BESKOROVAYNYY, B., inzh. (Kiyev); GORBENKO, V., inzh. (Kiyev)

Simple logarithmic voltmeter. Radio no.6:52-53 Je '65.

(MIRA 18:10)

BESKOROVAYNYY, P. M.

~~BESKOROVAYNYY, P. M.~~, VOLF, V. M., GORBENKO, V. S., MARKOVSKIY, M. I., SHOTSKIY, B. I. and YURYEV, A. A.

"Wave- Analysers and Spectrometers with Variable-Tuning Filters with Ferrite Cores."

paper presented at the 4th All-Union Conf. on Acoustics, Moscow, 26 May - 2 Jun 58.

83154

S/108/60/015/009/006/008
B002/B067

9.2550

AUTHORS: Beskorovaynyy, B. M., Vol'f, V. M., Gorbenko, V. S., Karnovskiy, M. I., Shotskiy, B. I., Yur'yev, A. A., Members of the Society

TITLE: Ferrite Filters With Variable Adjustment

PERIODICAL: Radiotekhnika, 1960, Vol. 15, No. 9, pp. 57-63

TEXT: In 1958, analyzers and spectrometers for frequencies of the sound-wave range were developed at the kafedra akustiki i zvukotekhniki Kiyevskogo politekhnicheskogo instituta (Chair of Acoustics and Sound Engineering of the Kiyev Polytechnic Institute) in which ferrite filters with variable adjustment are used. Besides, also ferrite filters with variable adjustment were developed, which operate in the range of up to 120 kc/s. In the present paper, the following is discussed: Selection of material and shape of the core; working conditions of the *magnitoprovod; nonlinearity of the characteristics of ferrite cores and selection of the input signal; temperature compensation; transients in ferrite filters. The analyzer developed at the aforementioned institute has the following

* magnetic circuit

BESKOROVAYNYY, I.I. (Taganrog)

Compiling problems with industrial and technical content. Fiz. v shkole no.3:89-90 My-Je '61. (MIRA 14:8)
(Physics—Problems, exercises, etc.)

HESKOROVAYNYY, I.I. (Petrozavodsk)

Atheistic education during the teaching of physics. Fiz.v shkole 22 no.6:22-24 N-D '62. (MIRA 16:2)
(Atheism—Study and teaching) (Physics—Study and teaching)

BESKOROVAYNYY, N. M.

USSR/Metals - Aluminum Alloys, Properties Jan 52

"Mechanical Properties of Cast Aluminum Alloys," N. M. Beskorovaynyy, Cand Tech Sci, Ya. B. Fridman, Dr Tech Sci, Moscow Mech Inst

"Litey Proizvod" No 1, pp 15-20

Studies mech properties of Al-base alloy with 9.0-10.6% Si under loading for tension, compression, torsion and bending. Investigates effect of dimensions and shape of specimens and mode of loading on mech properties of cast alloys and discusses effect of modification with metallic sodium on grain size.

204T68

BESKOROVAYNY, N. M.

"Study of the Mechanical Properties of Cast Aluminum Alloys and the Development of Methods for Increasing the Strength of Cast Parts by Means of Reinforcement." Sub 12 Jun 51, Moscow Mechanics Inst.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

188300 24599 S/137/61/000/005/057/060
A006/A106

AUTHORS: Beskorovaynyy, N. M., and Yakovlev, Ye. I.

TITLE: Investigating corrosion of iron and chromium steels in liquid lithium

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1961, 60, abstract 5I454 (V sb. "Metallurgiya i metallovedeniye chistykh metallov", no. 2, Moscow, Atomizdat, 1960, 189-206)

TEXT: The authors established the solubility of Fe and Cr in Li depending on temperature. They show the low stability of Fe carbides and carbon austenite in liquid Li and the high stability of chromous carbides and alloyed austenite. Carbonization in liquid Li medium containing C (transfer of C) depends on the phase condition of the structural alloy at the test temperature. Admixtures of S and P increase corrosion failure of structural materials in liquid Li.

Ye. L.

[Abstracter's note: Complete translation]

Card 1/1

S/755/61/000/003/024/027

AUTHORS: Beskorovannyy, N.M., Yeremeyev, V.A., Tomashpol'skiy, Yu.Ya.

TITLE: The diffusion mobility of lithium in iron and steels.

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov. no.3. 1961, 233-248.

TEXT: The paper describes an experimental determination of the diffusion processes of the corrosionally highly aggressive Li in structural materials. The less-than-1-sec half-life of radioactive Li^8 and Li^9 discouraged their use; hence, the flame-photometry method outlined by N.S. Poluektov (In Metody analiza po fotometrii plameni – Methods of flame-photometric analysis. Moscow, Goskhimizdat, 1959). This method constitutes a non-photographic spectral method in which a photoelement and a galvonometer are used to record the radiation of the specimen. The readily excited Li line 6708 Å with an excitation potential of 1.9 ev was found convenient for the present study. A straight-line variation of radiation intensity versus Li concentration was found for concentrations up to $5 \cdot 10^{-4}$ wt.%. A schematic view of the equipment setup for the determination of the Li in the flame is shown and explained, including the aerosol generator, a large-particle and droplet catcher, a mixer, and an acetylene-air burner, a monochromator (6708 Å), a

Card 1/3

The diffusion mobility of lithium in iron and steels. S/755/61/000/003/024/027

photoelectronic multiplier, and a range-shunt-equipped light-beam galvanometer with a sensitivity of 10^{-8}-10^{-9} a/mm. The test specimens were cylinders 12-16-mm diam, 30-35 mm high. Annealed specimens were placed in technical-Fe beakers which were filled with Li in a vacuum equipment and placed in stainless-steel containers which were sealed in an arc furnace in an Ar atmosphere and held at T = 600, 800, and 1,000°C. After diffusion soaking the Li was leached out with water. A 0.05-0.1-mm layer was taken off the cylindrical surface (after removal of a possibly Li-contaminated face layer of sufficient thickness), dissolved in a HNO_3-HCl mixture, and analyzed. At any one T a maximum Li content occurs not at the surface, but at some depth (of the order of 1 mm), at a value and at a depth which increase with C content in the steel. Intense surface-grain disintegration is observed (photos). The diffusion mobility of Li in steels is found to be appreciable, comparable with that of C. It is greater in α-Fe than in γ-Fe. The presence of C deepens the penetration of the Li. Li corrosion reduces the microhardness of technical Fe and of the ferrite in C steels, possibly in part by microscopic-pore formation. Such structural changes occur only in regions in which the Li diffusion is substantial. The Li penetration proceeds preferably along the grain boundaries which are ordinarily enriched with impurities such as C, S, etc. Thus it is confirmed, as was stated by the senior author et al. (in no.2 of the present sbornik, Atomizdat, 1960) that S inclusions serve as focal points of corrosion. The even

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The diffusion mobility of lithium in iron and steels. S/755/61/000/003/024/027

more consequential modifications in the austenitic and perlitic structure as a result of the Li-produced C leaching are pictured and interpreted. In round figures, the corrosion-affected Li-saturated structure has one-half the depth of the deepest Li penetration. C steels soaked in liquid Li undergo significant volumetric increases; their density decreases with increasing C content in the steel. This must be attributed to the formation of low-density phases, such as Li_2C_2 et al. The high-T formation of low-density phases is accompanied by significant plastic deformations, whereupon cooling results in crack-formation (photo). In addition to the change in microhardness, the strength and the plasticity of C steels are impaired by Li penetration, especially in high-C steels and at high T. Thus, e.g., steels 45 and 70 acquire the properties of low-grade pig iron at T 800-1,000°C, an embrittlement that must be attributed to intense microporosity formation. There are 18 figures, 3 tables, and 6 references (4 Russian-language Soviet, 1 presumably Russian-language Chinese, and 1 English-language). The participation of E. A. Korepanov, L. M. Ozerov, and M. V. Teregulov in the work is acknowledged.

ASSOCIATION: MIFI (Moscow Engineering Physics Institute).

Card 3/3

ACCESSION NR: AT4005964 S/2755/63/000/004/0122/0129

AUTHOR: Beskorovayny*y, N.M.; Zuyev, M.T.; Yeremeyev, V.S.

TITLE: Reaction of austenitic chromium-nickel alloy steel with liquid lithium

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chisty*kh metallov, no. 4, 1963, 122-129

TOPIC TAGS: chromium nickel steel corrosion, austenitic steel, 1Kh18N9T steel, lithium corrosion, 1Kh18N9T weld corrosion, steel corrosion, lithium induced corrosion, lithium attack

ABSTRACT: In continuation of earlier work by the authors on 1Kh18N9T austenitic stainless steel, corrosion resistance and room temperature mechanical properties were determined following 100 and 500 hours exposure to liquid lithium or argon at 1000 and 1200C. Test specimens were rolled sheet, 1x3x14mm, both unwelded and welded. The test conditions did not significantly affect either welded or unwelded specimens. Intergranular corrosion occurred during exposure to liquid lithium, which was found to diffuse deeply into the steel surface (see Fig. 1 of the Enclosure). In liquid lithium, the steel corroded at a rate

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ACCESSION NR: AT4005964

of 0.034 g/m^2/hr. at 1000C and 0.388 g/m^2/hr. at 1200C. Orig. art. has: 2 metallographic sections, 6 tables and 1 graph.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering Physics Institute)

SUBMITTED: 00	DATE ACQ: 17Jan64	ENCL: 01
SUB CODE: MM	NO REF SOV: 004	OTHER: 000

Card 2/3

ACCESSION NR: AT4005964

ENCLOSURE: 01

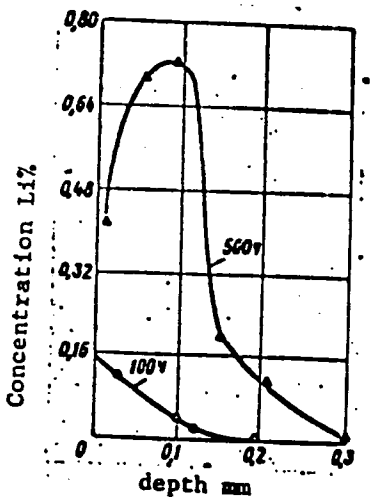

Fig. 1 Concentration curves showing the distribution of lithium in the surface layer of 1Kh18N9T steel after exposure in an iron vessel at 1000C. Ordinate = Li concentration in %; abscissa = depth in mm.

