers engaged in the field of high and super-high voltages. It may also be used by personnel concerned with designing various types of electrophysical equipment.

COVERAGE: The book discusses the general theory of electrostatic direct-current machines (generators and motors) and studies the possibility of developing electrostatic machines of high specific power. The fields of application of such machines are noted. The author considers the existing term "electrostatic machine"

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

KALGANOV, A.F., aspirant; POLOTOVSKIY, L.S., kand.tekhn.nauk, dotsent

New operating principle of a capacitative d.c. generator. Izv. vys. ucheb. zav.; elektromekh. 3 no.4:129-133 '60. (MIRA 13:9)

1. Tomskiy politekhnicheskiy institut (for Kalganov). 2. Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inshenernaya akademiya.
(Electric generators)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, Lev Solomonovich, kand.tekhn.nauk, dotsent

Power limit of electric machines. Izv. vys. ucheb. zav.; elektromekh. 3 no.12:50-57 '60. (MIRA 14:5)

1. Leningradskaya Krasnoznamennaya voyenno-vozdushnaya inzhenernaya akademiya.

(Electric machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, Lev Solomonovich, kand. tekhn. nauk, dotsent

Proper equations and classification of capacitive machines.
Izv. vys. ucheb. zav.; elektromekh. 8 no.1:110-112 '65.
(MIRA 18:3)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

KOPLYANSKIY, A.Ye., doktor tekhn.nauk, prof. (Leningrad); LYSENKO, A.P., doktor tekhn.nauk, dotsent (Leningrad); POLOTOVSKIY, L.S., kand. tekhn.nauk, dotsent (Leningrad)

Tasks, structure, and method for presenting a course in "Theoretical principles of electrical engineering." Elektrichestvo no.10: 81-82 O '63. (MIRA 16:11)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTOVSKIY, Lev Solomonovich, kand.tekhn.nauk

Comparison of bipolar and unipolar capacitive machines. Izv. vys. ucheb. zav.; elektromekh. 6 no.6:778-780 '63. (MIRA 16:9)
(Electric machinery--Direct current)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

VINOGRADOV, V.S., inzh.; AL'TSHULER, M.A., kand. tekhn. nauk; POLYAKOV, V.G., inzh.; KUROCHKIN, A.N., inzh.; KARMAZIN, V.I., doktor tekhn. nauk; ZAIKIN, S.A., inzh.; OSTROVSKIY, G.P., inzh.[deceased]; NAUMENKO, P.I., inzh.; BOBRUSHKIN, L.G., inzh.; RUSTAMOV, I.I., inzh.; SHIFRIN, I.I., inzh.; GOLOVANOV, G.A., inzh.; KRASOVSKIY, L.A., inzh.; TSIMBALENKO, L.N., inzh.; RAVIKOVICH, I.M., inzh.; BAZILEVICH, S.V., kand. tekhn.nauk; ZORIN, I.P., inzh.; ZUBAREV, S.N., inzh.; TIKHOVIDOV, A.F., inzh.; SHITOV, I.S., inzh.; GAMAYUROV, A.I., inzh.; KUSEMBAYEV, Kh.N., inzh.; DEKHTYAREV, S.I., inzh.; VORONOV, I.S., inzh.; BURMIN, G.M., inzh.; BARYSHEV, V.M., inzh.; GOLOVIN, Yu.P., inzh.; MARCHENKO, K.F., inzh.; RYCHKOV, L.F., inzh.; NESTERENKO, A.M., inzh.; KABANOV, V.F., inzh.; PATRIKEYEV, N.N., inzh.[deceased]; ROSSMIT, A.F., inzh.; SOSEDOV, O.O., inzh.; POKROVSKIY, M.A., inzh., retsenzent: POLOTSK, S.M., red.; GOL'DIN, Ya.A., glav. red.; GOLUBYATNIKOVA, G.S., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Iron mining and ore dressing industry]Zhelezorudnaia promyshlennost'. Moskva, Gosgortekhizdat, 1962. 439 p. (MIRA 15:12)

1. Moscow. TSentral'nyy institut informatsii chernoy metallurgii. (Iron mines and mining) (Ore dressing)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

ARUTYUNOV, N.B.; LEONIDOV, N.K.; GOL'DIN, Ya.A., glav. red.; POLOTSK, S.M., red.; MIKHAYLOVA, V.V., tekhn. red.

