"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.I.; FILIPPOVICH, D.S.

Electric conductivity of polymers. Part 6: Calculation of specific resistances in the region of dipole-radical polarization. Vysokom. soed. 5 no.8:1207-1212 Ag '63. (MIRA 16:9)

1. Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass.

(Polymers--Electric properties)
(Polarization (Electricity))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.I.; ORLOVA, T.P.

Studying the dielectric losses of the copolymers of tetrafluoroethylene and other fluorine-containing monomers. Plast.massy no.10:8-10 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACCESSION NR: AT4020700 S/0000/63/000/000/0068/0073

AUTHOR: Sazhin, B. I.; Skurikhina, V. S.

TITLE: Studies of polymer electrical conductivity. VII. Polyethylenes and copolymers of ethylene with propylene

SOURCE: Karbotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macromolecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 68-73

TOPIC TAGS: polymer, conductivity, polymer conductivity, polyethylene, polyethylene conductivity, ethylene propylene copolymer, polymer conductivity catalyst dependence, Ziegler catalyst, polymer conductivity temperature dependence, polymer conductivity pressure dependence

ABSTRACT: In a study of the effect of catalyst residues on the electrical conductivity of polyethylene and copolymers of ethylene and propylene, samples prepared by a low-, intermediate- and high-pressure process were compared with respect to specific electrical conductivity and ash content. In low- and high-pressure polymers, the electrical conductivity was found to decrease uniformly with the reciprocal of the absolute temperature down to very low temperatures; as shown in Fig. 1 of the Enclosure, however, the relationship is more complex for intermediate-pressure polymers, indicating differences in structure. Ziegler catalyst residues were found

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACCESSSION NR: AT4020700

to reduce the specific electrical resistivity more sharply than residues of chromium oxide. Due to low-frequency relaxation, polymers of ethylene, alone or with propylene, containing relatively large amounts of chromium oxide (0.5-2%) show a resistance minimum at 20-110C. "The authors would like to thank I. A. Andreyeva, A. S. Semenova and A. G. Sirota for the polymer samples, as well as L. I. Kolotsaya and Yu. L. Chereshkevich for helping with the measurements." Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: NAUCHNO-ISSLEDOVATEL'SKIY INSTITUT POLIMERIZATSIONNY*KH PLASTMASS (Scientific Research Institute for Polymerized Plastics)

SUBMITTED: 16Apr62 DATE ACQ: 20Mar64 ENCL: 01

SUB CODE: CH, PH NO REF SOV: 006 OTHER: 002

Card 2/4

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

45175

S/020/63/148/003/032/037
B101/B186

15.8540
24.7200

AUTHORS: Sazhin, B. I., Podosenova, N. G.

TITLE: Compensation effect of the electrical conductivity of crystalline polymeric dielectrics

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 3, 1963, 627 - 629

TEXT: The effect of crystallization of polyethylene terephthalate, polytrifluoro chloroethylene, and pentaplast (polymer of 3,3-dimethyl chloro hydroxycyclobutane) on the electrical conductivity σ was studied by calculating σ from the residual current. The increased degree of crystallization was achieved by repeated annealing of the polymers at increasing temperatures. The degree of crystallization was determined according to W. H. Cobbs (J. Polymer Sci., 92, 417 (1958)). An increase in density of 0.5 - 5% corresponding to an increase in degree of crystallization by 10-50% was found to reduce σ by a factor of 10 - 1000. The function $U = A + B \log \sigma_0$ is linear. For the polymers studied, B = 0.7 kcal/mole, A = 21. The opposite effect of the change of U and σ_0 on the rate of the process, the compensation effect, was thus found for crystalline polymeric dielectrics for

Card 1/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

the first time. For polyethylene terephthalate, the density d^{30} of the initial sample was 1.345, $\sigma = 3 \cdot 10^{-13}$ $ohm^{-1} \cdot cm^{-1}$. After five annealings at increasing temperatures (105 - 200°C), d^{30} was 1.408, $\sigma = 1 \cdot 10^{-16}$. For polytrifluoro chloroethylene, the initial values were $d^{30} = 2.129$, $\sigma = 4 \cdot 10^{-17}$, after four annealings (130 - 170°C) d^{30} was 2.128, $\sigma = 5 \cdot 10^{-20}$. For pentaplast, the initial values were $d^{30} = 1.407$, $\sigma = 1 \cdot 10^{-16}$, after two annealings (150 - 160°C) d^{30} was 1.416, $\sigma = 1 \cdot 10^{-17}$. The σ values hold for 100°C. There are 1 figure and 1 table.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (State Scientific Research Institute of Polymerization Plastics); Eksperimental'nyy zavod Gosudarstvennogo komiteta Soveta Ministrov SSSR po khimii (Pilot Plant of the State Committee for Chemistry of the Council of Ministers USSR)

PRESENTED: August 3, 1962, by V. A. Kargin, Academician
SUBMITTED: July 24, 1962

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, Boris Ivanovich; MIKHAYLOV, G.P., prof., red.; SHUR, Ye.I., red.

[Electric conductivity of polymers] Elektroprovodnost' polimerov. Moskva, Izd-vo "Khimiia," 1964. 115 p. (MIRA 17:6)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

BUKHGALTER, V.I.; PIROZHNAYA, L.N.; SAZHIN, B.I.; SERGEYEVA, N.I.

Study of polyermization kinetics of polyacrylates by the methods electric conductivity, infrered spectroscopy, and viscosimetry. Vysokom. soed. 6 no.1:118-121 Ja'64. (MIRA 17:5)

1. Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

S/0190/64/006/001/0137/0143

ACCESSION NR: AP4009158

AUTHORS: Sazhin, B. I.; Podosenova, N. G.

TITLE: Investigation of polymer electrical conductivity. 8. Effect of crystallization

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 1, 1964, 137-143

TOPIC TAGS: polymer, crystallization, electric resistivity, equilibrium period

ABSTRACT: The effect of crystallization of polyethylene-terephthalate, polytrifluorochloroethylene (series I and II), and pentaplast polymers on volumetric electric resistivity ρ_v was investigated for $T > T_c$. The specimens were pressed into 1 mm thick disks 50 mm in diameter. Measurement errors in ρ_v did not exceed 15%. The experimental points were fitted with curves of the form

$$\frac{1}{\rho_v} = Ae^{-U/RT}.$$

The results showed a 10- to 1000-fold increase in resistivity upon raising the degree of crystallization from 10 to 50%. This increase was found to have a

Card 1/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACCESSION NR: AP4009158

linear relation to the degree of crystallization. Impurities in the crystals reduced ρ_v by a factor of 10 to 50. A log ρ_v versus crystallization-time graph of the tempered specimen shows a time-independent curve (corresponding to the induction period), by a time-varying curve (corresponding to the crystallization period), and a third curve, also time-independent, (corresponding to the final equilibrium period). Orig. art. has: 3 figures, 3 formulas, and 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (Scientific Research Institute of Plastic Polymerization)

SUBMITTED: 10Sep62 DATE ACQ: 10Feb64 ENCL: 00

SUB CODE: OC NO REF SOV: 005 OTHER: 005

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACCESSION NR: AP4041743 S/0181/64/006/007/2215/2217

AUTHOR: Sazhin, B. I.; Podosenova, N. G.