Card 3/3

BESKOROVAYNYY, N.M.; YEREMEYEV, V.S.; ZUYEV, M.T.; IVANOV, V.K.; TOMASHPOL'SKIY, Yu.Ya.

Corrosion resistance of iron in lithium. Met. i metalloved. chist. met. no. 4:130-143 '63. (MIRA 17:5)

ACCESSION NR: AT4005965 S/2755/63/000/004/0144/0148

AUTHOR: Beskorovayny*y, N. M.; Zuyev, M. T.

Title: Corrosion resistance of titanium in lithium

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chisty*kh metallov, no. 4, 1963, 144-148

TOPIC TAGS: titanium corrosion, titanium aluminum alloy corrosion, titanium, titanium property, titanium aluminum alloy property, lithium attack, lithium induced corrosion

ABSTRACT: Corrosion resistance and room temperature mechanical properties are reported for metallurgical grade titanium (0.12% C, 0.009% Fe, balance Ti) and titanium-aluminum alloy (2.2% Al, 1.3% Mn, 0.045 % C, balance Ti) following exposure for 50 and 100 hours at 800, 1000 and 1200C. Test specimens were rolled sheet 1 x 3 x 14 mm. The corrosion resistance of both Ti and Ti+Al were found to be satisfactory after 100 hours exposure at 800C. Case hardening of Ti specimens occurred during exposure to lithium, due to absorption by Ti of gases dissolved in the lithium melt. A decrease in Ti ductility was observed at 1000 and 1200 C. At 1200 C Ti begun to dissolve. The Ti-Al alloy began to dissolve in lithium at 800C, accompanied by a marked

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ACCESSION NR: AT4005965

decrease in rupture strength and ultimate tensile strength. Orig. art. has: 2 metallographic sections, 4 tables and 1 graph.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Engineering Physics Institute)

SUBMITTED: 00 DATE ACQ: 17Jan64 ENCL: 00

SUB CODE: MM NO REF SOV: 004 OTHER: 000

Card 2/2

L 37699-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/HW/JG/WB

ACC NR: AT6023742 (A,N) SOURCE CODE: UR/2755/66/000/005/0163/0172

AUTHOR: Beskorovaynyy, N. M.; Ivanov, V. K.; Petrashko, V. V.

ORG: none

TITLE: Corrosion of chromium-nickel stainless steel in lithium

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 5, 1966, 163-172

TOPIC TAGS: stainless steel, ~~chromium nickel steel~~, steel corrosion, lithium induced corrosion, corrosion resistance, ~~steel~~, chromium steel, nickel containing steel, lithium, corrosion

ABSTRACT: Three series of 1Kh18N9T stainless-steel specimens were tested for corrosion behavior in lithium at 700C for 10 or 200 hr. Series 1 and 2 specimens were tested in lithium containing a small amount of C^{14} isotope and in tanks made of 1Kh18N9T steel (series 1) or Armco-iron (series 2). In the case of series 3 specimens, the lithium contained 0.1% carbon in addition to C^{14} and the tanks were made of Armco-iron. The corrosion was found to follow the same pattern under all the conditions tested, and was characterized by a gradual dissolution of chromium and nickel from the surface layer of the specimens. With decreasing chromium and nickel content the steel changes its structure and gradually loses its corrosion resistance. Microporosity formed in points previously occupied by chromium and nickel

Card 1/2

L 37699-66

ACC NR: AT6023742

3

lowers considerably the steel ductility. The carbon content in lithium and tank material were found to have a marked effect on the intensity of processes associated with corrosion. The most intensive loss of chromium and nickel was observed in series 2 and 3 specimens in which in 200 hr the chromium content in the surface layer dropped by 50% and the nickel content, by 45 and 50% of the original content, respectively. Specimens of series 1 under the same conditions lost 10% of their chromium and 30% of their nickel 21 Accordingly, the elongation of the series 1, 2, and 3 27 specimens dropped from the original 48.2% to 47.1, 26.4, and 24.4%, respectively. Carbon contained in lithium was found to diffuse into the steel. However, in the first hours of the test, carbon concentrates primarily in the surface layer. As the chromium content in the surface layer drops, carbon migrates inside, following the front of original chromium content. Orig. art. has: 7 figures and 4 tables. [DV]

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 005/ ATD PRESS: 5641

chromium-nickel steel 18

Card 2/2

L 00508-67 EWT(m)/FCC/EWP(t)/ETI/EWP(n) IJP(c) JD/ND

ACC NR: AT6023741 SOURCE CODE: UR/2755/66/000/005/0151/0162

AUTHOR: Boskorovaynyy, N. M.; Ivanov, V. K.

ORG: none

TITLE: Mechanism of corrosion of carbon steels in lithium

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 5, 1966, 151-162

TOPIC TAGS: intergranular corrosion, carbon steel, lithium

ABSTRACT: Thermodynamic calculations show that at a temperature at least up to 723°C, when carbon is present in the steel in the form Fe_3C, there is the possibility of the following reaction between lithium and cementite:

$$2Li(liq) + 2Fe_3C(solid) = Li_2C_2(solid) + 6Fe(solid) \quad (1)$$

The article reviews a great number of data from the literature and comes to the following overall conclusions. 1) At temperatures up to 723°C, corrosion failure of carbon steels in lithium is bound up with the reactive penetration of the lithium into the steel as a result of reaction with cementite by Equation (1). The forming lithium carbide then dissolves in the liquid lithium, and the carbon content in the corrosion zone decreases. 2) The liquid phase forming in the corrosion zone during the dissolution of Li_2C_2 in the lithium should promote the development of diffusion

Card 1/2

L 09508-67

ACC NR: AT6023741

processes for the penetration of lithium into the steel as the elimination of carbon in the corrosion zone decreases. 3) The formation of lithium carbide and its subsequent dissolution is accompanied by an increase in volume. The stresses which develop as a result of this lead to plastic deformation of the corrosion zone. 4) The differences in the volume changes on the surface and in the depth of the corrosion zone lead to the development of a state of complex stress in the samples which exerts an effect on the course of the corrosion process and the form of the diffusion curves of the lithium. "Engineer Chang, Chia-shou participated in the work." Orig. art. has: 3 formulas, 7 figures and 5 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 005

Card 2/2 LC

ZHIRONKIN, V.; BESKORSYY, A.; BESPARTOCHNYY, A.; brigadir kamenshchikov; ZOLOTOV, V.

Large-scale chemistry takes great steps. Sov. profsoiuzy 17 no. 5:10-11 Mr '61. (MIRA 14:2)

1. Reydovaya brigada zhurnala "Sovetskiye profsoyuza." 2. Nachal'nik shtaba stroyki Lisichanskogo khimicheskogo kombinata (for Zhironkin). 3. Proizvoditel' rabot, rukovoditel' kontrol'nogo posta na uchastke mocheviny Lisichanskogo khimicheskogo kombinata (for Beskorsyy). 4. Predsedatel' komiteta profsoyuza 2-go stroyupravleniya Lisichanskogo khimicheskogo kombinata (for Bespartochnyy). 5. Korrespondent zhurnala "Sovetskiye profsoyuzy" (for Zolotov).

(Lisichansk—Construction industry)
(Socialist competition)

SAVEL'YEV, V.Ya.; BESKORSKIY, A.I.; CHERNYSHOV, V.I.

Amplitude distribution of pulses in slow neutron counters.
Prib. i tekh. eksp. 8 no.5:61-65 S-O '63. (MIRA 16:12)

ES

MARKVARDT, G.G., dotsent, kandidat tekhnicheskikh nauk; BESKOV, B.A., inzhener.

Engineering models for calculating electric railroads. Trudy MIIT no.90/13:192-222 '56. (MLRA 10:4)
(Electric railroads) (Engineering models)
(Electronic calculating machines)

BESKOV, B.A., inzh.

Electronic devices used in solving equations relating to train performance. Vest. TSNII MPS 17 no.1:34-39 F '58. (MIRA 11:3)
(Electronic calculating machines) (Railroad research)

BESKOV, B.A., inzh.

Constructing diode squarers. Trudy MIIT no.104:159-164 '59.
(MIRA 12:9)

(Electric locomotives--Equipment and supplies)
(Electronic calculating machines)

BESKOV, B. A. Cand Tech Sci — (diss) "Reproduction of Electrical and Electromechanical Processes in Models of Electrical Railway Devices for Their Investigation and Calculation," Moscow, 1960, 16 pp, 120 copies (All-Union Sci Res Institute of Railroad Transport) (KL, 47/60, 10)

BESKOV, B.A., kand.tekhn.nauk; PRIVEZENTSEV, N.I., inzh.

Cyclic integration network. Trudy MIIT no.144:149-157 '62.
(MIRA 15:10)
(Pulse circuits) (Electronic analog computers)

BESKOV, B.A.; GERONIMUS, B.Ye.; DAVYDOV. V.N.; KREST'YANOV, M.Ye.; MARKVARDT, G.G.; MININ, G.A.; Primimal uchastiye TAMAZOV, A.I.; VAYNBLAT, E.G., inzh., retsenzent; KRUGLYAKOV, F.Ye., inzh., retsenzent; KUCHMA, K.G., kand. tekhn.nauk, retsenzent; LOMAZOV, D.V., kand. tekhn. nauk, retsenzent; SLUTSKIY, Z.M., inzh., retsenzent; FRADKIN, I.S., inzh., retsenzent; YUSHKOV, P.K., inzh., retsenzent; PERTSOVSKIY, L.M., inzh., red.; USENKO, L.A., tekhn. red.

[Design of electric railroad power supply systems] Proektirovanie sistem energosnabzheniia elektricheskikh zheleznykh dorog. [By] B.A.Beskov i dr. Moskva, Transzheldorizdat, 1963. 470 p. (MIRA 17:2)

BESKOV, I. Kh. Cand Agr Sci -- (diss) "Drainage of soil with mole plow ~~"Digging of drain passages in soil~~ as a means of improving ~~improvement method for raising~~ the yield ~~productivity~~ of agricultural crops under conditions of the Kurskaya Oblast." Mos, 1957. 23 pp (Min of Agr USSR. All-Union Sci Res Inst of Hydraulic Engineering and Land Improvement), 100 copies (KL, 42-57, 93)

USSR/Soil Science. Tillage. Land Reclamation. Erosion. J-5

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24834.