[Technological progress in ferrous metallurgy; blast furnace practice] Tekhnicheskii progress v chernoi metallurgii SSSR; domennoe proizvodstvo. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1961. 480 p. (MIRA 14:8)

1. Direktor TSentral'nogo instituta informatsii chernoy metallurgii (for Arutyunov). 2. TSentral'nyy institut informatsii chernoy metallurgii i Gosudarstvennyy institut po proyektirovaniyu metallurgicheskikh zavodov (for Leonidov)

(Blast furnaces)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

SICHENKO, V.K.; IVANOV, B.V.; POLYAKOV, I.I.; REZNIKOV, A.A.; DORFMAN, G.A.; IZRAELIT, E.M.; NOTYCH, A.G.; TOPYGIN, L.A.: CHALYY, G.Ya.; STETSENKO, Ye.Ya.; UDOVICHENKO, L.V.; FILIPPOV, B.S., nauchn. red.; LERNER, R.Z., nauchn. red.; GOL'DIN, Ya.A., glav. red.; KULESHOV, M.M., red.; POLOTSK, S.M., red.

[By-product coke industry] Koksokhimicheskoe proizvodstvo. Moskva, Metallurgiia, 1965. 167 p. (MIRA 18:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut informatsii i tekhniko-ekonomicheskikh issledovaniy chernoy metallurgii. 2. Direktor TSentral'nogo nauchno-issledovatel'skogo instituta informatsii i tekhniko-ekonomicheskikh issledovaniy chernoy metallurgii (for Kuleshov).

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKAYA, Ye.L., kand.med.nauk

Clinical role of the axonometric method in electrocardiography in hypertension. Terap. arkh. 29 no.5:89-93 My '57. (MIRA 11:4)

1. Iz kafedry fakul'tetskoy terapii (zav.-prof. E.M.Gel'shteyn) II Moskovskogo meditsinskogo instituta imeni I.V.Stalina.

(ELECTROCARDIOGRAPHY in var. dis.
hypertension, axonometric method (Rus)
(HYPERTENSION, physiology,
ECG, axonometric method (Rus)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

DOLGOPLOSK, N.A., kand.med.nauk, POLOTSKAYA, Ye.L., kand.med.nauk

The problem of rupture of the ventricular septum after myocardial ifarct. Klin.med. 36 no.8:74-78 Ag '58 (MIRA 11:9)

1. Iz 2-y terapevticheskoy kliniki (dir. - prof. B.Ye. Votchal) TSentral'nogo instituta usovershenstvovaniya vrachey.
(MYOCARDIAL INFARCT, compl.
rupt. of ventric. septum (Rus))
(CARDIAC SETPUM, rupt.
ventric., after myocardial infarct (Rus))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POICTSHAIA, Ye. L.

"Clinical Importance of the Method of Axiometric Interpretation of an Electrocardiogram in Hypertension." Cand Med Sci, Moscow Medical Inst imeni I. P. Pavlov, Moscow, 1955. (KL, No 11, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, A.; KOBRIN, S.

Prospective development of the mixed feed industry in Kazakhstan. Muk.-elev. prom. 24 no.7:18 Jl '58. (MIRA 11:10)

1. Glavnoye upravleniye mukomol'noy, krupyanoy i kombikormovoy promyshlennosti Ministerstva khleboproduktov Kazakhskoy SSR.
(Kazakhstan--Feed mills)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, A.M.

Pneumatic classification of finely pulverized materials.
Khim.nauka i prom. 1 no.2:199-205 '56. (MLRA 9:9)

(Sorting devices) (Powders (Technology))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, A. M.

Air classification of finely ground materials. A. M. POLOTSKII. *Khim. Nauka i Prom.*, 1 [2] 199-205 (1956).—P. describes a number of air classifiers, including a straight-through air classifier and one involving a reversal of air flow through 180° with separation of large from small particles. Another classifier utilizes the spin of air brought in on a tangent to a spiral and drawn out axially, as in a cyclone separator, with additional use of gravitation acting against a countercurrent of air. A separator with a spinning disk feed and another with spinning turbine wheels to induce a swirl are shown. The conventional cyclone-type separator is also described. A theory is presented which neglects the accumulation of vorticity due to high velocity gradients near the axis of the rotating air flow. Performance curves are shown as modified by the introduction of air in addition to that carrying the charge of material to be analyzed. 13 figures, 5 references. D.T.W.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, A.M.