TITLE: Study of the effect of crystallization on the electrical conductivity of polymeric dielectrics

SOURCE: Fizika tverdogo tela, v. 6, no. 7, 1964, 2215-2217

TOPIC TAGS: dielectric, dielectric polymer, crystallization, electrical conductivity, polyethylene terephthalate, polychlorotrifluoroethylene, pentaplast, PET, F-3, PT

ABSTRACT: The effect of crystallization on the electrical conductivit of poly(ethylene terephthalate) (PET) polytrifluorochloroethylene (F-3) and pentaplast (the polymer of 3,3-dimethylchlorohydroxycyclobutane, PT) has been studied to determine whether the compensation effect and a rise in volume resistivity occur on crystallization of these polymers in the glassy state. The temperature dependence of volume resistivity (ρ_v) was determined for samples of these polymers with various degrees of crystallization. The plot of the function log ρ_v f(1/T) was linear, indicating that this function can be de-

Card 1/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACCESSION NR: AP4041743

scribed by the Arrhenius equation ρ_v increased by a factor of 10—100 on crystallization in the 20—70C range, i.e., below the glass transition temperature. It can be shown that the dependence of log ρ_v on the degree of crystallization is linear, the rise in ρ_v with crystallization indicating ionic conductivity. A plot of the dependence of activation energy (U) on log (preexponential factor) (log δ_0) showed that this dependence can be described by the equation

$$U = A + B \log \delta_0,$$

where A and B are positive constants, in the ranges 90—150 and 20—70C. Values of B calculated for each of these ranges showed that B is proportional to the average absolute temperature. This work was done at the Leningrad Scientific Research Institute of [Addition] Polymerization Plastics. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Nauchno-issledovatel'skiy institut polimerizationny*kh plastmass, Leningrad (Scientific Research Institute of Polymerization Plastics)

Card 2/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACCESSION NR: AP4041743

SUBMITTED: 03Dec63 ATD PRESS: 3055 ENCL: 00

SUB CODE: SS, MT NO REF SOV: 008 OTHER: 001

Card 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

VASILENOK, Yu.I.; DAVYDOV, B.E.; KRENTSEL', B.A.; SAZHIN, B.I.

Donor-acceptor interaction of halogens with polystyrene, polyvinyltoluene, and copolymers of styrene with α-methylstyrene and β-vinylnaphthalene. Vysokom. soed. 7 no.4: 626-633 Ap 65. (MIRA 18:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

KUZ'MINA, S.V.; NOSATEV, G.A.; SAZHIN, B.I.; EYDEL'NANT, M.P.

Use of the method of electroconductivity measurement for studying the kinetics of the block polymerization of styrene. Plast. massy no.4:67-70 '65. (MIRA 18:6)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SEMENOVA, A.S.; PARAMONKOV, Ye.Ya.; FEDOTOV, B.G.; GOL'DENBERG, A.L.; IL'CHENKO, P.A.; CHAPLINA, A.M.; SKURIKHINA, V.S.; SAZHIN, B.I.; MATVEYEVA, Ye.N.; KOZOLA, A.A.; DYN'KINA, G.M.; SIROTA, A.G.; RYBIKOV, Ye.P.; GERBILSKIY, I.S.; SHCHUTSKIY, S.V., red.; SHUR, Ye.I., red.

[Medium pressure polyethylene] Polietilen srednego davleniia. Moskva, Khimiia, 1965. 89 p. (MIRA 18:7)

1. Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (for all except Shchutskiy, Shur).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, Boris Ivanovich; MIKHAYLOV, G.P., prof., red.

[Electrical conductivity of polymers] Elektroprovodnost' polimerov. Moskva, Khimiia, 1965. 159 p. (MIRA 18:9)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

L 21998-66 EWT(m)/EWP(j) WW/RM

ACCESSION NR: AP5024502 UR/0191/65/000/010/0025/0027 63 62 B

678.644'142.01:537.226

AUTHOR: Sazhin, B. I.; Eydel'nant, M. P.; Belosludtseva, Ye. I.; Cherkanov, S. P.; Grebenshchikova, V. A.

TITLE: Dielectric properties of polypropylene oxide

SOURCE: Plasticheskiye massy, no. 10, 1965, 25-27

TOPIC TAGS: polymer, electric property, dielectric permeability, specific resistance, dielectric loss, crystalline polymer, amorphous polymer, dielectric property

ABSTRACT: The electric properties of polypropylene oxide (PPO) were investigated in the absence of literature data. The dielectric permeability and the tangent of the angle of dielectric loss were determined in the -120 to -80 C temperature range at frequencies from 10^{-1} to 10^{6} cycles/sec for samples having different degrees of crystallinity. Maximum dielectric permeability and dielectric losses were observed in the -70 to -20 C temperature range at all frequencies. These values decreased with increase in polymer crystallinity. From the apparent energy of activation calculated for the 10^{2}-10^{5} cycles/sec range, 41 kcal/mol

Card 1/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

L 21998-66

ACCESSION NR: AP5024502

the losses are of the dipole-elastic type. The maximum temperatures for the dielectric and mechanical losses are both about -65C, indicating the same mechanism, that is, segmentary movement of macromolecules in the amorphous region. The extent of the contribution to static dielectric permeability introduced by dipole-elastic polarization decreases as the degree of crystallinity increases. At room temperature, dielectric permeability values decrease and resistivity increases as the crystallinity of the PPO is increased. "X-ray determinations of the degree of crystallization were determined by M. A. Martynov." Orig. art. has: 4 figures, 1 table and 4 equations.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: 07, 20

NR REF SOV: 002 OTHER: 004

Card 2/2 BK

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.I.; SHUVAYEV, V.P.; VESELOVSKAYA, L.N.

Determining the molecular weights of polymers by the electric resistance of their solutions. Plast. massy no.11:48-50 '65. (MIRA 18:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.I.; SHUVAYEV, V.P.

Electric conductivity of polystyrene solutions. Vysokom. soed. 7 no.6:962-965 Je '65. (MIRA 18:9)

1. Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

L 17719-66 EWP(j)/EWT(m)/ETC(m)-6/T RM/WW

ACC NR: AP6003411 (A) SOURCE CODE: UR/0190/66/008/001/0034/0037

AUTHORS: Sazhin, B. I.; Orlova, T. P.