Author : Beskov, I. Kh.
Inst :
Title : The Mole Drainage of Soil in the Central Black-Earth Belt.

Orig Pub: Vestn. s.-kh. nauki, 1957, No 5, 96-102.

Abstract: On the grounds of stationary and field experiments, conducted in the years 1952-1956 in the Kursk zonal experimental-land-improvement station, and in the kolkhozes of the Kurskdist, in the conditions of medium-and heavily loamy chernozems and grey forst-steppe soils, it was shown that the mole drainage of soils is an effective means of accumulation of moisture and improvement of the nutrient conditions of soils. The mole drainage, as part of a group

Card : 1/2

Abs Jour: Ref Zhur-Biol., No 6, 1958, 24834.

with other measures, provided for an increase of the yield of the sugar beet, potato and vegetable crops at 40-55 c/ha., cereals - at 2-3 centners/ha. The simplest and cheapest method of mole drainage is to carry it out simultaneously with ploughing.

BESKOV, M. YA.

PA 240T51

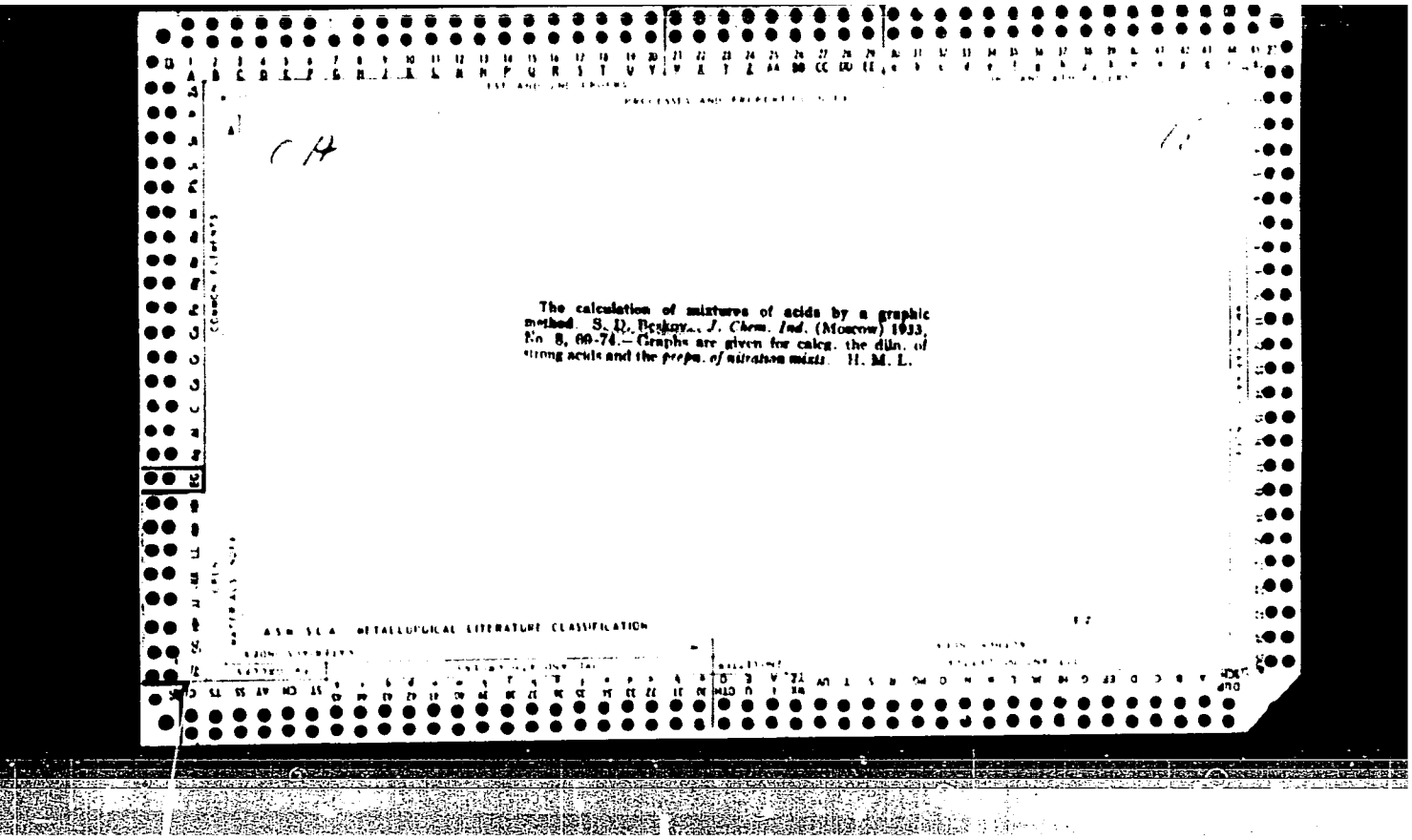
USSR/Electricity - Induction Motors May 52
Engineering - Machinery

"Synchronization of Induction Motors by the DAG System in the Asbestos Industry," A. F. Kiselev and M. Ya. Beskov, town of Asbest

"Elektrichestvo" No 5, pp 56, 57

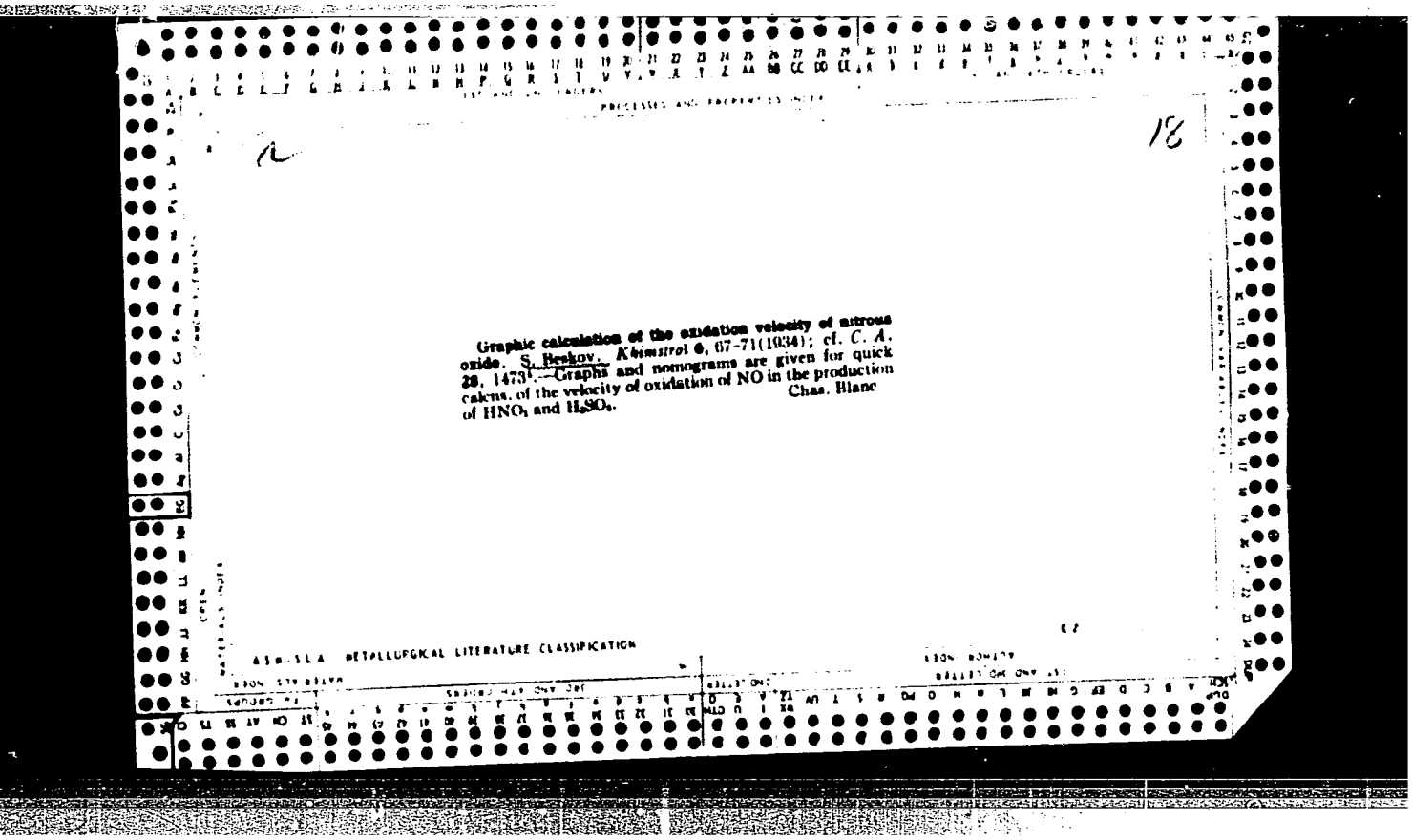
Discusses experience in use of synchronization for compensation of $\cos\varphi$ of powerful motors on different types of crushers in asbestos production, resulting in raising power factor and reducing expenditures. Refers to power savings made in territory of Asbest Electric Power Network synchronizing units produced at KIP Plant, and seminar on subject at Admin of Electric Power Sales of Sverdlovenergo. Submitted 6 Apr 51.