USSR/Processes and Equipment for Chemical Industries. K-1
Processes and Apparatus for Chemical Technology.

Abs Jour : Ref Zhur - Khimiya, No 2, 1957, 6914

Author : Polotskiy, A.M.
Inst :
Title : Pneumatic Classification of Finely Ground Materials.

Orig Pub : Khim. nauka i prom-st', 1956, 1, No 2, 199-205

Abstract : The principle of operation of pneumatic classification devices is considered as well as the concept of classification curve, limit of fraction separation and efficiency. An analysis is presented of the conditions of an effective pneumatic classification: 1) uniformity of velocity filed of air flow; 2) functional dependence of the acting opposite forces on particle diameter; 3) dynamic equilibrium throuhgout the volume of the classifier for particles of a definite size and removal of particles of other dimensions in different directions;

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

Polotskiy, A. N.

USSR/ Mathematics - Integral equations

Card 1/1 Pub. 22 - 5/63

Authors : Povolotskiy, A.N.

Title : "Non-local" theorems of the existance of solutions for a system of non-linear integral equations

Periodical : Dok. AN SSSR 99/6, 901-904, Dec 21, 1954

Abstract : A series of theorems is presented proving that a system of non-linear integral equations of the type

$$\varphi_i(x) = \lambda \int K_i(x, y) f_i[y, \varphi_1(y) \ldots \varphi_n(y)] dy$$

where $i = (1, \ldots n)$, may have non-localized(with respect to the λ) solutions. The proof was obtained by the method of variations taking into account Krasnosel'skiy's principle on an unmovable point. Eight references; 7-USSR (1918-1953).

Institution: .....

Presented by: Academician P.S. Alexandroff, September 2, 1954

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

PROCESSES AND PROPERTIES INDEX

Luminescence of water under the influence of ultrasonic waves. I. G. Polotskii. *J. Gen. Chem.* (U. S. S. R.) 8, 1091-5(in French, 1095)(1938).--Luminescence of H_2O satd. with various gases, such as air, O_2, N_2, H_2, CO_2 or of degassed H_2O and cond. H_2O, was studied photographically. No luminescence appeared when the H_2O was degassed, or when satd. with H_2 or CO_2, or with air under 10 mm. or 1140 mm. About 50% of the luminescence lies in the ultraviolet region of the spectrum. Small amts. of H_2O_2, HNO_2 and HNO_3 were found in H_2O satd. with air and exposed to ultrasonic waves.

S. L. Madorsky

A56-5LA METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

2

Dispersion by means of ultrasonic waves. S. S. Urazovskii and L. G. Polotskii. *Colloid J.* (U. S. S. R.) 6, 779-85(1940).—Stable hydrosols of camphor and iodine (in water) were obtained by dispersion by means of ultrasonic waves (resonance frequency of 800 kilohertz). An optimal time of the exposure was observed for each given energy above which further exposure caused coagulation of the sol. The effect of dispersion was considerably lowered in gas-free water. Hydrosols of Ag and Cu were also prepd. by dispersion during the electrolysis of their dild. aq. soln., but hydrosols were very unstable in the presence of electrolyte.

A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001341820017-4

POLOTSKIY, I. G.; URAZOVSKIY, S. S.

"Ultrasound and the Effects Produced by It"

Usp Khimii, 1940, 8, 885

M-28, 14 Dec 54

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

2

Ca

Chemical action of ultrasonic waves. S. S. Urazovskii and I. G. Pobotskii. *J. Gen. Chem.* (U. S. S. R.) 10, 812-18(1940).—The kinetics of decompn. of Cl_3CCO_2H (0.1 and 0.04 *N*) in aniline and nonpolar gasoline were investigated in the presence and absence of ultrasonic waves at 50 ± 0.2° for 30, 60, 90, 120 and 150 min. The ultrasonic waves were obtained from a piezoquartz oscillator, the diam. of the quartz disk was 50 mm. and the thickness 4.00 mm. (which corresponds to a resonance frequency of 500 kilohertz). The quartz disk was suspended in transformer oil the temp. of which was maintained const. (50.0 ± 0.2°). The kinetics of isomerization of NH_4CNS melting at 170° were similarly investigated. In all of these cases no effect of ultrasonic waves was observed. Conclusion: The chem. action of ultrasonic waves observed by other workers is really a secondary effect of the substances produced in water in the presence of dissolved air (H_2O_2, HNO_2 or HNO_3) by the action of ultrasonic waves upon water. Ten references. A. A. Podgorny