ORG: Scientific Research Institute for Polymerized Plastics (Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass)

TITLE: Study of dielectric losses in styrene-acrylonitrile copolymers in the vitreous state

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 1, 1966, 34-37

TOPIC TAGS: polymer, copolymer, styrene, acrylonitrile, dielectric loss

ABSTRACT: To elucidate the nature of the so-called fluctuation losses in polymers, the dielectric losses in styrene and acrylonitrile copolymers were determined as a function of temperature in the range -120 to 80C at a fixed frequency of 4.5×10^8 cycles per sec of the applied field. The experimental results are presented in graphs and tables (see Fig. 1). It was found that the experimental results obeyed the equation presented by C. G. Garton (Trans. Faraday Soc., 42A, 56, 1946). It is concluded that the fluctuation losses are associated with the motion of polymer chain branches. The energy of activation

Card 1/2

UDC: 678.01:53+678.745+678.746

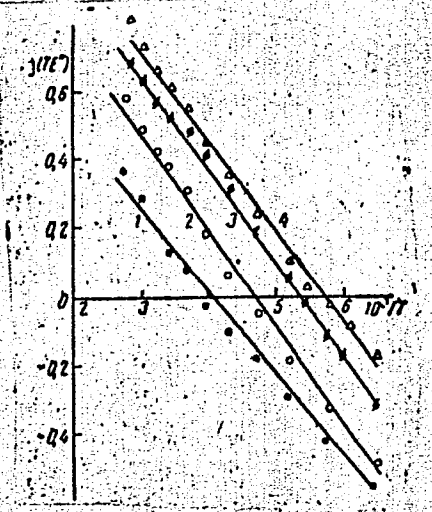
APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

L 17719-66

ACC NR: AP6003411

Fig. 1. Dependence of log ($T\varepsilon''$). $\varepsilon'' = \varepsilon' \tan\delta$ on the reciprocal of the absolute temperature. Curves 1, 3, 4 correspond to reprecipitated polymers SN-10, SN-15, and SN-28; 2 - nonreprecipitated SN-10.



for fluctuation losses was found to be 1 ~ 2 Kcal/mole. Orig. art. has: 2 graphs, 1 table, and 1 equation.

SUB CODE: 11/ SUBM DATE: 08Feb65/ ORIG REF: 010/ OTH REF: 003

Card 2/2 nst

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

L 23454-66 EWT(m)/EWP(j)/T IJP(c) WW/RM

ACC NR: AP6010107 (A) SOURCE CODE: UR/0190/66/008/003/0427/0430

AUTHOR: Sazhin, B. I.; Eidel'nant, M. P.

ORG: Scientific Research Institute of Polymerization Plastics (Nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass)

TITLE: Orientation effect on the electric conductivity of polymers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 3, 1966, 427-430

TOPIC TAGS: polymer, vinyl chloride, copolymer, crystal anisotropy, electric conductivity, stretch forming, crystal orientation

ABSTRACT: Orientation effect on the electric conductivity of polymers has been investigated. It was found that the electric conductivity of the polymer decreases 6--100 times, and the conductivity of anisotropy appears as a result of uniaxial stretching of tetrafluoroethylene and vinylidene fluoride copolymer by 2.5 -- 10 times. The value of electric conductivity of the stretched samples is higher in the stretching direction than in the perpendicular. The authors thank V. A. Seminov for measurements, S. G. Malkevich for delivering samples, and T. N. Sarminskoy for taking x-ray photographs. Orig. art. has: 2 figures, 2 formulas, and 1 table. [Based on authors' abstract] [NT]

SUB CODE: 11, 09 SUBM DATE: 16Mar65/ ORIG REF: 006/ OTH REF: 003

Card 1/1 UDC: 678.01.53

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACC NR: AP6030855 (A,N) SOURCE CODE: UR/0191/66/000/009/0049/0051

AUTHOR: Sazhin, B. I.; Skurikhina, V. S.

ORG: none

TITLE: Dependence of the electric conductivity of polymers on the electric field strength

SOURCE: Plasticheskiye massy, no. 9, 1966, 49-51

TOPIC TAGS: resistivity, electric field, polyethylene, polyvinyl acetate, polymer physical property

ABSTRACT: The resistivity ρ_v of high-pressure polyethylene (PVP-0,05; PVP-0,5), polytrifluorochloroethylene (F-3), polyvinyl acetate (PVA), polyvinyl formal (PVF), polyvinyl ethylal (PVE) and polyvinyl butyral (PVB) was measured while raising the electric field strength E from $(3-7)\cdot10^4$ to $(4-6)\cdot10^5$ V/cm at temperatures ranging from 23 to 125°C. In most cases, the dependence of ρ_v on E was found to obey Poole's equation $\rho_v = \rho_0 e^{-\alpha E}$, where ρ_0 and α are constant in the given range of E and temperature. Poole's coefficient α is affected by various factors: pretreatment of the sample, degree to which the catalyst has been washed off (or ash content S) and temperature. When the polymer is in the vitreous state, Poole's equation is almost always applicable, but in the viscoelastic state deviations from this equation are manifested. The equation $\rho_v = \rho_1/E^Y$ also applies to the polymers studied. Orig. art. has: 3 fig-

Card 1/2

UDC: 678.74.01:537.312.7

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

L 08462-67

ACC NR: AP6030855

uros, 1 table and 2 formulas.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 003

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

Sazhin, B.S.

MISCELLANEOUS

"Desiccation of Paste-Like Materials in a Roll-Belt Drier", by S.I. Shapiro and B.S. Sazhin, Scientific Research Institute of Organic Semi-Finished Products and Dyestuffs imeni K.E. Voroshilov, Meditsinskaya Promyshlennost SSSR, No 5, May 1957, pp 12-23.

A new drier for paste-like materials, designed at the Institute of Chemical Machine Building, is described in great detail. Two pictures, a sketch, and an output graph are included in the article.

The mechanism of the drier is based on a molding roller and conveyer belt principle. Fully automatic, it requires 40-50 minutes. The average output for organic half-finished products and dyestuffs is 12 to 15 kg. of dessicated product per hour per m^2 of belt surface. This represents a great improvement since the driers now in use in the Soviet Union take 12 to 20 hours and their output is far inferior.

The new drier will be particularly suitable for the pharmaceutical industry.

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.

Drying and simultaneous oxidation in the production of certain sulfur dyes [with summary in English]. Inzh.-fiz. zhur. no. 9:36-44 S '58. (MIRA 11:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley, g. Moskva.
(Dyes and dyeing--Chemistry)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B. S.

"Drying of Pasts on a Roll-ribbon Dryer."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B. S.

"Investigation of the Process of Drying of Loose Materials on Aerofountain Dryer and the Development of Rational Scheme of a Drying Apparatus."

Report submitted for the Conference on Heat and Mass Transfer, Minsk, BSSR, June 1961.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.

Principal factors determining the drying of chemical products in an air-fountain dryer. Inzh.-fiz. zhur. 5 no.2:19-23 F '62. (MIRA 15:1)

1. Institut organicheskikh poluproduktov i krasiteley, Moskva.
(Drying)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.

Fundamental factors determining the process of drying of pastelike materials in roller-ribbon dryers. Inzh.-fiz. zhur. 5 no.6:13-20 Je '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley, Moskva.
(Drying)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.; MIKLIN, Yu.A.

Technological design of air stream apparatus for drying free-flowing materials. Khim.prom. no.11:819-822 N '62. (MIRA 16:2)

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

(Drying apparatus)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.

Innovations in the technique of drying of wet materials in a fluidized bed. Khim.prom. no.11:830-836 N '62. (MIRA 16:2)
(Fluidization)
(Drying apparatus)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.; MIKLIN, Yu.A.

Drying of chemical products in air stream driers.
Zhur. VKHO 7 no.6:704-706 '62. (MIRA 15:12)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley.
(Chemicals—Drying)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.; TROSHKIN, O.A.

Means of intensifying the drying process of pastelike materials on belt-roll dryers. Zhur.VKHO 8 no.1:117-118 '63. (MIRA 16:4)

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

(Drying)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S. ; MIKLIN, Yu.A.

Calculating the duration of drying of pastelike materials in conveyor belt dryers. Inzh.-fiz.zhur. 6 no.10:57-60 O '63. (MIRA 16:11)

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

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B. S.; MIKLIN, Yu. A.