240T51

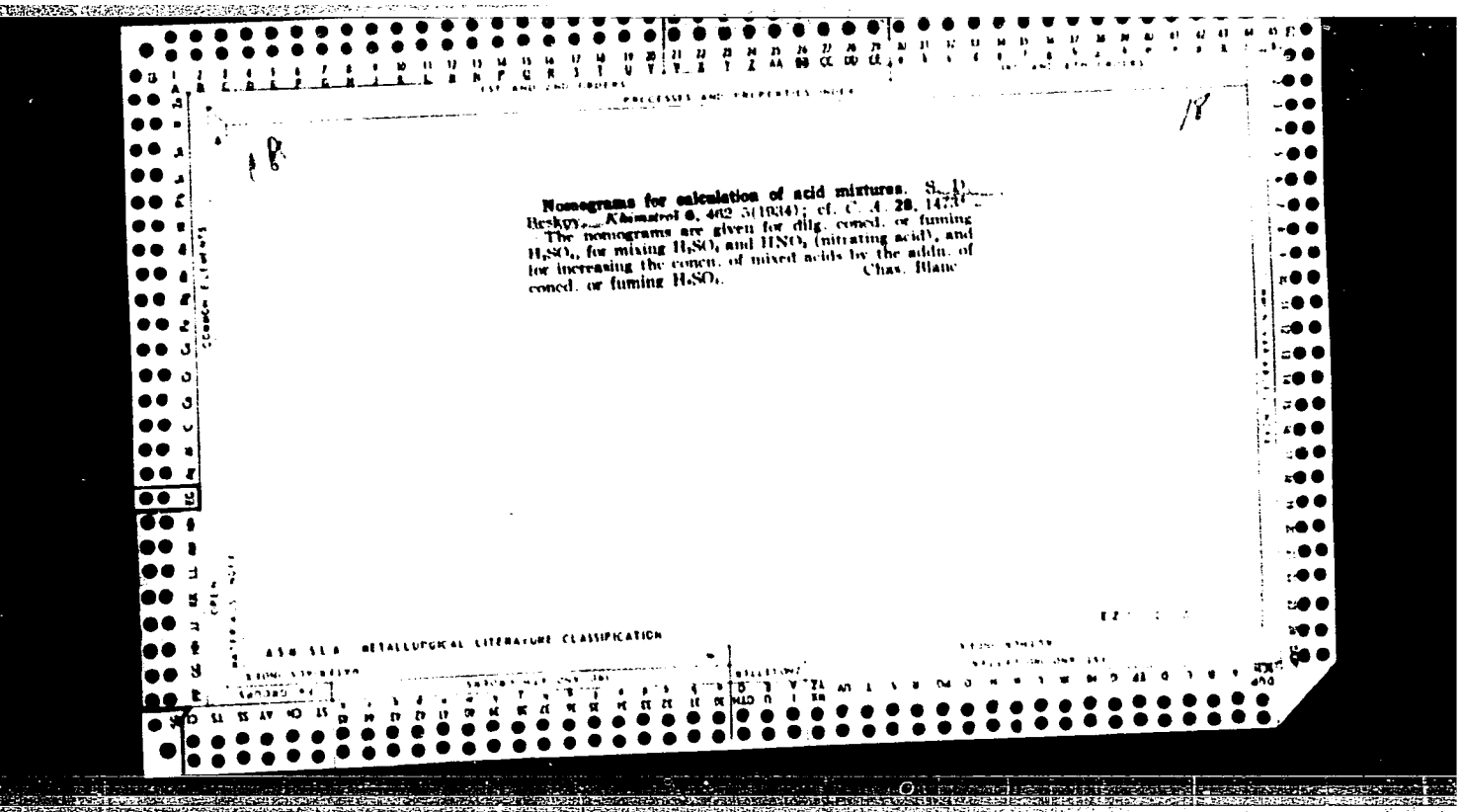


The calculation of mixtures of acids by a graphic method. S. D. Beskov. *J. Chem. Ind.* (Moscow) 1933, No. 8, 69-74.—Graphs are given for calcg. the dilu. of strong acids and the *prepn. of nitration mixts.* H. M. L.

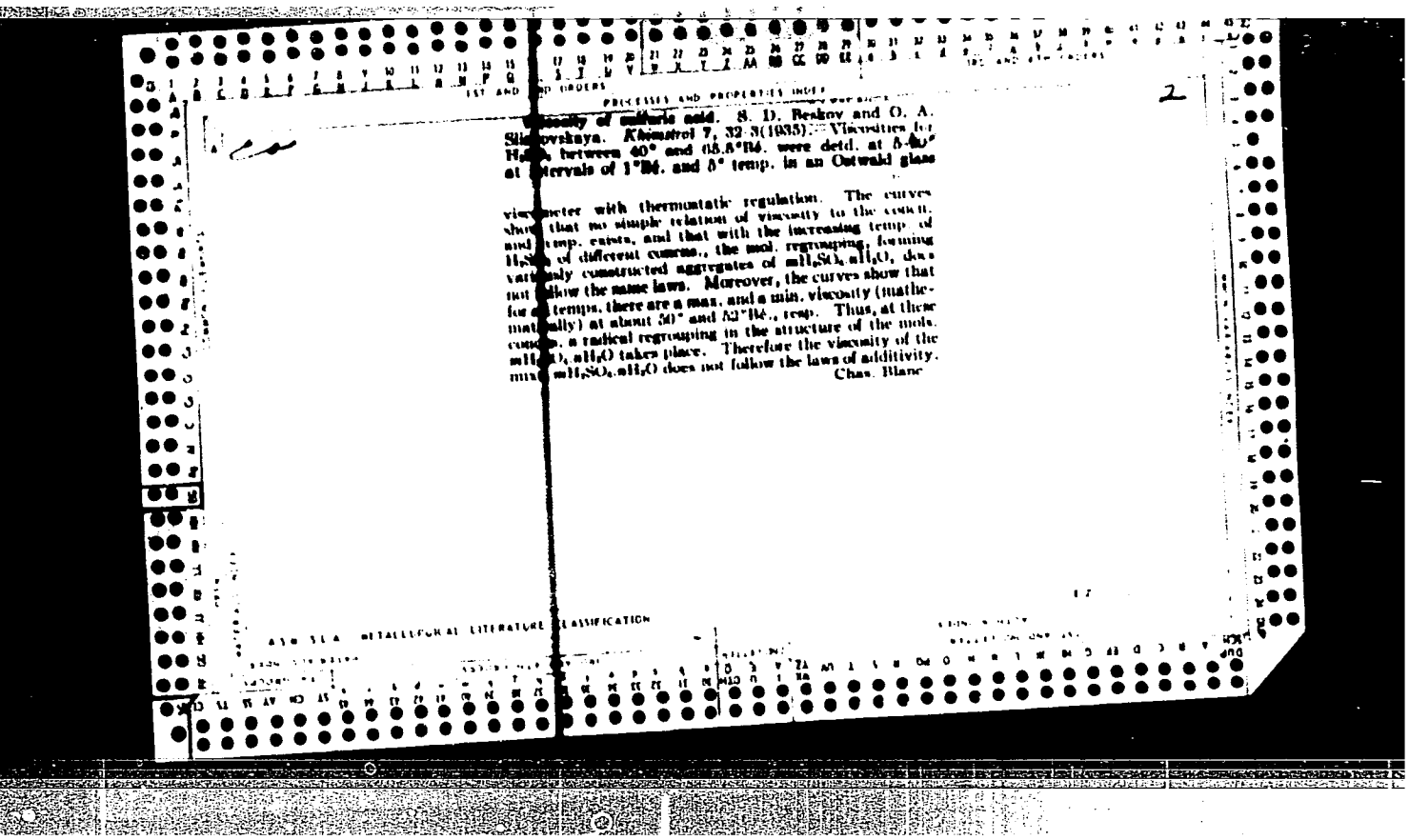
ASM-WADA METALLURGICAL LITERATURE CLASSIFICATION



Graphic calculation of the oxidation velocity of nitrous oxide. S. Benkov. *Khimstrol* **6**, 67–71(1934); cf. *C. A.* **28**, 1473[1].—Graphs and nomograms are given for quick calcns. of the velocity of oxidation of NO in the production of HNO_3 and H_2SO_4. Chas. Blanc