Lab. Phys. Chem., Ukr. Inst. Experimental Med., Khar'kov

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

Ca

2

Chemical action of ultrasound. S. S. Urasov'skii and I. G. Polotskii. *Acta Physicochim. U. R. S. S.* 13, 443-53 (1940) (in English); cf. *C. A.* 35, 1208[4].—By use of ultrasound of the frequency 500 kilohertzes, it was found that in H_2O, the H_2O_2 and HNO_3 contents increase with time, but their rate of formation decreases with increasing temp. from 10 to 50°, the concn. of HNO_3 attains a max. and then again decreases slowly to zero. When air is bubbled through, more H_2O_2 and HNO_3 are formed. Formation of NH_3 could not be observed. The chemiluminescence of water produced by ultrasound waves is a max. and the same max. when the water is satd. with O_2, N_2 or air at atm. pressure. Satn. at less than 20 or more than 1200 mm., or with H_2 or CO_2 produces no luminescence. KI solns. freed of O_2 do not liberate I_2; the rates of trichloroacetic acid decompn. in aniline or benzine, and the rate of polymerization of molten NH_4CNS show no change in the ultrasound field; the opposite results previously obtained in aq. solns. are ascribed to secondary effects produced by the H_2O_2, HNO_3 and HNO_2 primarily formed.

F. H. Rathmann

3

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CA

17

Dispersion by cavitation and its practical applications. I. G. Polotskii (Kiev Med. Inst.). *Farmatsiya* 9, No. 1, 18-22(1946).—Cavitation with superheated steam permits emulsification or dispersion in 40-60 sec., and yields such systems as 10% of camphor oil, castor oil, peachseed oil, or paraffin in water; 60 and 74.2% benzene in water; 2% lecithin, 5% cresol, 0.7% or 0.8% sulfidine in water, etc. Many emulsions are formed without the aid of any emulsifying agent. The method is simple, requiring no expensive or scarce equipment, and is fully as effective as ultrasonic vibration. It is useful for prepg. drug dispersions, disinfectants, and pesticidal sprays. J. F. S

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4

The mechanism of the depolarizing action of supersonic waves. L. G. Polotskii and L. S. Filippov. *J. Gen. Chem.* (U.S.S.R.) **17**, 193-8(1947)(in Russian). Electrode potentials of Pt in the electrolytic evolution of Cl_2, O_2, and H_2, from 1.25 *N* HCl (or 1.0 *N* NaCl), 0.4 *N* Na_2SO_4, and 1.0 *N* H_2SO_4, resp., were measured in a glass cell with a rubber bottom transmitting ultrasonic waves to the electrolyte and electrode; the calorimetrically det'd. intensity of the waves corresponded to an absorption of 30.3 w. per 25 ml. of electrolyte soln. At this intensity, anodic Cl_2 evolution in 1.25 *N* HCl at 20° and 50°, was depolarized by 850 and 580 mv.; in 1.0 *N* NaCl, by 540 and 480 mv., at a c.d. of 2.5 milliamp./sq. cm.; anodic O_2 at 20° and 50°, was depolarized by 80 and 60 mv. at c.d. 2.5; and by 90 and 90 mv. at c.d. 1.25; cathodic H_2 at 20° and 50°, by 420 and 200 at c.d. 1.25, by 580 and 200 at c.d. 2.5, reproducibility ± 6%. The effect is explained by the cavitating action of supersonication; this was confirmed by the depolarizations observed in the same solns. when cavitation was brought about by superheated steam. The depolarizations in this case were somewhat less than in the supersonic field, e.g. for Cl_2 in HCl at 20° and 50°, 530 and 330 mv. at c.d. 2.5, for H_2 in H_2SO_4, at 20°, 310 and 270 at c.d. 1.25 and 2.5. The nature of the effect is nevertheless considered to be the same in both cases. N. Thon