"Thermophysical characteristics of intermediate products and pigments and the methods of their determination."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Sci Res Inst of Organic Intermediate Products & Pigments.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B. S.; FOKIN, I. F.; LISAY, V. E.

"The study of drying processes in a suspension bed and the development of efficiently constructed drying apparatus."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Cent Lab of Rubezhanskiy Chemical Combine Sci Res Inst Organic Intermediate Products and Pigments.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S., inzh.

Methods for the intensification of convection drying. Khim i neft. mashinostr. no.2:11-14 Ag '64 (MIRA 18:1)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

FISHBEYN, S.S., inzh.; KUCHEROV, I.M., inzh.; SAZHIN, B.S., inzh.; FOKIN, I.F., inzh.

Results of the industrial adoption of a combined aero-fountain dryer. Khim. i neft. mashinostr. no.3:7-9 S '64. (MIRA 17:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S., kand. tekhn. nauk; FOKIN, I.F., inzh.

Air-flow dryer for loose material. Khim. i neft. mashinostr. no.5:4-5 N '64 (MIRA 18:2)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S., kand. tekhn. nauk; FOKIN, I.F., inzh.

Combined drying unit with preliminary drying in a passing fluidized bed and final drying in the cyclone chamber. Khim. i neft. mashinostr. no.6:1-3 D '64 (MIRA 18:2)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SKURSKIY, A.V.; SAZHIN, B.S.

Plant experience in operating driers with a fluidized bed.
Khim. prom. 40 no.12:913-920 D '64.

(MIRA 18:2)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.; MIKLIN, Yu.A.

Technological calculation of belt-roll dryers. Khim. prom. 41 no.3: 222-227 Mr '65. (MIRA 18:7)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, B.S.; KIRSANOV, O.S.; PERIKOVA, M.A.

Study of the convection-radiation drying of molded paste-like materials. Zhur. prikl. khim. 38 no.10:2278-2287 O '65. (MIRA 18:12)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley. Submitted Sept. 16, 1963.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, D.

Phenology of the Colorado beetle. Zashch.rast.ot vred.i bol. 7 no.6:55 Je '62. (MIRA 15:12)
(Lvov Province—Potato beetle)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

BUKHMAN, Yakov Zakharovich; GIDASPOV, Yuriy Fedorovich; SAZHIN, D.I., redaktor; LUCHKO, Yu.V., redaktor izdatel'stva; KOVALENKO, N.I., tekhnicheskiy redaktor

[Ventilation, lighting, and safety engineering in ore mines; a manual for schools and courses for specialists] Provetrivanie, osveshchenie i gornospasatel'noe delo na metallicheskikh rudnikakh; uchebnoe posobie dlia shkol i kursov masterov. Sverdlovsk, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1956. 260 p. (MIRA 9:12)

(Mine ventilation) (Mine lighting)
(Mining engineering--Safety measures)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, D.I.; PANCHENKO, V.I.

Silting as a basic factor in fire prevention during copper pyrite deposit mining. Trudy Unipromedi no.2:48-65 '57. (MIRA 11:11)

(Copper mines and mining—Safety measures)
(Mine fires)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SEREDA, Boris Konstantinovich; SAZHIN, Dmitriy Ivanovich; BUBOK, Konstantin Grigor'yevich; [redacted] A.Kh., prof., retsenzent; DEMIKHOV, I.M., inzh., retsenzent; BAKIROV, U.Kh., kand. tekhn.nauk, red.; KEL'NIK, V.P., red.izd-va; ZEF, Ye.M., tekhn.red.

[Prevention and extinction by silting of endogenous fires originating during the mining of sulfide ores] Preduprezhdenie i tushenie endogennykh pozharov zailivaniem pri razrabotke mestorozhdenii sul'fidnykh rud. Sverdlovsk, Gos. nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii, Sverdlovskoe otd-nie, 1959. 307 p. (MIRA 12:8)
(Mine fires)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

FADDEYEV, B.V., kand.tekhn.nauk; SAZHIN, D.V.

Rubber shock-absorbing roller for belt conveyors. Gor. zhur. no.3:78 Mr '61. (MIRA 14:3)

1. Gorno-geologicheskiy institut Ural'skogo filiala An SSSR (for Faddeyev). 2. Sverdlovskiy zavod rezinovykh izdeliy promyshlennoy tekhniki (for Sazhin).
(Conveying machinery)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

VOROB'YEV, M.K., inzh.; SAZHIN, F.N., nauchn. sotrudnik; GALUSHKO, E.D., inzh.-konstruktor

Permanent unit for spraying plants in greenhouses. Zashch.rast. ot vred.i bol. 4 no.6:23-24 N-D '59. (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut ovoshchnogo khozyaystva RSFSR. (for Sazhin, Galushko).
(Spraying and dusting equipment) (Greenhouse management)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, I.

Councils of national economy and electrification of our country, 1918-1920. In Russian. Vestis Latv ak no.4:25-31 '60. (EEAI 10:7)

(Russia--Electrification)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

TaSSR 3 Apr 65

The following were awarded the Badge of Honor:
MUKHAMEDOV, Tair Mikhamedovich, Min of Water Resources, TaSSR,
RAKHIMOV, Nazyrdzhon, Chmn, State Committee for the Coordination of Scientific Research Works, of the Council of Min, TaSSR,.
RAKHIMOVA, Ibodat, Dep Chief, Department of Party Organs, CC CP TaSSR,
RAKHIMOVA, Anzurat, Min of Social Security, TaSSR,
SAZHININ, Ivan Andreyevich, Min of Health, TaSSR,
SALIBAYEV, Khatam Kakimbayevich, Permenent Representative of Council of Min, TaSSR, attached to Council of Min, USSR,
SATTAROV, Gafar Yusupovich, Min of Trade, TaSSR,
STAMOV, Gavril Gavrilovich, Dep Chmn, Committee of Party-State Control of CC CP and Council of Min, TaSSR,
KHAYDAROV, Ayub, Chmn Republic Council of Trade Union, TaSSR,
SHADYYEV, Samidzhan Tursunovich, Chmn, State Committee for Press, of Council of Min, TaSSR,

The following received the medal For Labor Valor:
ABAKANOV, Nikolay Dmitriyevich, Dep Chief, Department of Party Organs, CC CP TaSSR,
ALESHANOV, Vyacheslav Mikhaylovich, Assistant First Sec, CC CP TaSSR..

Kommunist Tadzhikistana, 6 Apr 65 (12) 67

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ACC NR: AP6034766 SOURCE CODE: UR/0407/66/000/001/0079/0087

AUTHOR: Sazhin, I. I. (Moscow)

ORG: none

TITLE: Investigation of some possibilities of precision electrospark machining with a wire

SOURCE: Elektronnaya obrabotka materialov, no. 1, 1966, 79-87

TOPIC TAGS: electrospark machining, electrode WIRE, TUNGSTEN

ABSTRACT: Precision electrospark machining with a tungsten wire 0.02—0.04 mm in diameter, or copper wire 0.08—0.10 mm in diameter, is being extensively applied in the production of electronic instruments, tools and watches, due to the accuracy and ease with which any complex shape can be machined. Investigations of important factors such as electrode wire vibrations due to the action of pulse discharges, errors occurring during a long manufacturing process, and the behavior of small-diameter electrodes resulted in the development of production techniques which permit precision machining of large parts up to 500 mm thick and cutting narrow slits 4.5—14 μ wide. Electrospark machine tools developed recently operate with an accuracy of 1—2 μ. Orig. art. has: 8 figures and 1 table.