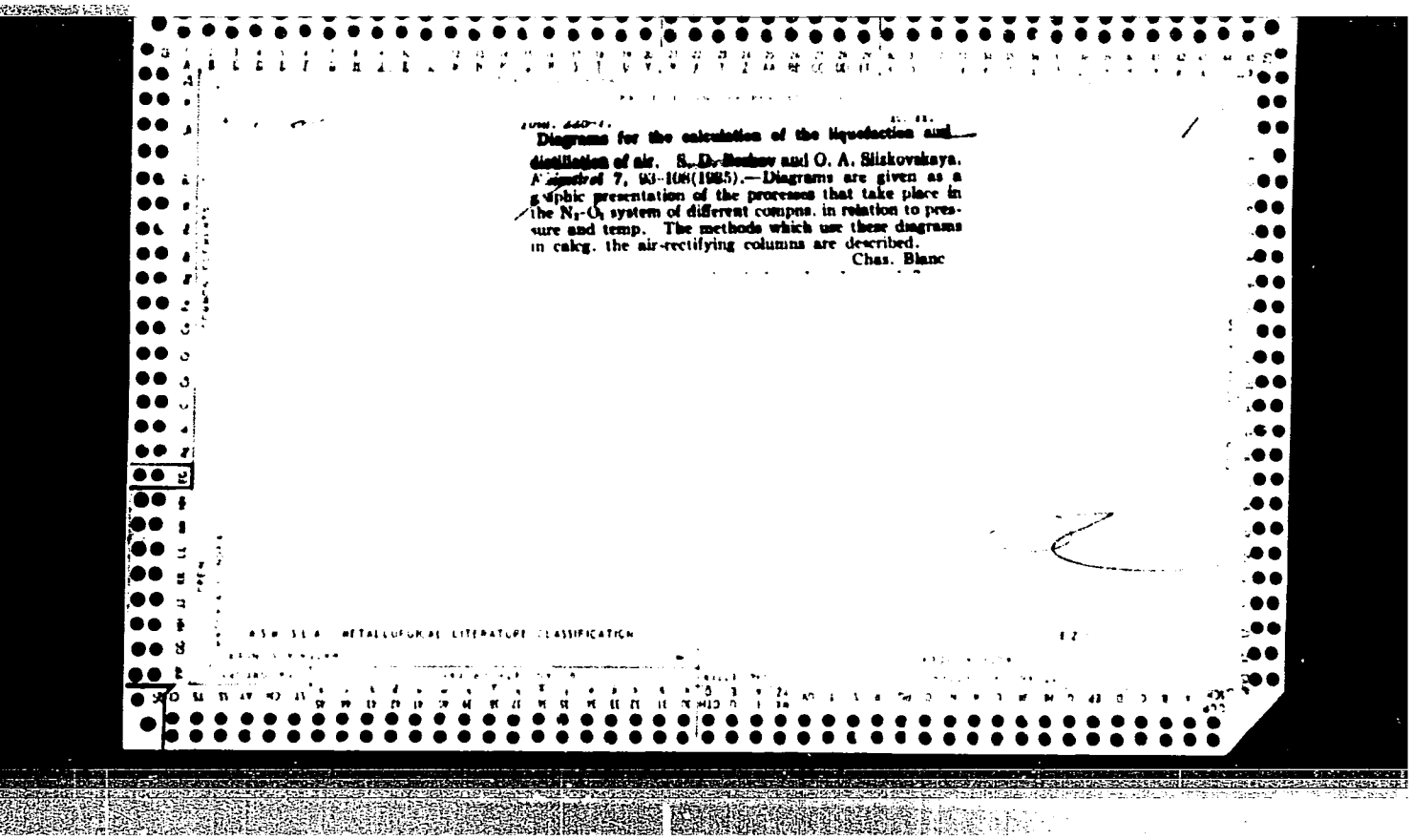


Nomograms for calculation of acid mixtures. S. D. Beskov. *Khimstroi* **6**, 462-5(1934); cf. *C. A.* **28**, 1474[illegible]. The nomograms are given for dilg. concd. or fuming H_2SO_4, for mixing H_2SO_4 and HNO_3 (nitrating acid), and for increasing the concn. of mixed acids by the addn. of concd. or fuming H_2SO_4. Chas. Blanc



Viscosity of sulfuric acid. S. D. Beskov and O. A. Shishovskaya. *Khimstroi* 7, 32-3(1935).—Viscosities for H_2SO_4 between 40° and 65.5°Bé. were detd. at 5-40° at intervals of 1°Bé. and 5° temp. in an Ostwald glass viscometer with thermostatic regulation. The curves show that no simple relation of viscosity to the concn. and temp. exists, and that with the increasing temp. of H_2SO_4 of different concns., the mol. regrouping, forming variously constructed aggregates of $nH_2SO_4.nH_2O$, does not follow the same laws. Moreover, the curves show that for all temps. there are a max. and a min. viscosity (mathematically) at about 50° and 52°Bé., resp. Thus, at these concns., a radical regrouping in the structure of the mols. $nH_2SO_4.nH_2O$ takes place. Therefore the viscosity of the mixt. $nH_2SO_4.nH_2O$ does not follow the laws of additivity.

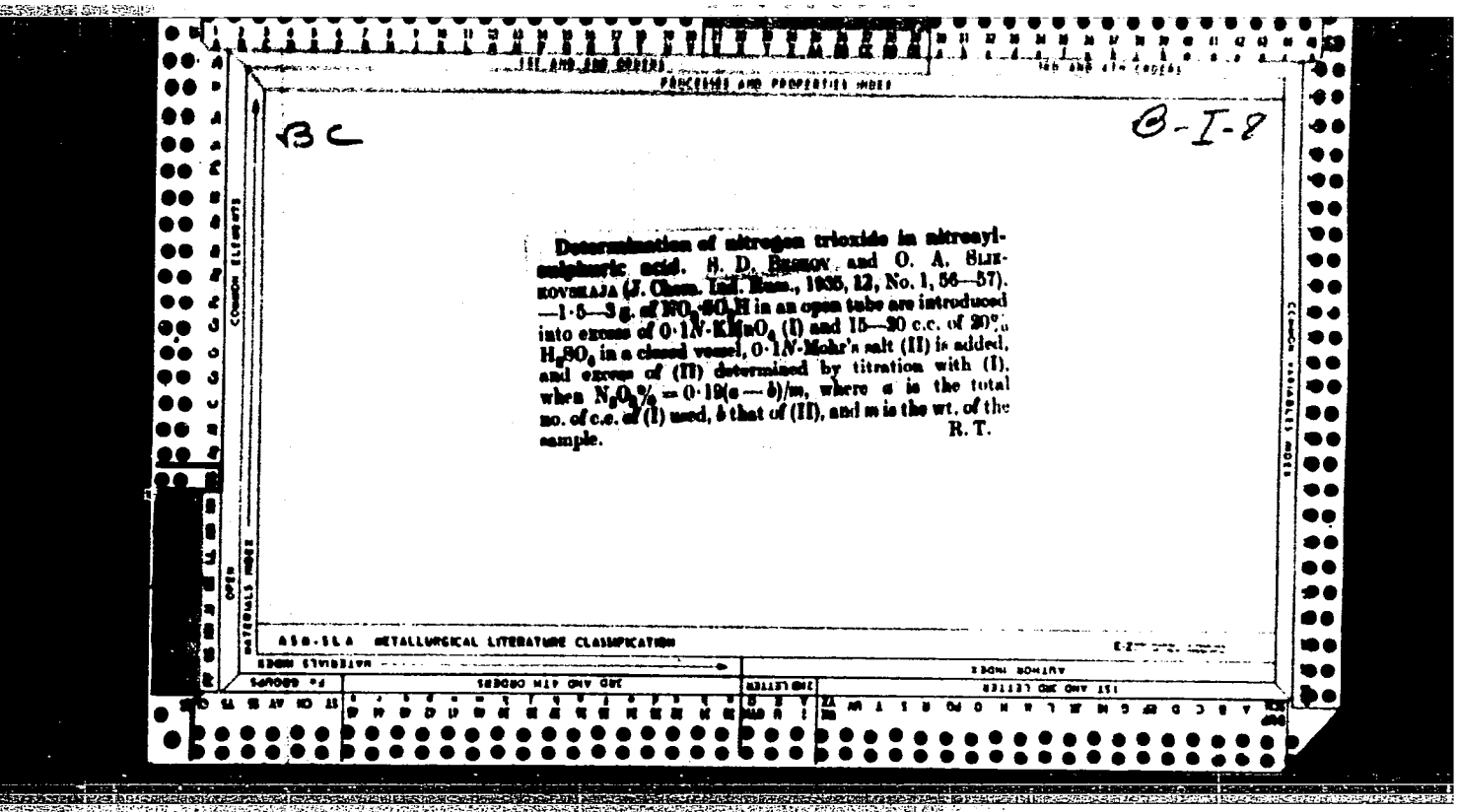
Chas. Blanc



Diagrams for the calculation of the liquefaction and distillation of air. S. D. Bezbov and O. A. Slizkovskaya. *Azotnaya* 7, 93–108(1935).—Diagrams are given as a graphic presentation of the processes that take place in the N_2-O_2 system of different compns. in relation to pressure and temp. The methods which use these diagrams in calcg. the air-rectifying columns are described.

Chas. Blanc

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION



B C

B-I-8

Determination of nitrogen trioxide in nitrosylsulphuric acid. B. D. Bessonov and O. A. Slizkovskaja (J. Chem. Ind. Russ., 1935, 12, No. 1, 56—57).—1·5—3 g. of $NO \cdot SO_3H$ in an open tube are introduced into excess of 0·1*N*-$KMnO_4$ (I) and 15—20 c.c. of 20% H_2SO_4 in a closed vessel, 0·1*N*-Mohr's salt (II) is added, and excess of (II) determined by titration with (I), when $N_2O_3\% = 0·19(a - b)/m$, where a is the total no. of c.c. of (I) used, b that of (II), and m is the wt. of the sample.

R. T.

1. BESKOV, S. D.; BALEZIN, S. A.

2. USSR (600)

4. Inhibition (Chemistry)

7. A survey of effective inhibitors. Part 1. Uch. zap. Mosk. ped. inst. im. Len. 44, 1947

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

1. BESKOV, S.D.

2. USSR (600)

4. Photochemistry

7. Photochemical oxidation in aqueous iodine solutions. Uch.zap.Mosk.ped.inst.im.Len. 44, 1947.

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

1. SLIZKOVSKAYA, O. A.; BESKOV, S. D.

2. USSR (600)

4. Chemistry, Analytical - Qualitative

7. A hydrogen sulfide - free method for the qualitative analysis of cations. Uch. zap. Mosk. ped. inst. im. Len. 44, 1947

9. Monthly List of Russian Accessions, Library of Congress, _____1953. Unclassified.

BESKOV, S. D.

Chemical engineering calculations 2. izd., perer. Moskva, Gos. nauchno-tekhn. izd-vo khim. lit-ry, 1950. 599 p. (51-22852)

TP155.B4 1950

BESKOV, S.

"Technical-Chemical Computations," Moscow 1950

BESKOV, S. D.

BALEZIN, S.A.; BESKOV, S.D.; DMITRIYENKO, G.V., redaktor; DZHATIYEV, S.G., tekhnicheskiy redaktor.

[Outstanding Russian chemists] Vydaiushchiesia russkie uchenye khimiki. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1953. 214 p. (MLRA 7:8)
(Chemists)

BLINOV, N. D.

Technisch-Chemische Berechnungen. 2. Aufl. Berlin, Technik, 1953. 552 p. Diagrs., Tables.
Translation From The Russian, "Tekhnokhimicheskiye Raschety," Moscow, 1950. Added T.-P.
In Russian. "Literatur": p. 474-475.

N/5
(14.1
.B51
1953

BESKOV, S.D., professor; DMITRIYENKO, G.V.

Book on chemical equations ("Construction of chemical equations." A.A.Kudriavtsev. Reviewed by S.D.Beskov, G.V.Dmitrienko.) Khim.v shkole 9 no.5:73-74 S-O '54. (MLRA 7:9)
(Chemistry--Notation) (Kudriavtsev, A.A.)

BESKOV, S.D., prof.; SMIRNOVA, N.V., red.; PONOMAREVA, A.A., tekhn. red.