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Formation of nitrite, nitrate, and hydrogen peroxide in water exposed to a supersonic field I. G. Polotskii. *J. Gen. Chem.* (U.S.S.R.) 17, 649-54(1947)(In Russian). Samples of 50 ml. of twice-distd. H_2O at 10, 20, and 50° (kept const. within 1° by water cooling) were exposed to a supersonic field. At 20°, the amt. of H_2O_2 formed after 1, 2, 3, 4, and 5 hrs. was 0.355, 0.500, 0.945, 1.180, and 1.850 mg.; there were no marked differences at 10 and 50°. A stream of air passed through the water at rates of 0.2, 0.5, and 1.0 l./min. caused only a slight increase in the final amt. of H_2O_2; e.g., at 20°, 0.5 l./min., 1, 2, 3, 4, and 5 hrs., 0.945, 1.000, 1.415, 1.555, and 1.925 mg. The amts. of NO_3^- at 20° after 1, 2, 3, and 5 hrs. were 0.005, 0.005, 0.0, and 0.0 mg.; at 50°, 0.057, 0.030, 0.013, and 0.0 mg.; NO_3^- disappears altogether after 2-3 hrs.; an air stream raises the amt. only during the 1st 1-2 hrs. The amt. of NO_2^- increases with the length of exposure; e.g., at 20°, 1, 2, 3, 4, and 5 hrs., 0.305, 0.855, 1.080, 1.080, and 2.700 mg. NO_2^-; at 10°, 0.380, 0.935, 1.785, 2.425, and 3.250 mg.; at 50°, 0.110, 0.420, 0.520, 0.700, and 0.800 mg.; i.e., the amt. of NO_2^- decreases markedly with rising temp. With an air stream of 0.5 l./min., at 20°, the amts. were 1.000, 1.515, 2.805, 4.375, and 5.250, a substantial increase. The progress of the reactions with time cannot be expressed by any kinetic equation; the rate of formation of H_2O_2 is independent of time. The reactions are obviously heterogeneous, the air bubbles acting as a const. source of O and N going into soln.

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Chemical action of cavitations. I. G. Polotskii. *J. Gen. Chem.* (U.S.S.R.) 17, 1048-54(1947)(in Russian).—In supersonoration of 50 ml. H_2O with 25.9 w. absorbed under pressures p ranging from 20 to 4180 mm. Hg, up to 5 hrs., H_2O_2, NO_3^-, and NO_2^- were formed only above $p = 100$, the amts. increasing with p up to a max. at about $p = 1820$ mm., falling with further rise of p, and becoming zero at about 4180 mm.; e.g., 2 hrs. and 5 hrs., $p = 380$, 1820, 3000 mm., H_2O_2 formed 0.885, 0.870, 0.260 and 1.265, 1.880, 0.795 mg./50 ml.; NO_3^- formed 0.670, 1.050, 0.390 and 2.295, 3.075, 1.360. Although the amts. of H_2O_2 and NO_3^- increase with time at any p, NO_3^- is max. during the 1st hr. and falls off to zero after 3 hrs. The pressure dependence of the effect indicates that the action of the supersonic wave does not consist in direct activation of the O_2 and N_2 dissolved in H_2O but must be due to cavitations. This could be confirmed by the effect of nonsupersonic cavitations artificially produced by introduction of superheated steam; the collapsing cavities developing local pressures of the order of 10^8 atm. and local temp. up to 2700° produce chem. effects analogous to those of a supersonic field. Expts. were made at 20° and 50° with steam of 150° and 250° flowing from a capillary of 0.5 mm. diam., in exposures from 10 to 60 min.; at 20°, steam 250°, after 20 and 60 min., the amt. of H_2O_2 formed was 0.255 and 0.635 mg./50 ml., the amt. of NO_3^- 0.195 and 0.620; at 50°, the amts. are 2-2.5 times less; evidently, the intensity of breakdown of the cavities and the resulting impact decrease with rising temp. of the surrounding liquid. The amts. of H_2O_2 and NO_3^- increase with the temp. of the steam, e.g., H_2O at 20°, steam 150° and 250°, amt. of H_2O_2 after 60 min. 0.585 and 0.635, amt. of NO_3^- 0.405 and 0.620. The amt. of NO_3^- reaches its peak in about 20 min. and then falls off.

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