SUB CODE: 13, 14/ SUBM DATE: none/ ORIG REF: 003/

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ALEKSANDROVA, Ariadna Timofeyevna; BRODSKIY, S.I.; SAZHIN, I.I.; SHCHIRENKO, G.N.; GOLUBEV, V.A., inzh., red.; FRIDKIN, L.M., tekhn. red.

[Technical equipment for the manufacture of electric vacuum devices] Tekhnologicheskoe oborudovanie elektrovakuumnogo proizvodstva. Moskva, Gosenergoizdat, 1962. 300 p. (MIRA 15:6)

(Electronic industries--Equipment and supplies)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

AM4017342 BOOK EXPLOITATION S/

Aleksandrova, Ariadna Timofeyevna; Brodskiy, Solomon Isayakovich; Sazhin Ivan Ivanovich; Shchirenko, Georgiy Nikolayevich

Equipment for working high-melting metals in the manufacture of electron vacuum devices (Oborudovaniye dlya obrabotki tugoplavkikh metallov v electrovakuumnom proizvodstve), Moscow, Gosenergoizdat, 1963, 79 p., illus., biblio. 9,000 copies printed.

TOPIC TAGS: high-melting metal, electron vacuum device, machining, tungsten powder, molybdenum powder, wire, rolling, laminating, electron-beam melting

PURPOSE AND COVERAGE: This booklet describes the equipment for chemical and thermal treatmen and machining refractory metals used in the manufacture of electron vacuum devices. The book is intended as a text for the section of the course "Mechanical Equipment in the Manufacture of Electron Vacuum Devices" on equipment. It can also serve as a text for students in similar specialties and can be useful to engineers, technicians, and workers engaged in the production of refractory metals.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

AM4017342

Foreword - - 3
Introduction - - 5
Ch. I. Equipment for obtaining metallic tungsten and molybdenum powders - - 6
Ch. II. Equipment for obtaining compact tungsten and molybdenum - - 13
Ch. III. Equipment for making tungsten and molybdenum wire - - 20
Ch. IV Equipment for rolling very thin strip and laminating wire - - 53
Ch. V. Equipment for obtaining especially pure refractory metals - - 73

SUB CODE: ML SUBMITTED: 10 Jul 63 NR REF SOV: 016

OTHER: 000 DATE ACQ: 13 Mar 64

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

1ST AND 2ND ORDERS

5

Aging and wear of cinematographic films during projection. L. I. Sazhin and L. R. Varshavskaya. *Kinofotokhim. Prom.* 4, No. 5, 20-30(1938); *Chem. Zentr.* 1940, I, 662.—Films of Russian manuf. were compared with those of Am. make (du Pont) by running them repeatedly (up to 1250 times) through a projector under normal theater conditions. At regular intervals tests were made to det. the quality of the film. These included longitudinal and transverse shrinkage, tensile strength, loss of solvent and viscosity of the acetone soln. of the emulsion. The shrinkage was greatest at the beginning of the series of tests and gradually rose to a max. which was not exceeded during subsequent runs of the film. The shrinkage of the black portions of the film (e. g., titles) was greater than that of the transparent portions. This was due to the greater absorption of heat by the black portions. The Russian films showed much greater shrinkage than the Am. product. After a few runs of the film the resistance to tearing passed through a max., then decreased and after further runs (approx. 750) passed through a 2nd max. This is explained as due to the loss of 2 different fractions of the solvent having different b. ps. The viscosity of the acetone soln. of the emulsion remained practically unchanged in the case of the Am. films; this was also true of the transparent portions of the Russian films. There was a loss in viscosity of such solns. of the blackened areas of the Russian films which is probably to be explained by the thermal decompn. of the cellulose nitrate. Films become unusable partly because of damage to the perforations, which is due to shrinkage that makes their passage over the teeth of the projection drum difficult. Injury to the surface caused by moisture, dirt, etc., also renders films no longer useful. The Am. films were found to last much better than the Russian product.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

KOMAR, V.G.; OSKOLKOV, I.N.; SAZHIN, L.I.; SOKOLOV, F.F.

Selenium rectifying equipment for cinematography. Trudy NIKFI no.7: 216-226 '47. (MIRA 11:6)

1. Elektrosilovaya laboratoriya Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.

(Cinematography--Equipment and supplies)
(Motion-picture projection--Equipment and supplies)
(Electric current rectifiers)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

KOMAR, V.G.; SAZHIN, L.I.; PENIN, N.A.; TSEDERBAUM, G.I.

Selenium valve. Trudy NIKFI no.7:227-238 '47. (MIRA 11:6)

1. Elektrosilovaya laboratoriya Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Electric current rectifiers)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

BLAZHENKOV, V.A.; KOMAR, V.G.; PENIN, N.A.; SAZHIN, L.I.

Production of selenium rectifiers. Trudy NIKFI no.7:239-247 '47. (MIRA 11:6)

1. Elektrosilovaya laboratoriya Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.

(Electric current rectifiers)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, L. I.

USSR/Engineering - Servomechanisms

"Automatic Regulation and Stabilization of Light in Motion-Picture Theaters Using Selenium Rectifiers and Saturated Reactors," Docent V. G. Komar, Cand Tech Sci, L. I. Sazhin, Cand Tech Sci, All-Union Sci Res Cine-Photo Inst, 3 pp

"Elektrichestvo" No 10 1949

Operating principles and results of tests of new stabilized selenium rectifier with ferroresonance regulation by a saturated reactor, and a static selenium light dimmer with thermal regulation by magnetically saturated coils. Certificate of Authorship No 73901 (Class $21d^2$, 12/02, 10/21/1947) was awarded Komar and Sazhin for first device. Certificate of Authorship No 386803 (Class 21c, 38, 11/3/1948) was awarded Komar and P. P Mikhov for the second.

PA 150T37

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, L.

Electric Current Rectifiers

Rectifiers for feeding movie projector carbon lamps. Kinomekhanik No. 3 (1952).

Monthly List of Russian Accessions, Library of Congress, August, 1952. Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, L.

Electric Current Rectifiers

Stabilized selenic VS-60-A rectifier. Kinomekhanik, No. 7, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952. Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

OSKOLKOV, I.; SAZHIN, L.

New stabilized selenium rectifier, type 7-VSS-60. Kinomekhanik no.12:16-22 D '53. (MLRA 6:12)

(Electric current rectifiers)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, Leonid Ivanovich; YAKOBSON, A.Kh., redaktor; MATISSEN, Z.M., tekhnicheskiy redaktor

[Current supply for stationary motion-picture installations] Elektropitanie statsionarnykh kinoustanovok. Moskva, Gos. izd-vo "Iskusstvo," 1956. 182 p. (MIRA 9:11)
(Motion-picture projection)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, L.

USSR/Optics - Photography.

K-11

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 8106

Author : Sazhin, L.

Title : Characteristics of Dimming and Turning On the Light in the Projection of Motion Picture Films.