[Programs of pedagogical institutes; analytical chemistry for natural science faculties] Programmy pedagogicheskikh institutov; analiticheskaia khimiia dlia fakul'tetov estestvoznaniia. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1955. 15 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy.
(Chemistry, Analytical—Study and teaching)

BESKOV, Sergey Dmitriyevich; SLIZKOVSKAYA, Ol'ga Aleksandrovna; POZDNYAKOVA, N.I., redaktor; KOZLOVSKAYA, M.D., tekhnicheskiy redaktor

[Analytical chemistry; qualitative and quantitative analysis] Analiticheskaia khimiia; kachestvennyi i kolichestvennyi analiz. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniia RSFSR, 1956. 589 p. (MLRA 9:11)
(Chemistry, Analytical)

80191
SOV/123-59-23-97191

18.8300

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 23, p 141 (USSR)

AUTHORS: Beskov, S.D., Balezin, S.A., Barannik, V.P.

TITLE: On the Mechanism of the Protective Effect of Atmospheric Corrosion Inhibitors 18

PERIODICAL: Sb. Kom-t po korrozii i zashchite metallov. Vses. sov. nauchno-tekhn. obshchestv, 1957, Nr 2, pp 14 - 25

ABSTRACT: The most suitable inhibitors to stop an already started process of atmospheric corrosion are volatile inhibitors - amine nitrites and carbonates. Many amine nitrites and amino alcohol sulfides efficiently protect zink, copper and nickel-silver (even if they are in contact with steel) from atmospheric corrosion. The protection of metals from atmospheric corrosion by monoehtanolamine carbonate depends on the joint effect of carbonic acid and monoethanolamine which are formed during the monoethanolamine hydrolysis in the moisture film on the metal surface. The authors draw a general conclusion on the mechanism of protective

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On the Mechanism of the Protective Effect of Atmospheric Corrosion Inhibitors

effects of vapor-phase or volatile inhibitors: if a given amine salt possesses some definite pressure of vapors, it will, in the vapor-phase state, ensure the protective effect on the metal.

K.L.M.

Card 2/2

BESKOV, S.D.

The book on chemical equations ("Composition of chemical equations." by A.A.Kudriavtsev, Reviewed by S.D.Beskov). Khim. v shkole 12 no.1: 77-78. Ja-F '57. (MLRA 10:3)
(Equations) (Kudriavtsev, A.A.)

BESKOV, S. D.

BESKOV, S.D. (Moskva)

Principles of the flotation method of ore dressing. Khim.v shkole 12 no.6:15-19 N-D '57. (MIRA 10:12)

(Flotation)

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 12, p 124 (USSR) SOV/137-58-12-24869

AUTHORS: Balezin, S. A., Beskov, S. D., Kochetkova, L. I.

TITLE: On the Mechanism of Atmospheric Corrosion and the Protective Action of Volatile Inhibitors (O mekhanizme atmosfernoy korrozii i zashchitnom deystvii letuchikh ingibitorov)

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1957, Nr 99, pp 109-127

ABSTRACT: By the method of radioactive tracers an investigation was carried out on the adsorption of vapors of monoethanolamine carbonate (I) (containing in the carbonate group a radioactive C^{14} isotope) on reduced Fe and on FeO, Fe_2O_3, Fe_3O_4 and $Fe(OH)_3$ which had been previously held in atmospheres with various moisture contents. It was established that there is no adsorption in pure Fe. In a dry atmosphere there is no adsorption of I on FeO and Fe_2O_3 either, though some absorption of it is observed. Under these conditions formation of an adsorption layer is observed on Fe_3O_4 and $Fe(OH)_3$only; this layer in time becomes desorbed (upon removal of the specimens from the atmosphere saturated with I). In a moist atmosphere the sorption increases and the desorption decreases with an increase in the relative humidity. The highest

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On the Mechanism of Atmospheric Corrosion and the Protective Action (cont.)

sorption values are observed at a 100% humidity, when liquid-droplet condensation takes place. Under these conditions there is a complete absence of desorption of the compound adsorbed. From a comparison of the character of the adsorption of I and CO_2 under the above conditions a hypothesis is set forth that the mechanism of the action of I is related to the formation on the oxidized moist surface of the metal of a film of Fe carbonates with I adsorbed on it or with the formation of complex compounds, insoluble in water, of Fe hydroxide with amine and carbonic acid. The protection with aminine nitrites presumably follows the same pattern. The authors assume that the greatest protective properties would be afforded by the volatile salts of amines, the acid residue of which forms insoluble compounds with metallic oxides. Bibliography: 30 references.

V. P.

Card 2/2

SOV/137-58-11-23109

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 182 (USSR)

AUTHORS: Beskov, S. D., Kochetkova, L. I., Golubeva, R. M.

TITLE: A Survey of Volatile Inhibitors (Obzor letuchikh ingibitorov)

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1957, Vol 99, pp 129-145

ABSTRACT: A list of the methods of application and the characteristics of the protective action of 69 organic compounds investigated as possible volatile inhibitors published in the foreign and Soviet literature. Bibliography: 54 references.

V. P.

Card 1/1

HESKOV, S.D.; KOCHETKOVA, L.I.; GOLUBEVA, R.M.

Vapor of ethanolamine and its carbonate salt. Uch. zap. MGPI 99:147-149 '57. (MIRA 12:3)
(Ethanol) (Vapor pressure)

BESKOV, S.D.; SLIZKOVSKAYA, O.A.

Method of mercuro-and mercurimetric determination of chloride and bromide ions. Uch. zap. MGPI 99:167-180 '57. (MIRA 12:3)
(Mercurimetry) (Chlorine--Analysis)

SOV/137-58-8-18143

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 276 (USSR)

AUTHOR: Beskov, S. D.

TITLE: Fractional Detection of Cadmium Cations (Drobnoye otkrytiye kationov kadmiya)

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1957, Vol 99, pp 181-182

ABSTRACT: To 1 cc of the analysed solution are added 1 cc of 1N solution of H_2SO_4 and 2 - 3 crystals of $Na_2S_2O_3$, and the mixture is boiled 5 - 7 min. The ions of Hg, As, Sb, Sn, Cu, and Bi are precipitated in the form of sulfides, but Cd remains in solution. The solution is then filtered into a very weak hydrogen-sulfide water, which is prepared by the passing through it of 40 - 60 bubbles of H_2S in 100 cc of water. At the spot of impingement of a drop of the filtrate a yellow CdS coloration appears.

1. Cadmium ions--Determination 2. Metal sulfide ions--Precipitation

P. K.

Card 1/1

BESKOV, S.D.

Scientific bases for industrial processing of minerals.
Uch. zap. MGPI 99:203-214 '57. (MIRA 12:3)
(Mineral industries)

BESKOV, S.D.

Method for determining the period, group, and important chemical properties of chemical elements from their atomic numbers. Uch. zap. MGPI 99:215-219 '57. (MIRA 12:3)
(Periodic law)

BALEZIN, S.A., prof.; BESKOV, S.D., prof., red.; DZHATIYEVA, F.Kh., tekhn.red.

[Programs of pedagogical institutes; principles of physical and colloidal chemistry for the faculties of biology, chemistry and the principles of agriculture] Programmy pedagogicheskikh institutov; osnovy fizicheskoi i kolloidnoi khimii dlia fakul'tetа biologii, khimii i osnov sel'skogo khoziaistva. Uchpedgiz, 1958. 7 p. (MIRA 12:3)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy.
(Chemistry, Physical and theoretical)

BESKOV, Sergey Dmitriyevich; SLIZKOVSKAYA, Ol'ga Aleksandrovna; KOROBTSOVA, N.A., red.; KOZLOVSKAYA, M.D., tekhn.red.

[Analytic chemistry; qualitative and quantitative analysis] Analiticheskaia khimiia; kachestvennyi i kolichestvennyi analiz. Izd. 2. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1958. 590 p. (MIRA 12:1)

(Chemistry, Analytical)

5 (4)

AUTHORS: Balezin, S. A., Beskov, S. D., Levant, G. Ye., Putilova, I. N., Figurovskiy, N. A.

SOV/76-32-12-32/32

TITLE: L. I. Kashtanov (Obituary) - (L. I. Kashtanov (Nekrolog))

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol 32, Nr 12, pp 2848 - 2849 (USSR)

ABSTRACT: The deceased, who died on August 18, 1958, was born in Moscow on November 25, 1902. Between 1920 and 1924 he studied at the Moscow State University. While a student, he worked at the Byuro redkikh elementov (Bureau of Rare Elements) where he devoted his studies to titanium, tantalum, molybdenum, tungsten, and uranium. Between 1924 and 1928 he worked in industry (Elektrougli plant (electrode carbon plant) and Moskovskiy kabel'nyy zavod (Moscow Cable Plant)). From 1928 till 1938 he taught at the Moskovskiy torfyanoy institut (Moscow Peat Institute), at first as an assistant, later as a professor. At the same time he was a collaborator of the Laboratoriya khimii uglya (Laboratory for Carbon Chemistry) (1928 - 1952) and of the Institut azota (Nitrogen Institute) (1932 - 1936). During that time he worked in the fields of peat chemistry, chemistry of

Card 1/4

the coals of the Moscow basin, natural gas, structure and hydrogenation of Boghead coal, nitrogenous bases in the generator tar of peat, drying of peat, carboxylic acids in peat. He was one of the first scientists to take up the study of methane cracking. From 1936 onwards he investigated the combustion process of the coal of the Moscow region, which is rich in sulfur, and the utilization of sulfur dioxide. In 1942 he wrote his doctor's treatise on the elimination of sulfur dioxide from the flue gases of Moscow coals rich in sulfur and the production of commercial sulfuric acid. (Ochistka topochnykh gazov mnogosernistykh podmoskovnykh ugley ot sernistogo angidrida s polucheniyem tovarnoy sernoy kisloty). From 1938 onwards Kashtanov was professor of chemistry at the Moskovskiy institut khimicheskogo mashinostroyeniya (Moscow Institute for Chemical Machine Building) and specialized in the field of metal corrosion in fused salt baths. From 1942 to 1944 he organised for the VKVSh (All-Union Committee for University Training) the universities of the Mongolian People's Republic and obtained a professorship for chemistry at the Mongol'skiy universitet (Mongolian University). Between 1944 and 1956 he was professor

of chemistry at the Moskovskiy inzhenerno-ekonomicheskiy institut imeni S. Ordzhonikidze (Moscow Institute for Engineering Economy imeni S. Ordzhonikidze) and from 1956 onwards professor of chemistry at the Vsesoyuznyy zaochnyy mashinostroitel'nyy institut (All-Union Correspondence Institute of Machine Building). He studied oxidation-reduction processes especially the protective effect of some inhibitors. He also dealt with the chemical restauration of ancient Egyptian limestone and with the analysis of ancient Slavic, ancient Siberian and Scythian bronzes. He was the author of about 90 scientific publications. As far as his organizational activities are concerned, he worked as deputy director of the Peat Institute and of the Institute of Chemical Machinery Building, deputy rector of the Mongolian University and head of the university department of the VKVSh. He was awarded the orden trudovogo krasnogo znameni (Order of the Red Workers' Banner) and medals of the Soviet Union. At the time of his death he was carrying out new investigations on oxidation.