Orig Pub : Kinomekhanik, 1956, No 5, 26-27

Abstract : The author considers the conditions of adaptation of human vision when changing from the darkness in which the image is viewed at the beginning of the demostration of motion picture films and back to the brightness at the end of the performance. The dependence between the time of adaptation and the brightness of the image seen on the screen is given. Recommendations are given for turning the lights on and dimming them.

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8(0)

SOV/112-59-5-8434

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, p 5 (USSR)

AUTHOR: Oskolkov, I. N., and Sazhin, L. I.

TITLE: Power Supply, Control, and Synchronization of Cinema Apparatus Used for Demonstrating Panorama Films

PERIODICAL: Tr. Vses. n.-i. kinofotoin-ta, 1957, Nr 9(19), pp 158-186

ABSTRACT: A system of automatic control of cinema apparatus used for demonstrating panorama films is described. The system provides timing in the operation of three projectors and a film phonograph and ensures the following: synchronous and synphase acceleration, continuous operation, smooth stopping, and the synphase rest condition of the electric motors; synchronous and synphase operation of the motors; constant luminous fluxes of the three projectors; program control of the entire cinema apparatus in demonstrating and scoring the films; remote focusing of projector objectives; visual correcting brightness of individual pictures.

O.N.I.

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, Leonid Ivanovich; FOMIN, A.A., red.; REZNIK, A.L., tekhn. red.

[Electric power supply of stationary motion-picture projectors] Elektropitanie statsionarnykh kinoustanovok. Izd.2., perer. i dop. Moskva, "Iskusstvo," 1963. 282 p. (MIRA 17:3)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N.

Moving-picture Projectors

New sound-reading optics in model "K" portable moving picture projectors.
Kinomekhanik no. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. G.

"Complicationsin the Castration of Stallions," Veterinariya, No. 2, 1948. MGVO,-c1948-.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. G.

"Complications in castration of colts."

SO: Veterinariia 25 (2), 1948, p. 31

MOVO - Moscow City Veterinary Department (?)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. G. SAZHIN, N.G.

"Topographical Anatomy and a Guide to Anesthetization of the Posterior Maxillary Area of the Necks of Cattle." Cand Vet Sci, Moscow Technological Inst of the Meat and Milk Industry, Min Higher Education USSR, Moscow, 1954. (KL, No 4, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N.G., kandidat veterinarnykh nauk.

Conduction anesthesia of the tongue in cattle. Veterinariia 33 no.12:49-51 D '56. (MLRA 9:12)

1. Moskovskaya veterinarnaya akademiya.
(Local anesthesia) (Tongue) (Veterinary surgery)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SEMENYUK, G.M.

Insufficiency of mineral nutrition as the cause of a functional disease of prune trees. Vop.fiziol.i biokhim.kul't.rast. no.1: 97-104 '62. (MIRA 16:1)

(Prune--Diseases and pests)
(Deficiency diseases in plants)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

19

CA

Sodium fluoride. N. P. Saghin. Russ. 26,393, May 31, 1934. Fluorspar is fused with Na_2CO_3 and SiO_2 and the product is sepd. by flotation with a satd. soln. of NaF.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. P.

"Antimony," published by Metallurgizdat, MOscow-Leningrad, 1941

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

9

The extraction of bismuth from the wastes of wolframite-ore concentration. N. P. Sazhin and R. A. Dul'kina. *Tsvetnye Metal.* 1941, No. 1, 28-34; *Khim. Referat. Zhur.* 4, No. 9, 102(1941).—Wolframite-ore wastes are treated with strong HCl, the Bi is pptd. by Fe shavings, and the Bi sponge melted under reducing conditions, and refined. To ext. Ag, the crude Bi is granulated, dissolved in HNO_3, Ag pptd. as AgCl, the HNO_3 soln. hydrolysed and the basic salt smelted and refined. The extn. of Bi is 88% by the 1st method and 82% by the 2nd. The residue after the extn. of Bi by HCl is enriched and W and Cu are extd. In refining by the dry method the Ag can be also sepd. by dissolving in HNO_3.

W. R. Henn

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

PROCESSES AND PROPERTIES INDEX

9

CA

The working up of gold-antimony ores. N. P. Sazhin and E. A. Galankina. *Tsvetnaya Met.* 16, No. 21, 29-33 (1941); *Chem. Zentr.* 1944, II, 1007.--A tech. scheme tested on a lab. scale is recommended for the working up of Au-Sb ores. The process is based on the property of metallic Sb to collect noble metals. The process is made up of the following steps: concn. of the ore in order to obtain a Au-Sb concentrate, a ppt. fusion of the concentrate, refining of the crude Sb at red heat, electrolysis in acid fluoride soln., and working up the anodic sludge to recover the Au. The addn. of litharge to the charge has a beneficial effect on the fusion. The process gives a completely satisfactory sepn. of the Sb and Au.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. P.

J. Ya. Bashilov, K. A. Bol'shakov, O. E. Zvyagintsev, and N. P. Sazhin. *J. Appl. Chem. U.S.S.R.* 27, 620-30 (1954) (Eng. translation).—See *C.A.* 48, 11125*d*.

B. M. R.

obituary

2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. P. and PEPELYAYEVA, Ye. A.

"Separation of Hafnium and Zirconium and Production of Pure Zirconium Dioxide," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N.P.; DUL'KINA, P.A.

[Producing metallic bismuth of high purity] Poluchenie metallicheskogo vismuta vysokoi chistoty; doklady, predstavlennye SSSR na Mezhdunarodnuiu konferentsiiu po mirnomu ispol'zovaniiu atomnoi energii. Moskva, 1955. 11 p. (MLRA 9:7)
(Bismuth)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. P. Corresponding Member of Academy of Sciences USSR

"Rare Elements in the New Technology"
Khimicheskaya Nauka i Promyshlennost', Vol 1, No. 5, Sep/Oct 56, pp 482-486

Summary translation in Sum 1219

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N. P.

"Germanium and Its Applications," by N. P. Sazhin, Corresponding Member Academy of Sciences USSR, Khimicheskaya Nauka i Promyshlennost', Vol 1, No 5, Sep/Oct 56, pp 487-491

On the basis of 13 USSR publications and 6 non-USSR publications the author reviews methods for the production of germanium and the applications of this element. After discussing the chemical procedures by which pure germanium is prepared, he describes the zone method of fractional crystallization, whereby a still higher degree of purity is achieved, and then outlines Chokhral'skiy's method of drawing monocrystals of germanium and the zone method of melting for the production of monocrystals.

In the section on the applications of germanium, the author discusses germanium crystal detectors, methods for establishing barrier layers in germanium by introducing admixtures which create conductivity of the n- or p-type, the design of germanium point contact and junction diodes (specifically the DG-Ts diode), germanium transitors (triodes), germanium rectifiers, photocells (photodiodes), thermistors, and film resistances. He then reviews briefly the subject of germanium alloys and says that the available supplies of crude material for the production of germanium in the USSR are adequate for the development of a germanium industry.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N.P.

LEONIDOV, N.K.

25(5) PHASE I BOOK EXPLOITATION SOV/1497

Akademiya nauk SSSR. Institut nauchnoy i tekhnicheskoy informatsii

Metallurgiya SSSR, 1917-1957, t. 1 (Metallurgy of the USSR, 1917 - 1957, Vol. 1) Moscow, Metallurgizdat, 1958. 745 p. 3,000 copies printed.