BESKOV, Sergey Dmitriyevich, prof.; BELOTSVETOV, Aleksay Vsevolodovich; KLYUCHNIKOV, Nikolay Grigor'yevich; SLAVIN, David Osipovich; SYRKIN, Z.N., red.; TSYPPO, R.V., tekhn.red.

[Fundamentals of chemical technology; textbook for pedagogical institutes] Osnovy khimicheskoi tekhnologii; uchebnoe posobie dlia pedagogicheskikh institutov. Pod obshchei red. S.D.Beskova. Moskva, Gos.uchebno-pedagog.izd-vo M-va prosv. RSFSR, 1959. 319 p. (MIRA 12:12)

(Chemical engineering)

BALEZIN, S.A., prof., otv. red.; BESKOV, S.D., prof., red.; POLOSIN, V.S., dots., red.; ZAK, A.L., tekhn. red.

[Corrosion inhibitors for metals; investigations and use] Ingibitory korrozii metallov; issledovanie i primenenie. Moskva, Izd-vo MGPI im. V.I.Lenina, 1960. 304 p., 12 p. (MIRA 15:1)

1. Moscow. Moskovskiy gosudarstvennyy pedagogicheskiy institut. Kafedra obshchey i analiticheskoy khimii.
(Corrosion and anticorrosives)

ZAK, E.G.; BESKOV, S.D.

Investigating the phosphates of certain organic bases for use as corrosion inhibitors. Uch. zap. MGPI no.146:25-40 '60. (MIRA 15:4)

(Phosphate coating) (Organic compounds)
(Corrosion and anticorrosives)

BALEZIN, S.A.; BESKOV, S.D.; ZAYTSEV, L.P.

Chemical cleaning of metal surfaces by sand blasting. Uch. zap. MGPI no.146:41-61 '60. (MIRA 15:4)
(Metal cleaning) (Passivation)

ZAK, E.G.; BESKOV, S.D.

Use of urea as inhibitor of atmospheric corrosion. Uch. zap. MGPI no.146:154-158 '60. (MIRA 15:4)
(Urea) (Corrosion and anticorrosives)

MUKANOV, I.P.; BESKOV, S.D.

Corrosion of low-carbon unalloyed steels in fuming nitric acid containing certain additions. Uch. zap. MGPI no.146:288-296 '60. (MIRA 15:4)
(Steel--Corrosion) (Nitric acid)

BESKOV, S.D.

Dissertations on methods of chemistry teaching. Khim. v shkole 15 no.2:92-94 Mr-Ap '60. (MIRA 14:5)
(Chemistry--Study and teaching)

83977

S/080/60/033/009/009/021
A003/A001

11.1160

AUTHORS: Mukanov, I.P., Beskov, S.D., Kochetkova, L.I.

TITLE: The Interaction of Concentrated Nitric Acid With Carbon Steel

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 9, pp. 2084-2096

TEXT: The nature and the mechanism of corrosion destruction of carbon steels in concentrated solutions of nitric acid were studied. In the experiments Armco iron and steel-20, -40 and -70 with a carbon content of 0.045, 0.195, 0.39 and 0.69%, respectively, were used. All samples were immersed in acid solutions with a concentration from 70 to 92-94% HNO_3. They were covered with a dark-gray "passive" film which could not be eliminated by washing. In a 95-99%-solution gases are liberated very vigorously during 1-2 min which points to the active interaction between the metal and the acid. The metal surface assumes a dark color and on the metal-acid interface a concentrated solution of $Fe(NO_3)_3$ is formed. The conclusion is drawn that with an increase in the carbon content the dissolution rate of steel increases. With an increase in the carbon content of steel the amount of nitrogen oxides in the HNO_3 solution increases. The concentration of iron ions in the acid solutions after their interaction with the

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The Interaction of Concentrated Nitric Acid With Carbon Steel

steel samples confirms the conclusion that the dissolution rate of steel in acid solutions depends on the carbon content in it. This is explained by the greater heterogeneity of the steel surface and by the number of cathode and anode sections with increased potential difference. It was also established that with an increase in the HNO_3 concentration and in the size of the crystallite grains in the steel composition the rate of intercrystallite corrosion increases. The destruction of Armco iron in highly-concentrated (97-99.5%) solutions takes place mainly at the expense of intercrystallite corrosion. The weight of carbon steel-40 and -70 decreases due to simple dissolution of iron. The corrosion rate of carbon steel in vapors of nitric acid changes analogously to the corrosion rate in the corresponding solutions. The dissolution rate increases also with the temperature. The temperature coefficient within the range of 20-30°C is very high, within the range of 30-87°C it decreases attaining its limit value of 1.2-1.25. There are 11 figures, 8 tables and 11 references: 7 Soviet, 3 English, 1 German.

ASSOCIATION: Moskovskiy gosudarstvennyy pedogogicheskiy institut (Moscow State Pedogogical Institute)

SUBMITTED: March 2, 1960

18 8310

25078
S/081/61/000/010/011/029
B117/B206

AUTHORS: Zak, E. G., Beskov, S. D.

TITLE: Investigation of phosphates of some organic bases as corrosion inhibitors

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 288, abstract 10И225 (10I225). ("Uch.zap./ Mosk. gos. ped. in-ta im. V. I. Lenina", no. 146, 1960, 25 - 40)

TEXT: It was established that di- and triguanidine phosphates are effective corrosion inhibitors in neutral and weakly acid media and also inhibit atmospheric corrosion. The protective effect of phosphates of organic bases may be explained by the joint effect of phosphate ions and organic bases developing due to the hydrolysis of phosphate salts. [Abstracter's note: Complete translation.]

Card 1/1

S/081/61/000/010/008/029
B117/B207

AUTHORS: Balezin, S. A., Beskov, S. D., Zaytsev, L. P.

TITLE: Chemical surface purification of metal products by the jet method

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 285, abstract 10M194 (10I194) ("/Uch. zap./ Mosk. gos. ped. in-ta im. V. I. Lenina", no. 146, 1960, 41-61)

TEXT: It is pointed out that the jet method for purifying metal surfaces, which combines the chemical and mechanical effects of the caustic solution, reduces the time necessary to purify metal products to between one-tenth and one-fifteenth. Combined jet and caustic processes are recommended for brass and steel products. [Abstracter's note: Complete translation.]

Card 1/1

25077
S/081/61/000/010/010/029
B117/B207

18 8310

AUTHORS: Zak, E. G., Beskov, S. D.

TITLE: The use of urea as inhibitor of atmospheric corrosion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 288, abstract 10M222 (10I222). ("/Uch. zap. /Mosk. gos. ped. in-ta im. V. I. Lenina", no. 146, 1960, 154-158)

TEXT: Survey. The protective effect of the urea - $NaNO_2$ mixture is stated to be due to the joint action of nitrite ions and hydrolysis products of urea. 11 references are listed. [Abstracter's note: Complete translation.]

Card 1/1

25080
S/081/61/000/010/014/029
B117/B206

18 8310

AUTHORS: Mukanov, I. P., Beskov, S. D.

TITLE: Corrosion of unalloyed low-carbon steels in fuming nitric acid with some admixtures

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 289, abstract 10И231 (10I231). ("/Uch. zap./ Mosk. gos. ped. in-ta im. V. I. Lenina", no. 146, 1960, 288 - 296)

TEXT: It was established that I_2 and its derivatives are efficient corrosion inhibitors for unalloyed low-carbon steels in fuming HNO_3 (ДАК(DAK)), if it contains $H_2O > 3\%$. Iodine derivatives are inhibitors of mixed type, i. e., they inhibit the cathodic, and especially the anodic process. [Abstracter's note: Complete translation.]

Card 1/1

27914
S/080/61/034/010/012/016
D217/D301

18.8310

AUTHORS: Mukanov, I. P., and Beskov, S. D.

TITLE: Corrosion of carbon steels in highly concentrated nitric acid solutions containing additions of halogens and their compounds

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 10, 1961, 2282-2288

TEXT: Metallic containers used for storing nitric acid under industrial conditions are rapidly destroyed by the action of highly concentrated solutions of this acid. Hence, the protection of steel against attack by such solutions is of considerable importance from the point of view of national economy. Iodine and its compounds, as well flourine compounds, have been found to inhibit the corrosion of alloy steels in highly concentrated HNO_3 solutions. However, no information on the mechanism of the protective action of the above compounds is available. Therefore, the authors carried out a study of the influence of some halogens and their compounds on the corrosion of carbon steels in the liquid and vapor phases of highly con-

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Corrosion of carbon...

centrated HNO_3 to elucidate the mechanism of the inhibiting action of these compounds. Specimens of the steels 20 and 40, the composition of which is shown in Table 1, were used for the investigation.

Table 1. Chemical composition of steels

Type of steel	Chemical composition (%)				
	C	Si	Mn	Cr	Ni
Steel 20	0.19	0.175	0.35	0.08	0.09
Steel 40	0.43	0.18	0.37	0.06	0.08

Solutions of HNO_3 with a total $HNO_3 + NO_2$ content of 99, 98, 97, 95, 93, 90 and 80% were used as the active media. The NO_2 content of all the

Card 2/4

above solutions was approximately 1%. The effects of the following additions were studied: NH_4F and NaF; NH_4Cl, NaCl, NH_4ClO_4 and $KClO_3$; Br_2, KBr and $BaBrO_3$; I_2, KI, NaI, LiI, HIO_3, KIO_3, NH_4IO_3; CH_2I_2, C_4H_9I, $[(CH_3)_4N]I$ and $[(C_2H_5)_4N]I$. It was found that iodine and its compounds are extremely effective corrosion-inhibitors of carbon steels in highly concentrated HNO_3 containing less than 3% water, as well as in boiling solutions of this acid. The protective properties of these inhibitors are due to the presence of iodate ions in the solutions, whose minimum concentrations must not be less than approximately 2 m mol/l. However, iodine and its compounds protect steels only in liquid HNO_3; they are ineffective in HNO_3 vapor. The other halogens and their compounds exert practically no influence on the rate of corrosion of carbon steels in concentrated HNO_3 solutions. The oxidation-reduction potentials of HNO_3 solutions containing additions of iodine and its compounds remain practically unaltered.

Corrosion of carbon...

There are 4 figures, 5 tables and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: Yee Tih Boo, Corrosion, 14, 2, 42 (1958); D. M. Mason, L. L. Taylor and J. B. Rittenhouse, Corrosion, 13, 12, 55, (1957); D. M. Mason, M. Davio and J. B. Rittenhouse, Corrosion, 14, 7, 59 (1958).

ASSOCIATION: Moskovskiy gosudarstvenyy pedagogicheskiy institut imeni V. I. Lenina (Moscow State Pedagogic Institute imeni V. I. Lenin)

SUBMITTED: July 13, 1960

Card 4/4

33850
S/137/62/000/001/197/237
A006/A101

11.1160

AUTHORS: Mukanov, I. P., Beskov, S. D.

TITLE: Corrosion of 20 grade steel in high-concentrated nitric acid, containing some admixtures

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 85-86, abstract 1I603 ("Uch. zap. Mosk. gos. ped. in-ta im. V. I. Lenina", 1960, no. 4, 21-24)

TEXT: Na_2SO_4, K_2SeO_4 and NaH_2PO_4 are most effective inhibitors of grade 20 steel corrosion in 95 and 97% HNO_3 solutions. In a 99% HNO_3 solution the effect of these admixtures is low. The admixtures investigated inhibit the anodic process of steel diffusion.

Authors' summary

[Abstracter's note: Complete translation]

Card 1/1

BESKOV, S.D.

Dissertations on the methodology of teaching chemistry. Khim. v shkole 15 no.3:86-92 My-Je '60. (MIRA 14:7)
(Chemistry--Study and teaching)

BESPALOV, A.V.

Graphic determination of orbit elements of visual binary stars and some statistical regularities for them. Trudy GAISH 30:75-103 '61. (MIRA 14:8)

(Stars, Double)

BESKOV, Sergey Dmitriyevich, prof.; BELOTSVETOV, Aleksey Vsevolodovich; KLYUCHNIKOV, Nikolay Grigor'yevich; SLAVIN, David Osipovich; METEL'SKAYA, G.S., red.; ZAYTSEVA, K.F., red. kart; MAKHOVA, N.N., tekhn. red

[Principles of chemical technology]Osnovy khimicheskoi tekhnologii; posobie dlia studentov pedagogicheskikh institutov. [By] S.D. Beskov i dr. Izd.2., ispr. i dop. Moskva, Uchpedgiz, 1962. 406 p. (MIRA 16:1)

(Chemistry, Technical)

BESKOV, Sergey Dmitrovich; ALAVERDOV, Ya.G., red.; VORONINA, R.K., tekhn. red.

[Calculations of chemical production processes] Tekhnokhimicheskie raschety. 3. izd., ispr. Moskva, Gos. izd-vo "Vysshaia shkola," 1962. 467 p. (MIRA 15:6)
(Chemical engineering)

ACCESSION NR: AR4015695 S/0081/63/000/023/0355/0356

SOURCE: RZh. Khimiya, Abs. 23K87

AUTHOR: Zak, E. G.; Balezin, S. A.; Beskov, S. D.

TITLE: The protection of steel parts with volatile inhibitors

CITED SOURCE: Uch. zap. Mosk. gos. ped. in-t im. V. I. Lenina, no. 181, 1962, 94-107

TOPIC TAGS: corrosion, corrosion inhibitor, steel corrosion, rust, volatile corrosion inhibitor, parkerizing, cold parkerizing, dicyclohexylammonium nitrite, ethanolamine carbonate

ABSTRACT: Cold parkerizing (rustproofing), which decreases the rate of atmospheric corrosion of machine parts, does not insure long-term protection against atmospheric corrosion. Cold parkerizing as a method of preliminary treatment of a surface can suitably be combined with other protective methods, especially with vapor phase protection. As vapor phase inhibitors, substances with low vapor pressure and a large induction period can be used, since the slow development of corrosion on a parkerized surface makes it possible for an inhibitor of low volatility to form a protective atmosphere and insure further protection of the parts. The

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layer of iron phosphates which are formed on the surface of the iron during parkerizing absorbs the inhibitors and insures their further protective action, i. e., this film plays a role analogous to that of iron oxides and hydroxides. For protection against atmospheric corrosion of hermetically sealed steel parts with a complicated inner structure (welded edges, thread, etc.) the following inhibitors and methods of application are recommended: 1) introduction of inhibitors in small bags into the inner part of the objects; in this connection, the following inhibitors are recommended for vapor phase protection: a) a mixture of dicyclohexylammonium nitrite with ammonium carbonate (1:4) in a quantity of $10g/m^3$ of object volume, and b) mixture of ammonium carbonate with sodium nitrite (1:1.5) in a quantity of $20-30g/m^3$ of object volume; 2) introduction into the inner part of the object of paper saturated with solutions of the inhibitors, which assure not only contact but also vapor-phase protection; one can recommend kraft-paper saturated with a 5% aqueous solution of dicyclohexylammonium nitrite or a 10% aqueous solution of a mixture of dicyclohexylammonium nitrite with monoethanolamine carbonate (1:1.5) in a quantity of $3-4m^2$ of paper/m^3 capacity; 3) washing the walls of the object with a 5% alcohol-water (7:3) solution of dicyclohexylammonium nitrite. Inhibitory emulsions cannot be recommended for the protection of hermetically sealed steel parts since their protective properties appear only during aeration of the surface of the object. 11 ref. Authors' summary

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OSOKIN, Aleksandr Stepanovich; BESKOV, S.D., prof., doktor khim. nauk, retsenzent; SOPOVA, A.S., kand. khim. nauk, retsenzent; POLYANSKAYA, A.S., kand. khim. nauk, retsenzent; ALAVERDOV, Ya.G., red.; VORONINA, R.K., tekhn. red.

[Principles of general chemical technology] Osnovy obshchei khimicheskoi tekhnologii. Moskva, Vysshaia shkola, 1963. 390 p. (MIRA 16:7)

1. Leningradskiy pedagogicheskiy institut im. A.I.Gertsena (for Sopova, Polyanskaya).

(Chemistry, Technical)

BESKOV, V.D., prof., red.; PONOMAREVA, A.A., tekhn. red.

[Programs of pedagogical institutes; elements of physical and colloid chemistry for natural science faculties] Programmy pedagogicheskikh institutov; osnovy fizicheskoi i kolloidnoi khimii (dlia fakul'tetov estestvoznaniia). [Moskva] Uchpedgiz, 1955. 6 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy
(Chemistry, Physical and theoretical--Study and teaching)

SLIN'KO, M.G.; ESKOV, V.S.

Design of contact apparatus with adiabatic beds of catalysts for the oxidation of sulfur dioxide (design of contact apparatus with intermediate heat exchangers). Khim.prom. no.12:826-831 D '61. (MIRA 15:1)

(Sulfur dioxide) (Chemical engineering—Equipment and supplies)

35062
S/195/62/003/001/008/010
E071/E136

11.1330

AUTHORS: Slin'ko, M.G., Buzhdan, Ya.M., Beskov, V.S., and Yemel'yanov, I.D.

TITLE: Optimal conditions for the production of ethylene oxide

PERIODICAL: Kinetika i kataliz, v.3, no.1, 1962, 145-154

TEXT: The use of computers in the design of multilayer contact plants is illustrated on an example of determining the optimum technological conditions for the process of oxidation of ethylene in consecutive layers of a catalyst with an ideal mixing and in a stationary layer at ideal displacement. It was shown that for two parallel reactions in which the energy of activation of the side reaction is higher than that of useful reaction, the temperature should increase with an increasing degree of conversion. The necessary amount of catalyst for various outputs of ethylene oxide was calculated.
There are 6 figures and 4 tables.

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Optimal conditions for the ... S/195/62/003/001/008/010
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ASSOCIATION: Institut kataliza SO AN SSSR
(Institute of Catalysis, SO AS USSR)

SUBMITTED: October 19, 1961

Card 2/2

SLIN'KO, M.G.; BESKOV, V.S.; SKOMOROKHOV, V.B.

Stability of contact apparatus having internal heat exchange.
Khim.prom. no.9:641-647 S '63. (MIRA 16:12)

MATROS, Yu.Sh.; BESKOV, V.S.

Designing a contact apparatus with internal heat exchange as object of regulation. Analysis of static characteristics. Khim.prom. no.12:883-889 D '63. (MIRA 17:3)

BESKOV, V.S.; KERNERMAN, V.Sh.; KUZNETSOV, Yu.I.

First All-Union Conference on Modeling and Optimization of Catalytic Processes. Kin.i kat. 4 no.5:795-798 S-O '63. (MIRA 16:12)

BESKOV, V.S.; BUZHDAN, Ya.M.; SLIN'KO, M.G.; Prinimal uchastiye AKIMUTIN, N.M.

Design of contact units with adiabatic beds of a catalyst for the oxidation of sulfur dioxide. Khim. prom. no.10:721-724 O '63. (MIRA 17:6)

BESKOV, V.S.; LIBERZON, L.M.; SLIN'KO, M.G.; Prinimali uchastiye AKIMUTIN, N.M. BURYAK, K.A.; SHINDEROVA, T.A.

Determining the static characteristics of a contact apparatus for the oxidation of sulfur dioxide in order to achieve the optimization of the process. Khim. prom. 40 no.9:678-680 S '64. (MIRA 17:11)

1. Institut kataliza Sibirskogo otdeleniya AN SSSR (for Akimutin).
2. Nauchnyy institut udobreniy i insektofungisidov imeni professora Ya.V. Samoylova (for Shinderova).