Ed. (Title page): I. P. Bardin, Academician; Ed. (Inside book): G. V. Popova; Tech. Ed.: O. G. Bakker.

PURPOSE: The book is intended for scientific workers and engineers in metallurgical plants and in the machine-building industry. It may also be used by students in advanced courses in metallurgical vuzes.

COVERAGE: This collection of articles covers extensively practical and theoretical developments in Soviet metallurgy during the last 40 years. The material deals with the discovery and development of the major ore deposits and the growth of the metal industry in various parts of European and Asiatic USSR. Research institutes, laboratories, their location, and the names of the scientists and engineers involved are listed. Many papers contain so many references and names of various personalities that it was considered beyond the scope of the coverage of each article to list them. The authors claim that the processes, methods and theories described in this book reflect the most recent developments in Soviet metallurgy.

Card 1/21

SAZHIN N. P.

Metallurgy of the USSR (Cont.) SOV/1497

Production figures are given. It is planned to use concentrates of sillimanite for the production of aluminum and silumin. Various method of aluminum production are discussed. There are 76 Soviet references.

Gulyaitskiy, B.S. The Metallurgy of Magnesium 552

Russian geological exploration for magnesium minerals is said to have started only under the Soviet regime. The Verkhne-Kamsk deposits of carnallite are reported to amount to billions of tons. A number of saline lakes are listed as another valuable source of raw material. The bays of the Sea of Azov and of the Caspian Sea are reported to contain enough salts for commercial exploitation. Deposits of dolomite are found in most industrial areas of the USSR. Currently three methods of producing magnesium are used in the USSR: 1) electrolysis 2) reduction of magnesium oxide by ferrosilicon, and 3) reduction of magnesium oxide by carbon. Other methods are under development which will take advantage of local conditions and streamline the production of magnesium. There are 89 Soviet references.

Rabin, S.P. Development of the Metallurgy of Rare and Minor Metals in USSR 570

Rare metals are classified as follows: 1. Light rare metals Li, Rb, Cs, Be, 2. Rare earths - all lanthanides of Sc, Y, 3. Scattered rare metals Ga, In, Tl, Ge, 4. High temperature rare metals Ti, Zr, Hf, V, Nb, Ta, Mo, W, Re, 5. Radioactive metals Ra and all actinoid elements. Mercury, tin,

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Metallurgy of the USSR (Cont.) SOV/1497

antimony and bismuth are called "minor" or "junior" metals. The various methods developed to produce and refine these metals are described. It appears that production of some of the metals, particularly the semiconductors, is still in the laboratory stage. The need to develop sufficient quantities of high-purity reagents is stressed. There are 69 Soviet references.

Bardin, I.P., and V.A. Reznichenko. Investigations of the Metallurgy of Titanium 583

The article covers experiments carried out in the USSR in the field of titanium metallurgy. Formulas and graphs explain the various reactions in the treatment of titanium ores and compounds. The following methods are currently used to obtain metallic titanium: 1) thermic method of reducing titanium dioxide with calcium and calcium hydride 2) processes based on the decomposition of lower titanium chlorides obtained by the reduction of titanium tetrachloride 3) electrolysis of titanium chlorides, oxides, and fluorides. Some titanium is being recovered from scrap alloys. The need for increased production of metallic titanium and titanium sponge is emphasized. There are 49 references, 37 Soviet, 11 English, and 1 German.

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

ORMONT, B.F., prof., red.; ALIMARIN, I.P., red.; GRIGOR'YEV, M.V., red.; LASTOVSKIY, R.P., prof., red.; POROZHENKO, B.L., red.; SAZHIN, N.P., red.; TARASOV, G.Ya., red.; YAKOVLEV, Yu.V., red.; EL'KIND, L.M., red.izd-va; ISLENT'YEVA, P.G., tekhn.red.

[Quality of materials which are used in semiconductor engineering; works of the Permanent Colloquium on Variable Composition Solid Phases for the years 1957-1958] Kachestvo materialov dlia poluprovodnikovoi tekhniki; trudy kollokviuma za 1957-1958 gg. Pod obshchei red. B.F.Ormonta. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Nos.8-30. 1959. 192 p. (MIRA 13:6)

1. Postoyannyy mezhinstitutskiy kollokvium po tverdym fazam peremennogo sostava. 2. Fiziko-khimicheskiy institut im. L.Ya.Karpova; predsedatel' Mezhinstitutskogo kollokviuma po tverdym fazam peremennogo sostava (for Ormont). 3. Chleny-korrespondenty AN SSSR (for Alimarin, Sazhin). 4. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR (GEOKHI AN SSSR) (for Alimarin, Yakovlev). 5. Nauchno-issledovatel'skiy institut Komiteta radioelektroniki (for Grigor'yev, Tarasov). 6. Vsesoyuznyy nauchno-issled.institut khimicheskikh reaktivov (IREA) Komiteta khimii (for Lastovskiy). 7. Gosudarstvennyy institut redkikh i malykh metallov (Giredmet) (for Porozhenko, Sazhin).

(Semiconductors)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N.P.

S/032/60/026/04/44/046
B010/B006

AUTHOR: None given

TITLE: Conference on the Analysis of Rare- and Semiconductor Elements

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 4, pp. 514-515

TEXT: From December 7 - 11, 1959, a conference was held in Moscow, which dealt with the present state of the analytical chemistry of rare metals, and methods applied for the determination of impurities in high-purity metals used in semiconductor engineering. The conference was convened by the Gosplan SSSR (Gosplan of the USSR), GNTK Soveta Ministrov SSSR (GNTK of the Council of Ministers of the USSR), the Academies of Sciences of the USSR, Institut Geokhimii i analiticheskoy khimii im. V.I. Vernadskogo (Institute of Geochemistry and Analytical Chemistry imeni V.I. Vernadskiy) and Komissiya po analiticheskoy khimii (Commission of Analytical Chemistry). A thousand persons - representatives of 285 different institutions - participated in it. After the opening speech by Academician A.P. Vinogradov, N.P. Sazhin, Corresponding Member of the AS USSR, read a paper on "The Industry's Demands with Respect to the Purity of Materials", and I.P. Alimarin, Corresponding Member of the AS USSR, read a paper on

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Conference on the Analysis of Rare- and Semiconductor Elements

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"Perspectives of Increasing the Sensitivity and Accuracy of Analytical Methods". The analytical chemistry of the elements Ge, Si, Li, Rb, Cs, Be, Y, In, Ga, Tl, Zr, Hf, Nb, Ta, Mo, W, Re, Se, Te, Ti, V, Th, and the rare earth elements was discussed at twelve separate sectional meetings. Furthermore, discussions were held on new analytical methods for these elements. At the two intersectional meetings, among other things, a new alternating-current polarograph designed by the Tsentral'naya laboratoriya avtomatiki (Central Laboratory of Automation) was reported on. At the final meeting of the two plenary meetings R.L. Globus, Chief Engineer of the Upravleniye poluproduktov, krasiteley i reaktivov GKSM SSSR (Administration of Semiproducts, Dyes, and Reagents GKSM of the USSR) gave a report on the present state and the perspectives of the development of the chemical reagents industry. It was mentioned at the conference that the analytical methods for rare elements have been improved by the application of instrumental analytical methods, but that rapid methods and several other analyses have not been developed sufficiently. It was found that the small variety and low quality of laboratory equipment detains the application and development of modern analytical methods. Several questions on the future development of the analytical chemistry of rare elements were discussed and

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

Conference on the Analysis of Rare- and Semiconductor Elements

S/032/60/026/04/44/046
B010/B006

a number of resolutions were passed in this connection.

Card 3/3

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

BYKHOVSKIY, Yu.A., red.; VELLER, R.L., red. [deceased]; GREYVER, N.S., red.; KLUSHIN, D.N., red.; OL'KHOV, N.P., red.; RUMYANTSEV, M.V., red.; SAZHIN, N.P., red.; STRIGIN, I.A., inzh., red.; TROITSKIY, A.V., inzh., red.; MISHARINA, K.D., red. izd-va; EL'KIND, L.M., red. izd-va; VAYNSHTEYN, Ye.B., tekhn. red.

[Principles of metallurgy; in four volumes] Osnovy metallurgii; v chetyrekh tomakh. Red. kollegiia: IU.A.Bykhovskii i dr. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Vol.1.[General metallurgy] Obshchie voprosy metallurgii. Otv.red. N.S.Greiver i dr. Pt.1. 1961. 661 p. p.2. 1961. 780 p. (MIRA 14:8)

(Metallurgy)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

SAZHIN, N.P.

PHASE I BOOK EXPLOITATION SOV/5777

Vinogradov, A. P., Academician, and D. I. Ryabchikov, Doctor of Chemical Sciences, Professor, Resp. Eds.

Metody opredeleniya i analiza redkikh elementov (Methods for the Detection and Analysis of Rare Elements) Moscow, Izd-vo AN SSSR, 1961. 667 p. Errata slip inserted. 6000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo.

Ed. of Publishing House: M. P. Volynets; Tech. Ed.: O. Gus'kova.

PURPOSE: This book is intended for analytical chemists and for students of analytical chemistry.

COVERAGE: The handbook was published in accordance with a decision of the Vsesoyuznoye soveshchaniye po analizu redkikh elementov (All-Union Conference on the Analysis of Rare Elements) called

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together by the Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR (State Scientific and Technical Committee of the Council of Ministers of the USSR) and the Academy of Sciences USSR in December, 1959. The material is arranged in accordance with the group position of elements in the periodic system, and each section is prefaced by an article discussing the analytical methods most used in the Soviet and non-Soviet countries. Each section deals with the physical, physicochemical, and chemical methods for the analysis of raw materials, semi-products, and pure metals, and is accompanied by an extensive bibliography listing works published in the field in recent years. The following are mentioned for their help in preparing the book for publication: I. P. Alimarin, G. N. Bilimovich, A. I. Busev, E. Ye. Vaynshteyn, M. P. Volynets, V. G. Goryushina, A. M. Dymov, S. V. Yelinson, O. Ye. Zvyagintsev, G. M. Kolosova, Ye. K. Korchemnaya, V. I. Lebedev, G. A. Malofeyeva, B. N. Melent'yev, V. A. Nazarenko, I. I. Nazarenko, T. V. Petrova, N. S. Poluektov, A. I. Ponomarev, V. A. Ryabukhin, N. S. Stroganova, and Yu. A. Chernikhov.

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Analytical Chemistry of the Rare Earth Elements, Scandium and Yttrium 128

Busev, A. I., and V. G. Tiptsova. Present State of the Analytical Chemistry of Thallium 182

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Melent'yev, B. N., and A. I. Ponomarev. Present State of the Analytical Chemistry of Titanium 238

Yelinson, S. V. Present State of the Analytical Chemistry of Zirconium and Hafnium 303

Ryabchikov, D. I., and D. I. Korchemnaya. Present State of the Analytical Chemistry of Thorium 374

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Methods for the Detection (Cont.) SOV/5777

Nazarenko, V. A. Present State of the Analytical Chemistry of Germanium 400

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Troitskaya, M. I. Present State of the Analytical Chemistry of Selenium and Tellurium 580

Ryabchikov, D. I., and Yu. B. Gerlit. Present State of the Analytical Chemistry of Rhenium 628

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

S/137/62/000/001/220/237
A154/A101

AUTHORS: Sazhin, N. P.

TITLE: Industrial requirements regarding the quality of high-purity metals and materials for semiconductor engineering

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 6, abstract 1K39 (V sb. "Metody opredeleniya i analiza redk. elementov". Moscow, AN SSSR, 1961, 11-36)

TEXT: Requirements made of the purity of metals, reagents and auxiliary materials by ferrous and nonferrous metallurgy and by the transistor industry are given. Thirty tables containing requirements for the methods of analyzing most of the pure metals are given. There are 10 references.

N. Gertseva

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447510013-5

S/180/61/000/006/002/020
E021/E135

AUTHORS: Sazhin, N.P., Kolchin, O.P., and Sumarokova, N.V. (Moscow)

TITLE: The processes of reduction of niobium oxides by carbon

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no.6, 1961, 8-24

TEXT: The chemical and physical processes occurring during high temperature reduction of oxides of niobium by carbon were studied with the aim of explaining the mechanism of reduction. Niobium pentoxide powder (0.15 mm particles) containing 0.01% TiO_2, 0.06% Fe_2O_3 and 0.01% SiO_2 was used with lamp-black or niobium-carbide as reducing agents. The niobium carbide was prepared by heating a mixture of niobium carbide with lamp black at 1800 °C in a current of hydrogen; it contained 10.2% carbon. The phase composition of the products of incomplete reduction were studied, a thermodynamic analysis of the Nb-O-C system was made and the properties of the oxides of niobium were investigated. The rates

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of diffusion of oxygen and carbon in niobium and the rates of evaporation of the lower oxides of niobium were compared semi-quantitatively. From the results of the experiments and from a critical examination of other literature it is shown that the reduction is a multi-stage process, and a mechanism for reduction at temperatures used in practice is proposed. Reduction by niobium carbide at 1100-1300 °C of the pentoxide to the dioxide and partially to the oxide occurs in the main by the generally accepted two-stage scheme with the formation of carbon monoxide. Reduction may also occur at the beginning of the process by interaction in the solid phase between niobium pentoxide and carbon formed by dissociation of the carbide. The second stage of the process is the reduction of the lower oxides of niobium at temperatures above 1500 °C. This takes place in the gaseous phase and depends on the evaporation of the lower oxides which is the reaction limiting the rate of the process. In the last stage of the process, oxygen and carbon diffuse to the surface of the pores in the metal and are evolved as carbon monoxide. The reaction limiting the purification of the metal from dissolved

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oxygen and carbon is the desorption of the carbon monoxide. The reduction of the pentoxide to the dioxide and the dioxide to the oxide can be carried out in a relatively low vacuum or in a current of hydrogen or inert gas. The reduction of the oxide and the removal of the carbon monoxide at temperatures used in practice require a high vacuum. The rate of reduction can be increased by increasing the temperature and rate of carbon monoxide removal. The maximum temperature possible for each stage is determined by the melting point of the phase most easily melted. The proposed mechanism for the reduction process of niobium can be extended without any radical changes to the reduction process of tantalum and vanadium from their oxides and from mixtures of their oxides and carbides. There are 6 figures, 4 tables and 33 references: 19 Soviet-bloc, 6 Russian translations from non-Soviet publications, and 8 non-Soviet-bloc. The four English language references read as follows:

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